



PRODUCT CATALOGUE

COMPANY PROFILE

MINMAX TECHNOLOGY CO., LTD.

Founded in 1990, has over 30 years experience as a specialist in the design and manufacturing of DC-DC converters & AC-DC Power Supplies for ITE, Railway, Renewable Energy and Medical Applications. The comprehensive standard range of products covers power ratings from 1 to 150 Watt DC-DC converters, 2 to 60 Watt AC-DC power supplies and 0.5 to 1 Amp switching regulators, all MINMAX products have a 3 year warranty.

To respect our social and physical environment, MINMAX all products comply with European RoHS Directive and

REACH Directive, besides we share international concerns about the conflict in the Democratic Republic of the Congo (DRC) and adjoining countries, and are working to ensure that the mining of the minerals that end up in our products do not contribute to human rights violations in the region. MINMAX set Quality Control, Satisfy Customer Demands, Green Products & Sustainable Business as our goal.

- **Mission :** Provide fast turnaround, superior quality, efficient service and technical support to satisfy customer requirements. Design, manufacture and sales of high quality/reliable DC-DC and AC-DC converter products.
- **Core Values :** Honesty | Service | Innovation | Growth | Reliability
- **Leading Edge Product Design :**
 - High I/O Isolation Voltage
 - High Performance, High Power Density
 - Ultra-wide Input Voltage Ranges
 - SMT Products Qualified for Lead-free Reflow Soldering Process
 - ISO9001, ISO14001 and IECQ QC 080000 Certifications
 - UL/cUL/IEC/EN 62368(60950-1), IEC/EN 60601-1 3rd & ANSI/AAMI ES 60601-1, EN 50155 (IEC 60571) Approved DC-DC Converters with CE Marking
 - UL/cUL/IEC/EN 62368(60950-1), IEC/EN 60601-1 3rd & ANSI/AAMI ES 60601-1, cUL/UL508, EN 50155 (IEC 60571) Approved AC-DC Power Supplies with CE Marking
 - TUV/IEC/EN60335-1
 - RoHS, Reach and Conflict Free Minerals Compliance
- **R & D :** A staff of 40 engineers ensures talent for continuous new product development and custom/modified customer requests.
- **Quality Systems :** High quality, tight process control and continuous improvement are keys to our quality philosophy. Our goal is to provide quality products at a competitive price, while adhering to the criteria of our ISO9001, ISO14001 and IECQ QC 080000 Certifications.
- **Customer Service :** Our sales and applications engineering personnel assist with each step of the customer's requirements, from product selection, design in, samples, production and inventory.
We have no minimum order quantity, maintain worldwide inventories at our facilities and at our distributors. We commit to prompt response to all inquiries - within 24 hours !

SIP Package DC-DC Converters, 1-5W

Series	Output Power	Input Range (VDC)	Output Voltage (VDC)	Output Regulation	I/O Isolation (VDC)	Package	Safety	Page
MBU100	1W	3.3, 5, 12, 24(±10%)	3.3, 5, 9, 12, 15	-	1000	SIP-4	-	6
MAU100	1W	5, 12, 15, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±9, ±12, ±15	-	1000	SIP-7	•	7
MAU200	1W	5, 12, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±9, ±12, ±15	-	3000	SIP-7	•	8
MAPU01H	1W	3.3, 5, 12, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±12, ±15	-	3000	SIP-7	•	9
MAW01	1W	4.5-9, 9-18, 18-36, 36-75	5, 12, 15, 24, ±12, ±15	•	1500	SIP-6	•	10
NEW MAPU02H	2W	5, 12, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±12, ±15	-	3000	SIP-7	-	11
MCW1000	2W	4.5-9, 9-18, 18-36, 36-75	3.3, 5, 12	•	1000	SIP-8	•	12
MCW102	2W	4.5-18, 9-36, 18-75	3.3, 5, 12, 15, ±5, ±12, ±15	•	1500	SIP-8	•	13
NEW MCW04	4W	9-18, 18-36, 36-75	5, 12, 15, 24, ±12, ±15	•	1600	SIP-8	•	14
NEW MCW104	4W	9-36, 18-75	5, 12, 15, 24, ±12, ±15	•	1600	SIP-8	•	15
MCW105	5W	4.5-18, 9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	SIP-8	•	16

SMD Package DC-DC Converters, 1-6W

MSLU100	1W	5, 12, 15, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±12, ±15	-	1500	13.7×11.0×7.2	•	17
MSLU300	1W	5, 12, 24(±10%)	3.3, 5, 12, 15, ±5, ±12, ±15	-	3000	16.3×11.0×8.0	-	18
MSPU01H	1W	3.3, 5, 12(±10%)	3.3, 5, 12, 15, ±5, ±12, ±15	-	3000	16.3×11.0×8.9	•	19
MSCW01	1W	4.5-9, 9-18, 18-36, 36-75	5, 12, 15, ±12, ±15	•	1500	18.9×17.2×8.7	•	20
MSLU400	2W	5, 12, 24(±10%)	3.3, 5, 12, ±5, ±12, ±15	-	1500	13.7×12.3×8.9	-	21
MSDW1000	2W	4.5-9, 9-18, 18-36, 36-75	3.3, 5, 12, 15, ±5, ±12, ±15	•	1500	24.0×18.1×8.2	•	22
MSCW102	2W	4.5-12, 9-36, 18-75	5, 12, 15, 24, ±12, ±15	•	1500	19.0×17.0×8.7	•	23
MSCW103	3W	4.5-12, 9-36, 18-75	5, 12, 15, 24, ±12, ±15	•	1500	19.0×17.0×8.7	•	24
MSGW106	6W	9-36, 18-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500	22.0×25.4×10.2	•	25

DIP Package DC-DC Converters, 1-12W

MFPU01H	1W	3.3, 5, 12(±10%)	3.3, 5, 12, 15, ±5, ±12, ±15	-	3000	DIP-8	•	26
MFW02	2W	4.5-10, 9-18, 18-36, 36-75	3.3, 5, 12, 15, ±5, ±12, ±15	•	1500	DIP-8	•	27
MFW03	3W	4.5-10, 9-18, 18-36, 36-75	3.3, 5, 12, 15, ±5, ±12, ±15	•	1500	DIP-8	•	28
MIW03	3W	4.5-9, 9-18, 18-36, 36-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500(3000)	DIP-24	•	29
MDWI03	3W	9-36, 18-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500	DIP-16	•	30
MIWI03	3W	9-36, 18-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500(3000)	DIP-24	•	31
MIW06	6W	9-18, 18-36, 36-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500(3000)	DIP-24	•	32
MDWI06	6W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	33
MIWI06	6W	9-36, 18-75	3.3, 5, 12, 15, 24, ±5, ±12, ±15	•	1500(3000)	DIP-24	•	34
MDW08	8W	9-18, 18-36, 36-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	35
MDWI08	8W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	36
NEW MDW10	10W	9-18, 18-36, 36-75	3.3, 5, 5.1, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	37
MIW10	10W	9-18, 18-36, 36-75	3.3, 5, 5.1, 12, 15, ±12, ±15	•	1500	DIP-24	•	38
NEW MDWI10	10W	9-36, 18-75	3.3, 5, 5.1, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	39
MIWI10	10W	9-36, 18-75	3.3, 5, 5.1, 12, 15, 24, ±12, ±15	•	1500	DIP-24	•	40
NEW MDW12	12W	9-18, 18-36, 36-75	5, 5.1, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	41
NEW MDWI12	12W	9-36, 18-75	5, 5.1, 12, 15, 24, ±12, ±15	•	1500	DIP-16	•	42

1"x1" Package DC-DC Converters, 10-30W									
Series	Output Power	Input Range (VDC)	Output Voltage (VDC)	Output Regulation	I/O Isolation (VDC)	Package	Safety	Page	
MJW10	10W	9-18, 18-36, 36-75	3.3, 5, 5.1, 12, 15, ±5, ±12, ±15	•	1500	1"x1"	•	43	
MJWI10	10W	9-36, 18-75	3.3, 5, 5.1, 12, 15, 24, ±5, ±12, ±15	•	1500	1"x1"	•	44	
MJW15	15W	9-18, 18-36, 36-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	1"x1"	•	45	
MJWI15	15W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	1"x1"	•	46	
MJWI20	20W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	1"x1"	•	47	
MJW25	25W	9-18, 18-36, 36-75	3.3, 5, 12, 15, ±12, ±15	•	1500	1"x1"	•	48	
MJWI25	25W	9-36, 18-75	3.3, 5, 12, 15, ±12, ±15	•	1500	1"x1"	•	49	
NEW MJWI30	30W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	1"x1"	•	50	

2"x1" Package DC-DC Converters, 40-50W									
MKW40	40W	9-18, 18-36, 36-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	2"x1"	•	51	
MKWI40	40W	9-36, 18-75	3.3, 5, 12, 15, 24, ±12, ±15	•	1500	2"x1"	•	52	
MKW50	50W	9-18, 18-36, 36-75	3.3, 5, 12, 15, 24	•	1500	2"x1"	•	53	
MKWI50	50W	9-36, 18-75	3.3, 5, 12, 15, 24	•	1500	2"x1"	•	54	

Chassis and DIN-Rail Mounting Package DC-DC Converters, 6-60W									
NEW MJWI06C	6W	9-36, 18-75	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000	Chassis/DIN-Rail	•	55	
NEW MKWI10C	10W	9-36, 18-75	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000	Chassis/DIN-Rail	•	56	
MOWI20C	20W	9-36, 18-75	5.1, 12, 24, 48	•	2500	Chassis/DIN-Rail	•	57	
MQWI40C	40W	9-36, 18-75	5.1, 12, 24, 48	•	2500	Chassis/DIN-Rail	•	58	
MRWI60C	60W	9-36, 18-75	5.1, 12, 24, 48	•	2500	Chassis/DIN-Rail	•	59	

Switching Regulators, 0.5-1A									
M78AR-0.5	0.5A	(4.75/6.5/8/11/15/18)-32	1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12, 15	•	-	SIP-3	-	60	
M78SAR-0.5	0.5A	(4.75/6.5/8/11/15/18)-32	1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12, 15	•	-	SMD	-	61	
M78AR-1	1A	(6.5/15)-32	3.3, 5, 12	•	-	SIP-3	-	62	

AC-DC Power Supplies, 3-60W

Series	Output Power	Input Range (VAC)	I/O Isolation (VAC)	Package	Safety	Page
AAF-03	3W	85-264	3000	PCB	•	63
ABF-04	4W	85-264	3000	PCB	•	64
AAF-05	5W	85-264	3000	PCB, Chassis	•	65
ADF-07	7W	85-264	3000	PCB	•	66
ACF-10	10W	85-264	4000	PCB	•	67
NEW AGF-15	15W	85-264	3000	PCB	•	68
NEW AIF-15	15W	85-264	3000	PCB, Chassis, DIN-Rail	•	69
AKF-15	15W	85-264	3000	PCB, Chassis, DIN-Rail	•	70
NEW AHF-30	30W	85-264	3000	PCB, Chassis, DIN-Rail	•	71
AQF-30	30W	85-264	3000	PCB, Chassis, DIN-Rail	•	72
NEW AKF-60	60W	85-264	3000	PCB, Chassis, DIN-Rail	•	73
AZF-60	60W	85-264	3000	PCB, Chassis, DIN-Rail	•	74

Ultra-high Isolation DC-DC Converters, 1-60W

Series	Output Power	Input Range (VDC)	Output Voltage (VDC)	Output Regulation	I/O Isolation	Reinforced Insulation	Package	Safety	Page
MA01-HI	1W	5, 12, 15, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±9, ±12, ±15, +15 / -9	-	5200 VDC	-	SIP-7	•	76
MAEU02-HI	2W	5, 12, 15, 24(±10%)	3.3, 5, 9, 12, 15, ±5, ±9, ±12, ±15, +15 / -9	-	5200 VDC	-	SIP-7	•	77
MDEU02-HI	2W	5, 12, 24(±10%)	5, 12, 15, ±12, ±15	-	8000 VDC	Reinforced	DIP-16	•	78
MIE03-HI	3.5W	4.5-9, 9-18, 18-36, 36-75	5, 5.8, 12, 15, 24, ±12, ±15	•	8000 VDC	Reinforced	DIP-24	•	79
MIE06-HI	6W	9-18, 18-36, 36-75	5, 12, 15, 24, ±12, ±15	•	9000 VDC	Reinforced	DIP-24	•	80
NEW MIE10-HI	10W	9-18, 18-36, 36-75	3.3, 5, 5.1, 12, 15, 24, ±12, ±15	•	9000 VDC	Reinforced	DIP-24	-	81
MKE15-HI	15W	9-18, 18-36, 36-75	5, 5.1, 12, 15, 24, ±12, ±15	•	8000 VDC	Reinforced	2"×1"	•	82
MKE20-HI	20W	9-18, 18-36, 36-75	5, 5.1, 12, 15, 24, ±12, ±15	•	8000 VDC	Reinforced	2"×1"	•	83
NEW MJA06C	6W	80-160	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000 VAC	Reinforced	Chassis, DIN-Rail	•	84
NEW MKA10C	10W	80-160	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000 VAC	Reinforced	Chassis, DIN-Rail	•	85
NEW MOA20C	20W	80-160	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000 VAC	Reinforced	Chassis, DIN-Rail	•	86
NEW MQA40C	40W	80-160	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000 VAC	Reinforced	Chassis, DIN-Rail	•	87
NEW MRA60C	60W	80-160	5, 5.1, 12, 15, 24, 48, ±12, ±15, ±24	•	3000 VAC	Reinforced	Chassis, DIN-Rail	•	88

Railway Certified DC-DC Converters, 3-150W (EN 50155 & IEC 60571)									
Series	Output Power	Input Range (VDC)	Output Voltage (VDC)	Output Regulation	I/O Isolation (VAC)	Package	Safety	Page	
NEW MIZI03	3W	9-36, 18-75, 40-160	5, 12, 15, ±12, ±15	•	3000	DIP-24	•	90	
MKZI10	10W	9-36, 18-75, 40-160	5, 12, 15, 24, ±12, ±15	•	3000	2"×1"	•	91	
MKZI20	20W	9-36, 18-75, 40-160	5, 12, 15, 24, ±12, ±15	•	3000	2"×1"	•	92	
NEW MKZI40	40W	36-160	5, 12, 15, 24, 54, ±12, ±15	•	3000	2"×1"	•	93	
MTQZ50	50W	43-101, 66-160	5, 12, 15, 24	•	3000	Quarter Brick	•	94	
MTQZ75	75W	43-101, 66-160	5, 12, 15, 24	•	3000	Quarter Brick	•	95	
NEW MTQZI100	100W	40-160	5, 12, 15, 24, 54	•	3000	Quarter Brick	•	96	
NEW MTQZI150	150W	40-160	5, 12, 15, 24, 54	•	3000	Quarter Brick	•	97	

Medical Safety DC-DC Converters, 1-20W (ANSI/AAMI ES, IEC/EN 60601-1 3 rd)									
Series	Output Power	Input Range (VDC)	Output Voltage (VDC)	Output Regulation	I/O Isolation (VAC)	Protection Level	Package	Safety	Page
MAU400	1W	5, 12(±10%)	5, 12, 15, ±5, ±12, ±15	-	3000	2xMOOP	SIP-7	•	99
NEW MAU01M	1W	5, 12, 24(±10%)	5, 12, 15	-	4000	2xMOPP	SIP-7	•	100
NEW MSCU01M	1W	5, 12, 24(±10%)	5, 12, 15, ±12, ±15	-	4000	2xMOPP	SMD	•	101
MSHU100	2W	5, 12, 24(±10%)	5, 12, 15, ±12, ±15	-	4000	2xMOOP	SMD	•	102
MDHU100	2W	5, 12, 24(±10%)	5, 12, 15, ±12, ±15	-	4000	2xMOOP	DIP-16	•	103
MIHW2000	3W	9-40, 18-80, 36-160	5, 12, ±12, ±15	•	4000	2xMOOP	DIP-24	•	104
NEW MIW03M	3.5W	4.5-9, 9-18, 18-36, 36-75	5, 5.8, 12, 15, ±12, ±15	•	5000	2xMOPP	DIP-24	•	105
NEW MIW06M	6W	9-18, 18-36, 36-75	5, 12, 15, ±12, ±15	•	5000	2xMOPP	DIP-24	•	106
NEW MIW10M	10W	9-18, 18-36, 36-75	3.3, 5, 5.1, 12, 15, 24, ±12, ±15	•	5000	2xMOPP	DIP-24	•	107
MKW15M	15W	9-18, 18-36, 36-75	5, 5.1, 12, 15, 24, ±12, ±15	•	4200	2xMOPP	2"×1"	•	108
MKW20M	20W	9-18, 18-36, 36-75	5, 5.1, 12, 15, 24, ±12, ±15	•	4200	2xMOPP	2"×1"	•	109

Medical Safety AC-DC Power Supplies, 24-60 (ANSI/AAMI ES, IEC/EN 60601-1 3 rd)							
Series	Output Power	Input Range (VAC)	I/O Isolation (VAC)	Protection Level	Package	Safety	Page
AJM-24	24W	85-264	4000	2xMOPP	PCB/Chassis/DIN-Rail	•	110
APM-40	40W	85-264	4000	2xMOPP	PCB/Chassis/DIN-Rail	•	111
AYM-60	60W	85-264	4000	2xMOPP	PCB/Chassis/DIN-Rail	•	112

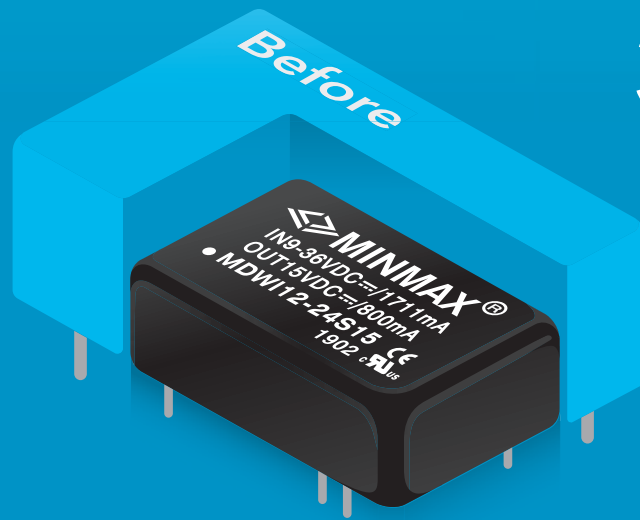
GENERAL INDUSTRIAL

POWER SOLUTIONS



75%
Board Space

79%
Weight



Power Density
3.94x
UP



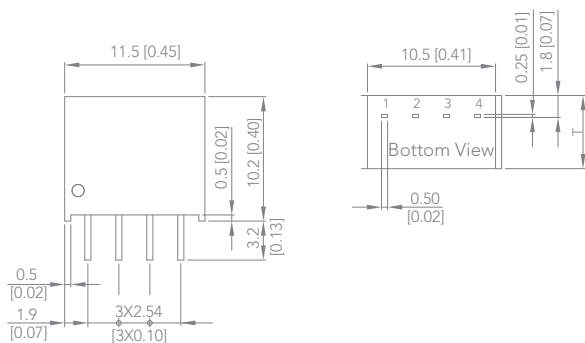
MBU100 Series • 1W

- Industrial Standard SIP-4 Package
- I/O Isolation 1000VDC
- Operating Ambient Temp. Range -40°C to +85°C



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	4% - 14% max. (Depending on model)	MBU135	3.3	3.3	260	74%
Ripple & Noise (20MHz)	100mVp-p typ.	MBU131	(2.97 – 3.63)	5	200	77%
Efficiency	Up to 80%	MBU105		3.3	260	72%
I/O Isolation Voltage	1000VDC min.	MBU101		5	200	69%
I/O Isolation Capacitance	60pF typ.	MBU102	5	9	110	76%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MBU103	(4.5 – 5.5)	12	84	77%
Short Circuit Protection	Short Term	MBU104		15	67	78%
Case Material	Plastic (UL94V-0 rated)	MBU111		5	200	71%
*For full series datasheet, please refer to www.minmax.com.tw		MBU112	12	9	110	77%
		MBU113	(10.8 – 13.2)	12	84	79%
		MBU114		15	67	80%
		MBU121		5	200	70%
		MBU122	24	9	110	76%
		MBU123	(21.6 – 26.4)	12	84	79%
		MBU124		15	67	79%

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Function
1	-Vin
2	+Vin
3	-Vout
4	+Vout

T = 6.1 [0.24] for other input models
 T = 7.1 [0.28] for 24V input models

MAU100 Series • 1W

- Industrial Standard SIP-7 Package
- I/O Isolation 1000VDC
- Operating Ambient Temp. Range -40°C to +85°C
- UL/cUL/IEC/EN 60950-1 Safety Approval



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	5% - 10% max. (Depending on model)	MAU101		3.3	260	73%
Ripple & Noise (20MHz)	50mVp-p typ.	MAU102		5	200	71%
Efficiency	Up to 81%	MAU103		9	110	76%
I/O Isolation Voltage	1000VDC min.	MAU104	5 (4.5 – 5.5)	12	84	78%
I/O Isolation Capacitance	60pF typ.	MAU105		15	67	78%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MAU106		±5	±100	72%
Short Circuit Protection	Short Term	MAU107		±9	±56	77%
Case Material	Plastic (UL94V-0 rated)	MAU108		±12	±42	78%
Safety Approval	UL/cUL/IEC/EN 60950-1, CB-Report	MAU109		±15	±34	79%
*For full series datasheet, please refer to www.minmax.com.tw		MAU111		3.3	260	74%
		MAU112		5	200	73%
		MAU113		9	110	78%
		MAU114	12 (10.8 – 13.2)	12	84	80%
		MAU115		15	67	80%
		MAU116		±5	±100	74%
		MAU117		±9	±56	79%
		MAU118		±12	±42	81%
		MAU119		±15	±34	81%
		MAU151		5	200	72%
		MAU152		12	84	79%
		MAU153	15 (13.5 – 16.5)	15	67	79%
		MAU154		±5	±100	72%
		MAU155		±12	±42	80%
		MAU156		±15	±34	80%
		MAU121		3.3	260	73%
		MAU122		5	200	71%
		MAU123		9	110	76%
		MAU124	24 (21.6 – 26.4)	12	84	78%
MAU125	15	67		79%		
MAU126	±5	±100		72%		
MAU127	±9	±56		76%		
MAU128	±12	±42		79%		
MAU129	±15	±34		80%		
▣ Mechanical Dimensions		▣ Pin Connections				
		Pin	Single	Dual		
		1	+Vin	+Vin		
		2	-Vin	-Vin		
		4	-Vout	-Vout		
		5	No Pin	Common		
		6	+Vout	+Vout		

T = 6.1 [0.24] for 5V & 12V input models
T = 7.1 [0.28] for 15V & 24V input models

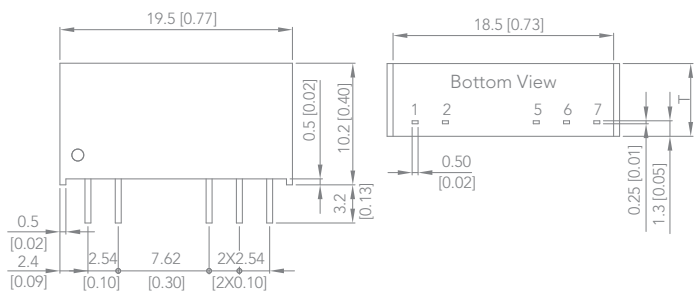
MAU200 Series • 1W

- Industrial Standard SIP-7 Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +85°C
- UL/cUL/IEC/EN 60950-1 Safety Approval



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	5% - 10% max. (Depending on model)	MAU201	5 (4.5 – 5.5)	3.3	260	73%
Ripple & Noise (20MHz)	65mVp-p typ.	MAU202		5	200	71%
Efficiency	Up to 81%	MAU203		9	110	76%
I/O Isolation Voltage	3000VDC min.	MAU204		12	84	78%
I/O Isolation Capacitance	60pF typ.	MAU205		15	67	78%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MAU206		±5	±100	72%
Short Circuit Protection	Short Term	MAU207		±9	±56	77%
Case Material	Plastic (UL94V-0 rated)	MAU208		±12	±42	78%
Safety Approval	UL/cUL/IEC/EN 60950-1, CB-Report	MAU209		±15	±34	79%
*For full series datasheet, please refer to www.minmax.com.tw		MAU211		12 (10.8 – 13.2)	3.3	260
		MAU212	5		200	73%
		MAU213	9		110	78%
		MAU214	12		84	80%
		MAU215	15		67	80%
		MAU216	±5		±100	74%
		MAU217	±9		±56	79%
		MAU218	±12		±42	81%
		MAU219	±15		±34	81%
		MAU221	24 (21.6 – 26.4)	3.3	260	73%
		MAU222		5	200	71%
		MAU223		9	110	76%
		MAU224		12	84	78%
		MAU225		15	67	79%
		MAU226		±5	±100	72%
		MAU227		±9	±56	76%
		MAU228		±12	±42	79%
		MAU229		±15	±34	80%

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

T = 6.1 [0.24] for 5V & 12V input models
 T = 7.1 [0.28] for 24V input models

MAPU01H Series • 1W

- Industrial Standard SIP-7 Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Short Circuit Protection
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% - 100% load change)	6% - 15% max. (Depending on model)					
Ripple & Noise (20MHz)	65mVp-p typ.	MAPU01-033S033H		3.3	300	77%
Efficiency	Up to 84%	MAPU01-033S05H		5	200	77%
I/O Isolation Voltage	3000VDC min.	MAPU01-033S09H		9	110	78%
I/O Isolation Capacitance	20pF typ.	MAPU01-033S12H	3.3 (2.97 – 3.63)	12	84	80%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MAPU01-033S15H		15	68	79%
Short Circuit Protection	Continuous (Auto. Recovery)	MAPU01-033D05H		±5	±100	77%
Case Material	Plastic (UL94V-0 rated)	MAPU01-033D12H		±12	±42	79%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MAPU01-033D15H		±15	±34	79%
*For full series datasheet, please refer to www.minmax.com.tw		MAPU01-05S033H		3.3	300	76%
		MAPU01-05S05H		5	200	78%
		MAPU01-05S09H		9	110	81%
		MAPU01-05S12H	5 (4.5 – 5.5)	12	84	82%
		MAPU01-05S15H		15	68	83%
		MAPU01-05D05H		±5	±100	81%
		MAPU01-05D12H		±12	±42	81%
		MAPU01-05D15H		±15	±34	81%
		MAPU01-12S033H		3.3	300	79%
		MAPU01-12S05H		5	200	80%
		MAPU01-12S09H		9	110	82%
		MAPU01-12S12H	12 (10.8 – 13.2)	12	84	84%
		MAPU01-12S15H		15	68	83%
		MAPU01-12D05H		±5	±100	81%
		MAPU01-12D12H		±12	±42	82%
		MAPU01-12D15H		±15	±34	82%
		MAPU01-24S033H		3.3	300	76%
		MAPU01-24S05H		5	200	81%
MAPU01-24S09H		9	110	79%		
MAPU01-24S12H	24 (21.6 – 26.4)	12	84	82%		
MAPU01-24S15H		15	68	82%		
MAPU01-24D05H		±5	±100	80%		
MAPU01-24D12H		±12	±42	81%		
MAPU01-24D15H		±15	±34	80%		
▣ Mechanical Dimensions		▣ Pin Connections				
		Pin	Single	Dual		
		1	+Vin	+Vin		
		2	-Vin	-Vin		
		5	-Vout	-Vout		
		6	No Pin	Common		
		7	+Vout	+Vout		

To order the converter for another type pin, please refer to the datasheet.

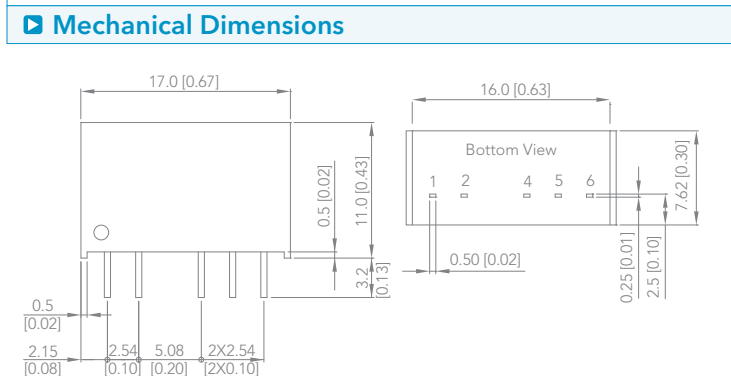
MAW01 Series • 1W

- Industrial Standard SIP-6 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +95°C
- No Min. Load Requirement
- Overload and Short Circuit Protection
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.					
Load Regulation	±1.0% max.	MAW01-05S05	5 (4.5 – 9)	5	200	76%
Ripple & Noise (20MHz)	110mVp-p max.	MAW01-05S12		12	83	77%
Efficiency	Up to 80%	MAW01-05S15		15	67	79%
I/O Isolation Voltage	1500VDC min.	MAW01-05S24		24	42	76%
I/O Isolation Capacitance	50pF max.	MAW01-05D12		±12	±42	77%
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MAW01-05D15	±15	±33	78%	
Short Circuit Protection	Continuous (Auto. Recovery)	MAW01-12S05	12 (9 – 18)	5	200	77%
Case Material	Plastic (UL94V-0 rated)	MAW01-12S12		12	83	77%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MAW01-12S15		15	67	80%
		MAW01-12S24		24	42	77%
		MAW01-12D12		±12	±42	79%
		MAW01-12D15	±15	±33	78%	
		MAW01-24S05	24 (18 – 36)	5	200	77%
		MAW01-24S12		12	83	80%
		MAW01-24S15		15	67	80%
		MAW01-24S24		24	42	77%
		MAW01-24D12		±12	±42	80%
		MAW01-24D15	±15	±33	80%	
		MAW01-48S05	48 (36 – 75)	5	200	77%
		MAW01-48S12		12	83	78%
		MAW01-48S15		15	67	78%
		MAW01-48S24		24	42	76%
		MAW01-48D12		±12	±42	79%
		MAW01-48D15	±15	±33	79%	

*For full series datasheet, please refer to www.minmax.com.tw



▣ Pin Connections	
Pin	Single / Dual
1	-Vin / -Vin
2	+Vin / +Vin
4	+Vout / +Vout
5	No Pin / Common
6	-Vout / -Vout

MAPU02H Series • 2W

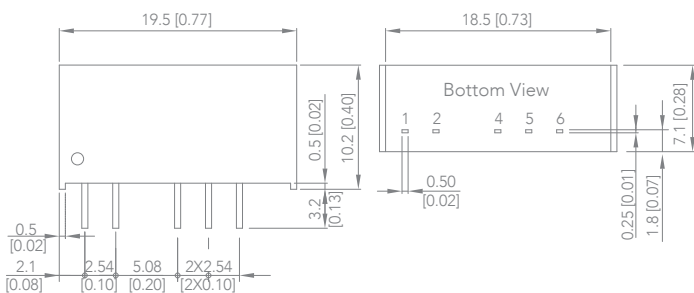


- Industrial Standard SIP-7 Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Short Circuit Protection



▣ Specifications		▣ Model Selection Guide				
Line Regulation(1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% - 100% load change)	8% - 12% max. (Depending on Model)	MAPU02-05S033H		3.3	500	74%
Ripple & Noise (20MHz)	65mVp-p typ.	MAPU02-05S05H		5	400	78%
Efficiency	Up to 82%	MAPU02-05S09H		9	222	79%
I/O Isolation Voltage	3000VDC min.	MAPU02-05S12H	5	12	168	81%
I/O Isolation Capacitance	20pF typ.	MAPU02-05S15H	(4.5 – 5.5)	15	132	80%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MAPU02-05D05H		±5	±200	77%
Short Circuit Protection	Continuous (Auto. Recovery)	MAPU02-05D12H		±12	±84	79%
Case Material	Plastic (UL94V-0 rated)	MAPU02-05D15H		±15	±66	78%
*For full series datasheet, please refer to www.minmax.com.tw		MAPU02-12S033H		3.3	500	76%
		MAPU02-12S05H		5	400	78%
		MAPU02-12S09H		9	222	80%
		MAPU02-12S12H	12	12	168	82%
		MAPU02-12S15H	(10.8 – 13.2)	15	132	81%
		MAPU02-12D05H		±5	±200	78%
		MAPU02-12D12H		±12	±84	81%
		MAPU02-12D15H		±15	±66	81%
		MAPU02-24S033H		3.3	500	76%
		MAPU02-24S05H		5	400	78%
		MAPU02-24S09H		9	222	79%
		MAPU02-24S12H	24	12	168	81%
		MAPU02-24S15H	(21.6 – 26.4)	15	132	79%
		MAPU02-24D05H		±5	±200	76%
		MAPU02-24D12H		±12	±84	80%
		MAPU02-24D15H		±15	±66	79%

▣ Mechanical Dimensions



▣ Pin Connections

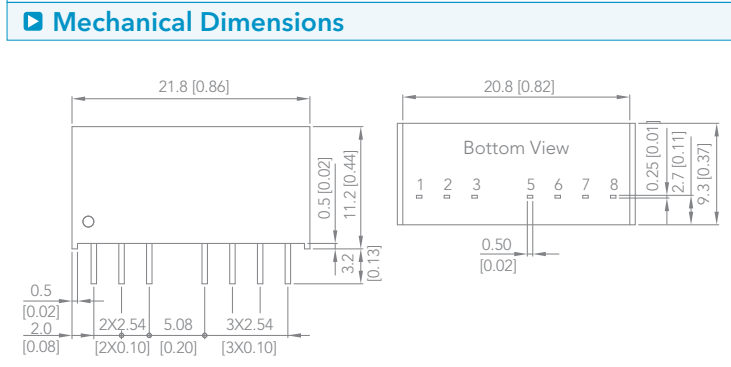
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout

MCW1000 Series • 2W

- Industrial Standard SIP-8 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1000VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Under-Voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MCW1011		3.3	500	70%
Load Regulation	±0.5% typ.	MCW1012	5 (4.5 – 9)	5	400	73%
Ripple & Noise (20MHz)	30mVp-p typ.	MCW1013		12	167	75%
Efficiency	Up to 81%	MCW1021		3.3	500	73%
I/O Isolation Voltage	1000VDC min.	MCW1022	12 (9 – 18)	5	400	77%
I/O Isolation Capacitance	65pF typ.	MCW1023		12	167	80%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MCW1031		3.3	500	72%
Short Circuit Protection	Continuous (Auto. Recovery)	MCW1032	24 (18 – 36)	5	400	77%
Remote ON/OFF	Enable Low	MCW1033		12	167	81%
Case Material	Plastic (UL94V-0 rated)	MCW1041		3.3	500	71%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MCW1042	48 (36 – 75)	5	400	73%
*For full series datasheet, please refer to www.minmax.com.tw		MCW1043		12	167	79%



▣ Pin Connections	
Pin	Function
1	-Vin
2	+Vin
3	Remote On/Off
5	NC
6	+Vout
7	-Vout
8	NC

NC = No Connection

MCWI02 Series • 2W

- Industrial Standard SIP-8 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- No Min. Load Requirement
- Overload and Short Circuit Protection
- Remote On/Off Control
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MCWI02-12S033	12 (4.5 – 18)	3.3	500	75%
Load Regulation	±0.5% typ.	MCWI02-12S05		5	400	80%
Ripple & Noise (20MHz)	100mVp-p max.	MCWI02-12S12		12	167	82%
Efficiency	Up to 82%	MCWI02-12S15		15	134	82%
I/O Isolation Voltage	1500VDC min.	MCWI02-12D05		±5	±200	80%
I/O Isolation Capacitance	250pF typ.	MCWI02-12D12		±12	±83	82%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MCWI02-12D15	±15	±67	82%	
Short Circuit Protection	Continuous (Auto. Recovery)	MCWI02-24S033	24 (9 – 36)	3.3	500	75%
Remote ON/OFF	Enable Low	MCWI02-24S05		5	400	80%
Case Material	Plastic (UL94V-0 rated)	MCWI02-24S12		12	167	82%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MCWI02-24S15		15	134	82%
		MCWI02-24D05		±5	±200	80%
		MCWI02-24D12		±12	±83	82%
		MCWI02-24D15	±15	±67	82%	
		MCWI02-48S033	48 (18 – 75)	3.3	500	74%
		MCWI02-48S05		5	400	80%
		MCWI02-48S12		12	167	82%
		MCWI02-48S15		15	134	82%
		MCWI02-48D05		±5	±200	80%
		MCWI02-48D12		±12	±83	82%
		MCWI02-48D15	±15	±67	82%	
*For full series datasheet, please refer to www.minmax.com.tw						
▣ Mechanical Dimensions		▣ Pin Connections				
		Pin	Single	Dual		
		1	-Vin	-Vin		
		2	+Vin	+Vin		
		3	Remote On/Off	Remote On/Off		
		5	NC	NC		
		6	+Vout	+Vout		
		7	-Vout	Common		
		8	NC	-Vout		

NC = No Connection

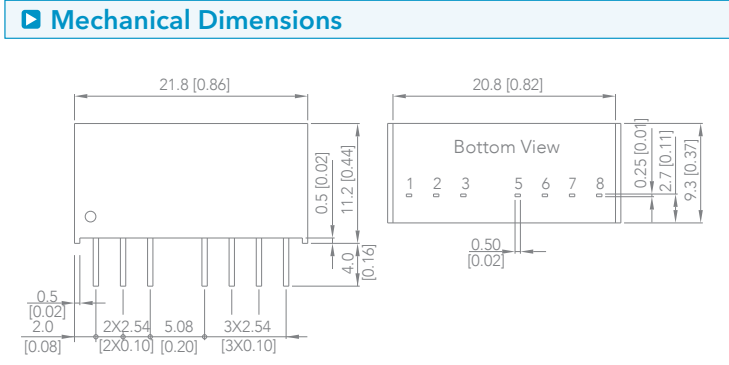
MCW04 Series • 4W

NEW

- Compact SIP-8 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1600VDC
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Overload and Short Circuit Protection
- Remote On/Off Control
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MCW04-12S05		5	800	78%
Load Regulation	±1.0% max.	MCW04-12S12		12	333	82%
Ripple & Noise (20MHz)	80mVp-p max.	MCW04-12S15	12	15	266	82%
Efficiency	Up to 83%	MCW04-12S24	(9 – 18)	24	166	82%
I/O Isolation Voltage	1600VDC min.	MCW04-12D12		±12	±166	82%
I/O Isolation Capacitance	200pF typ.	MCW04-12D15		±15	±133	82%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MCW04-24S05		5	800	79%
Short Circuit Protection	Continuous (Auto. Recovery)	MCW04-24S12		12	333	83%
Remote On/Off	Enable Low	MCW04-24S15	24	15	266	83%
Case Material	Plastic (UL94V-0 rated)	MCW04-24S24	(18 – 36)	24	166	83%
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MCW04-24D12		±12	±166	83%
		MCW04-24D15		±15	±133	83%
*For full series datasheet, please refer to www.minmax.com.tw		MCW04-48S05		5	800	78%
		MCW04-48S12		12	333	82%
		MCW04-48S15	48	15	266	82%
		MCW04-48S24	(36 – 75)	24	166	82%
		MCW04-48D12		±12	±166	82%
		MCW04-48D15		±15	±133	82%



▣ Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	NC	NC
6	+Vout	+Vout
7	-Vout	Common
8	NC	-Vout

NC = No Connection

MCWI04 Series • 4W

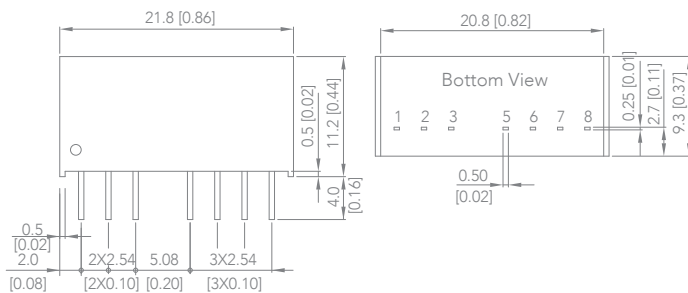


- Compact SIP-8 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1600VDC
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Overload and Short Circuit Protection
- Remote On/Off Control
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



► Specifications		► Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MCWI04-24S05		5	800	79%
Load Regulation	±1.0% max.	MCWI04-24S12		12	333	83%
Ripple & Noise (20MHz)	80mVp-p max.	MCWI04-24S15	24 (9 – 36)	15	266	83%
Efficiency	Up to 83%	MCWI04-24S24		24	166	83%
I/O Isolation Voltage	1600VDC min.	MCWI04-24D12		±12	±166	83%
I/O Isolation Capacitance	200pF typ.	MCWI04-24D15		±15	±133	83%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MCWI04-48S05		5	800	78%
Short Circuit Protection	Continuous (Auto. Recovery)	MCWI04-48S12		12	333	82%
Remote On/Off	Enable Low	MCWI04-48S15	48 (18 – 75)	15	266	82%
Case Material	Plastic (UL94V-0 rated)	MCWI04-48S24		24	166	82%
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MCWI04-48D12			±12	±166
*For full series datasheet, please refer to www.minmax.com.tw		MCWI04-48D15		±15	±133	82%

► Mechanical Dimensions



► Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	NC	NC
6	+Vout	+Vout
7	-Vout	Common
8	NC	-Vout

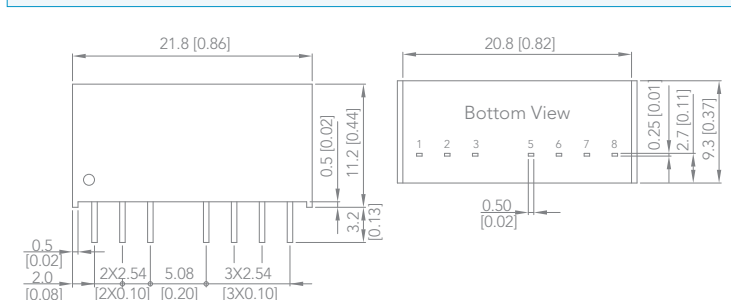
NC = No Connection

MCWI05 Series • 5W

- Smallest Encapsulated 5W Converter
- Ultra-compact SIP-8 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +75°C
- No Min. Load Requirement
- Under-Voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MCWI05-12S033		3.3	1075	76%
Load Regulation	±0.5% typ.	MCWI05-12S05		5	1000	81%
Ripple & Noise (20MHz)	100mVp-p max.	MCWI05-12S12		12	417	83%
Efficiency	Up to 84%	MCWI05-12S15	12 (4.5 – 18)	15	334	83%
I/O Isolation Voltage	1500VDC min.	MCWI05-12S24		24	209	82%
I/O Isolation Capacitance	250pF typ.	MCWI05-12D12		±12	±209	81%
Operating Ambient Temp. Range	-40°C to +75°C (See Derating Curve)	MCWI05-12D15		±15	±167	82%
Short Circuit Protection	Continuous (Auto. Recovery)	MCWI05-24S033		3.3	1075	76%
Remote ON/OFF	Enable Low	MCWI05-24S05		5	1000	81%
Case Material	Plastic (UL94V-0 rated)	MCWI05-24S12		12	417	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MCWI05-24S15	24 (9 – 36)	15	334	84%
*For full series datasheet, please refer to www.minmax.com.tw		MCWI05-24S24		24	209	83%
		MCWI05-24D12		±12	±209	82%
		MCWI05-24D15		±15	±167	82%
		MCWI05-48S033		3.3	1075	76%
		MCWI05-48S05		5	1000	80%
		MCWI05-48S12		12	417	83%
		MCWI05-48S15	48 (18 – 75)	15	334	84%
		MCWI05-48S24		24	209	82%
		MCWI05-48D12		±12	±209	82%
		MCWI05-48D15		±15	±167	83%



NC = No Connection

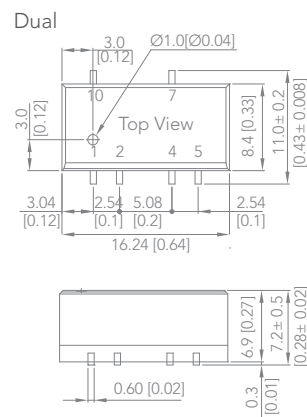
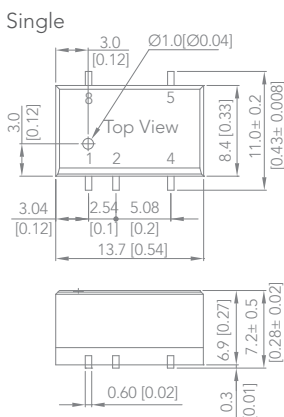
MSLU100 Series • 1W

- Industrial SMD Package
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide						
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency		
Load Regulation (Io = 20% - 100% load change)	5% - 10% max. (Depending on model)	MSLU101		3.3	300	73%		
Ripple & Noise (20MHz)	120mVp-p max.	MSLU102		5	200	78%		
Efficiency	Up to 80%	MSLU103		9	110	78%		
I/O Isolation Voltage	1500VDC min.	MSLU104	5 (4.5 – 5.5)	12	84	78%		
I/O Isolation Capacitance	40pF typ.	MSLU105		15	67	79%		
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MSLU106		±5	±100	74%		
Short Circuit Protection	Short Term	MSLU108		±12	±42	78%		
Case Material	Plastic (UL94V-0 rated)	MSLU109		±15	±33	78%		
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MSLU111			3.3	300	74%	
*For full series datasheet, please refer to www.minmax.com.tw		MSLU112		5	200	76%		
		MSLU113		9	110	78%		
		MSLU114	12 (10.8 – 13.2)	12	84	79%		
		MSLU115		15	67	80%		
		MSLU116		±5	±100	74%		
		MSLU118	±12	±42	78%			
		MSLU119	±15	±33	79%			
		MSLU154	15	12	84	78%		
		MSLU155	(13.5 – 16.5)	15	67	78%		
		MSLU121		3.3	300	72%		
		MSLU122		5	200	78%		
		MSLU123		9	110	77%		
		MSLU124	24 (21.6 – 26.4)	12	84	77%		
		MSLU125		15	67	79%		
		MSLU126		±5	±100	73%		
		MSLU128	±12	±42	78%			
		MSLU129	±15	±33	78%			
		*To order the converter for water-washable process, please add a suffix -W.						

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	No Pin	No Pin
4	-Vout	Common
5	+Vout	-Vout
6	No Pin	No Pin
7	No Pin	+Vout
8	NA	No Pin
9	---	No Pin
10	---	NA

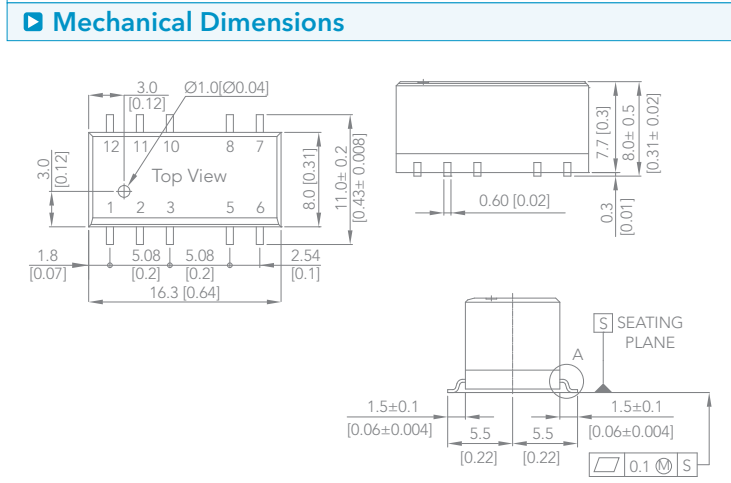
NA = Not Available for Electrical Connection

MSLU300 Series • 1W

- Industrial SMD Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	5% - 10% max. (Depending on model)	MSLU301		3.3	260	72%
Ripple & Noise (20MHz)	100mVp-p max.	MSLU302		5	200	75%
Efficiency	Up to 81%	MSLU304		12	84	79%
I/O Isolation Voltage	3000VDC min.	MSLU305	5 (4.5 - 5.5)	15	67	80%
I/O Isolation Capacitance	60pF typ.	MSLU306		±5	±100	75%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MSLU308		±12	±42	79%
Short Circuit Protection	Short Term	MSLU309		±15	±34	80%
Case Material	Plastic (UL94V-0 rated)	MSLU311		3.3	260	73%
*For full series datasheet, please refer to www.minmax.com.tw		MSLU312		5	200	76%
		MSLU314		12	84	80%
		MSLU315	12 (10.8 - 13.2)	15	67	81%
		MSLU316		±5	±100	76%
		MSLU318		±12	±42	80%
		MSLU319	±15	±34	80%	
		MSLU321		3.3	260	70%
		MSLU322		5	200	73%
		MSLU324		12	84	79%
		MSLU325	24 (21.6 - 26.4)	15	67	79%
MSLU326	±5	±100		73%		
MSLU328	±12	±42		79%		
MSLU329	±15	±34	79%			
*To order the converter for water-washable process, please add a suffix -W.						



NA = Not Available for Electrical Connection

MSPU01H Series • 1W

- Industrial SMD Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Overload and Short Circuit Protection
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% - 100% load change)	6% - 15% max. (Depending on model)					
Ripple & Noise (20MHz)	65mVp-p typ.	MSPU01-033S033H	3.3 (2.97 - 3.63)	3.3	300	77%
Efficiency	Up to 85%	MSPU01-033S05H		5	200	79%
I/O Isolation Voltage	3000VDC min.	MSPU01-033S12H		12	84	81%
I/O Isolation Capacitance	20pF typ.	MSPU01-033S15H		15	67	80%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MSPU01-033D05H		±5	±100	79%
Short Circuit Protection	Continuous (Auto. Recovery)	MSPU01-033D12H		±12	±42	81%
Case Material	Plastic (UL94V-0 rated)	MSPU01-033D15H	±15	±33	80%	
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MSPU01-05S033H	5 (4.5 - 5.5)	3.3	300	79%
		MSPU01-05S05H		5	200	82%
		MSPU01-05S12H		12	84	84%
		MSPU01-05S15H		15	67	85%
		MSPU01-05D05H		±5	±100	82%
		MSPU01-05D12H		±12	±42	84%
		MSPU01-05D15H	±15	±33	84%	
		MSPU01-12S033H	12 (10.8 - 13.2)	3.3	300	78%
		MSPU01-12S05H		5	200	81%
		MSPU01-12S12H		12	84	83%
		MSPU01-12S15H		15	67	83%
		MSPU01-12D05H		±5	±100	82%
		MSPU01-12D12H		±12	±42	83%
		MSPU01-12D15H	±15	±33	83%	

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter for water-washable process, please add a suffix -W.

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		2	+Vin	+Vin
		3	No Pin	No Pin
		4	-Vout	Common
		5	No Pin	-Vout
		6	No Pin	No Pin
		7	+Vout	+Vout
		8	No Pin	No Pin
		9	No Pin	No Pin
		10	NC	NC

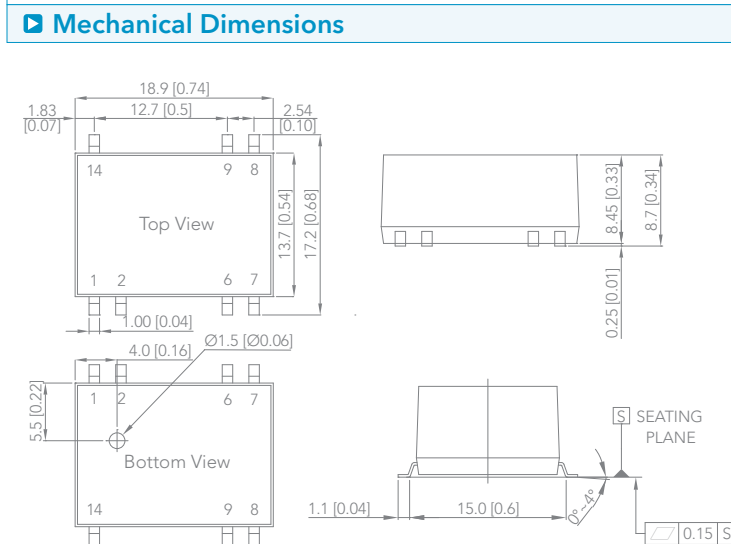
NC = No Connection

MSCW01 Series • 1W

- Industrial SMD Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Overload and Short Circuit Protection
- Remote On/Off Control
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MSCW01-05S05	5 (4.5 – 9)	5	200	78%
Load Regulation	±1.0% max.	MSCW01-05S12		12	83	79%
Ripple & Noise (20MHz)	75mVp-p max.	MSCW01-05S15		15	67	81%
Efficiency	Up to 82%	MSCW01-05D12		±12	±42	79%
I/O Isolation Voltage	1500VDC min.	MSCW01-05D15		±15	±33	80%
I/O Isolation Capacitance	50pF max.	MSCW01-12S05	12 (9 – 18)	5	200	79%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MSCW01-12S12		12	83	79%
Short Circuit Protection	Continuous (Auto. Recovery)	MSCW01-12S15		15	67	82%
Remote ON/OFF	Enable Low	MSCW01-12D12		±12	±42	81%
Case Material	Plastic (UL94V-0 rated)	MSCW01-12D15		±15	±33	80%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MSCW01-24S05	24 (18 – 36)	5	200	79%
*For full series datasheet, please refer to www.minmax.com.tw		MSCW01-24S12		12	83	82%
		MSCW01-24S15		15	67	82%
		MSCW01-24D12		±12	±42	82%
		MSCW01-24D15		±15	±33	82%
		MSCW01-48S05	48 (36 – 75)	5	200	79%
		MSCW01-48S12		12	83	80%
		MSCW01-48S15		15	67	80%
		MSCW01-48D12		±12	±42	81%
		MSCW01-48D15		±15	±33	81%
		*To order the converter for water-washable process, please add a suffix -W.				



NC = No Connection

MSLU400 Series • 2W

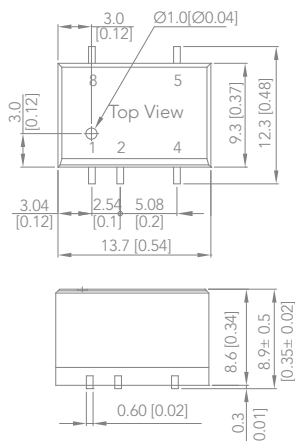
- Industrial SMD Package
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +92.5°C
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available



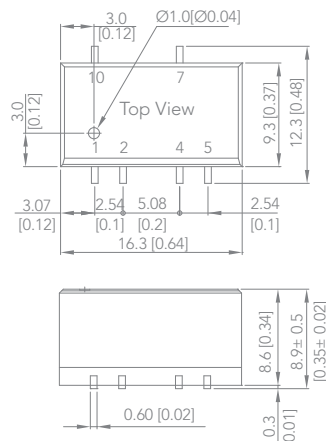
▣ Specifications		▣ Model Selection Guide						
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency		
Load Regulation (Io = 20% - 100% load change)	5% - 11% max. (Depending on model)	MSLU401		3.3	500	70%		
Ripple & Noise (20MHz)	120mVp-p max.	MSLU402		5	400	73%		
Efficiency	Up to 80%	MSLU404	5 (4.5 – 5.5)	12	165	77%		
I/O Isolation Voltage	1500VDC min.	MSLU406		±5	±200	74%		
I/O Isolation Capacitance	60pF typ.	MSLU408		±12	±83	76%		
Operating Ambient Temp. Range	-40°C to +92.5°C (See Derating Curve)	MSLU409		±15	±66	76%		
Short Circuit Protection	Short Term	MSLU411		3.3	500	72%		
Case Material	Plastic (UL94V-0 rated)	MSLU412		5	400	75%		
*For full series datasheet, please refer to www.minmax.com.tw		MSLU414	12 (10.8 – 13.2)	12	165	79%		
		MSLU418		±12	±83	80%		
		MSLU419		±15	±66	80%		
		MSLU421		3.3	500	72%		
		MSLU422		5	400	75%		
		MSLU424	24 (21.6 – 26.4)	12	165	79%		
		MSLU428		±12	±83	79%		
		MSLU429		±15	±66	79%		
				*To order the converter for water-washable process, please add a suffix -W.				

▣ Mechanical Dimensions

Single



Dual



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
4	-Vout	Common
5	+Vout	-Vout
7	No Pin	+Vout
8	NA	No Pin
10	No Pin	NA

NA = Not Available for Electrical Connection

MSDW1000 Series • 2W

- Industrial SMD Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Under-voltage and Short Circuit Protection
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 60950-1 Safety Approval

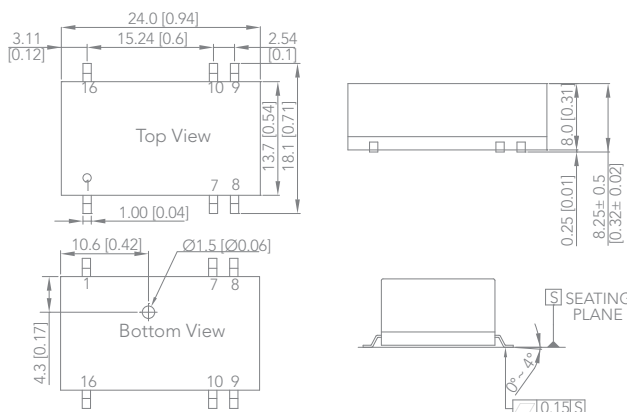


▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MSDW1011	5 (4.5 – 9)	3.3	500	70%
Load Regulation	±0.5% typ.	MSDW1012		5	400	73%
Ripple & Noise (20MHz)	50mVp-p max.	MSDW1013		12	167	75%
Efficiency	Up to 81%	MSDW1014		15	134	73%
I/O Isolation Voltage	1500VDC min.	MSDW1015		±5	±200	64%
I/O Isolation Capacitance	250pF typ.	MSDW1016		±12	±83	69%
I/O Isolation Capacitance	250pF typ.	MSDW1017		±15	±67	71%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MSDW1021	12 (9 – 18)	3.3	500	73%
Short Circuit Protection	Continuous (Auto. Recovery)	MSDW1022		5	400	77%
Case Material	Plastic (UL94V-0 rated)	MSDW1023		12	167	80%
Safety Approval	UL/cUL/IEC/EN 60950-1, CB-Report	MSDW1024		15	134	80%
		MSDW1025		±5	±200	73%
		MSDW1026		±12	±83	78%
		MSDW1027		±15	±67	78%
		MSDW1031	24 (18 – 36)	3.3	500	72%
		MSDW1032		5	400	77%
		MSDW1033		12	167	80%
		MSDW1034		15	134	81%
		MSDW1035		±5	±200	74%
		MSDW1036		±12	±83	78%
		MSDW1037		±15	±67	80%
		MSDW1041	48 (36 – 75)	3.3	500	71%
		MSDW1042		5	400	73%
		MSDW1043		12	167	79%
		MSDW1044		15	134	79%
		MSDW1045		±5	±200	71%
		MSDW1046		±12	±83	77%
		MSDW1047		±15	±67	77%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter for water-washable process, please add a suffix -W.

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

NC = No Connection

MSCWI02 Series • 2W

- Very Compact SMD Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MSCWI02-05S05		5	400	80%
Load Regulation	±1.0% max.	MSCWI02-05S12		12	167	84%
Ripple & Noise (20MHz)	50mVp-p max.	MSCWI02-05S15	5	15	134	83%
Efficiency	Up to 85%	MSCWI02-05S24	(4.5 – 12)	24	83	84%
I/O Isolation Voltage	1500VDC min.	MSCWI02-05D12		±12	±83	83%
I/O Isolation Capacitance	500pF typ.	MSCWI02-05D15		±15	±67	82%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MSCWI02-24S05		5	400	80%
Short Circuit Protection	Continuous (Auto. Recovery)	MSCWI02-24S12		12	167	84%
Remote ON/OFF	Enable Low	MSCWI02-24S15	24	15	134	85%
Case Material	Plastic (UL94V-0 rated)	MSCWI02-24S24	(9 – 36)	24	83	85%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MSCWI02-24D12		±12	±83	83%
		MSCWI02-24D15		±15	±67	83%
		MSCWI02-48S05		5	400	78%
		MSCWI02-48S12		12	167	82%
		MSCWI02-48S15	48	15	134	83%
		MSCWI02-48S24	(18 – 75)	24	83	84%
		MSCWI02-48D12		±12	±83	82%
		MSCWI02-48D15		±15	±67	82%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter for water-washable process, please add a suffix -W.

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		2	Remote On/Off	Remote On/Off
		6	NC	Common
		7	NC	-Vout
		8	+Vout	+Vout
		9	-Vout	Common
		14	+Vin	+Vin

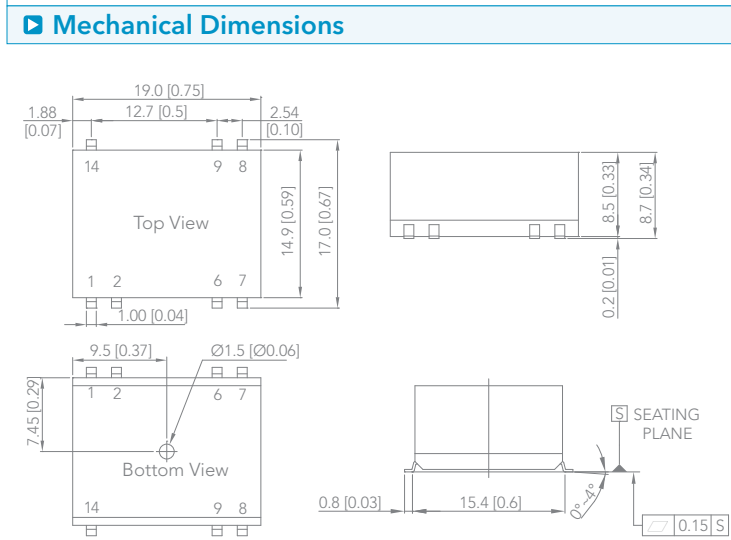
NC = No Connection

MSCWI03 Series • 3W

- Very Compact SMD Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.					
Load Regulation	±1.0% max.	MSCWI03-05S05		5	600	81%
Ripple & Noise (20MHz)	50mVp-p max.	MSCWI03-05S12		12	250	84%
Efficiency	Up to 85%	MSCWI03-05S15	5	15	200	84%
I/O Isolation Voltage	1500VDC min.	MSCWI03-05S24	(4.5 – 12)	24	125	84%
I/O Isolation Capacitance	500pF typ.	MSCWI03-05D12		±12	±125	83%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MSCWI03-05D15		±15	±100	83%
Short Circuit Protection	Continuous (Auto. Recovery)	MSCWI03-24S05		5	600	80%
Remote ON/OFF	Enable Low	MSCWI03-24S12		12	250	85%
Case Material	Plastic (UL94V-0 rated)	MSCWI03-24S15	24	15	200	85%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MSCWI03-24S24	(9 – 36)	24	125	85%
*For full series datasheet, please refer to www.minmax.com.tw		MSCWI03-24D12		±12	±125	84%
		MSCWI03-24D15		±15	±100	84%
		MSCWI03-48S05		5	600	80%
		MSCWI03-48S12		12	250	84%
		MSCWI03-48S15	48	15	200	84%
		MSCWI03-48S24	(18 – 75)	24	125	85%
		MSCWI03-48D12		±12	±125	83%
		MSCWI03-48D15		±15	±100	82%
		*To order the converter for water-washable process, please add a suffix -W.				



MSGWI06 Series • 6W

- Industrial SMD Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval

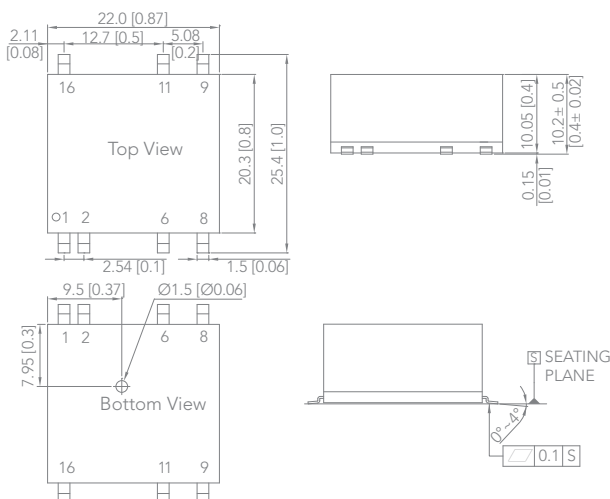


Specifications		Model Selection Guide					
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.5% typ.	MSGWI06-24S033	24 (9 – 36)	3.3	1450	76%	
Load Regulation	±0.5% typ.	MSGWI06-24S05		5	1200	79%	
Ripple & Noise (20MHz)	100mVp-p max.	MSGWI06-24S12		12	500	83%	
Efficiency	Up to 83%	MSGWI06-24S15		15	400	83%	
I/O Isolation Voltage	1500VDC min.	MSGWI06-24S24		24	250	83%	
I/O Isolation Capacitance	1200pF typ.	MSGWI06-24D05		±5	±600	82%	
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MSGWI06-24D12		±12	±250	83%	
Short Circuit Protection	Continuous (Auto. Recovery)	MSGWI06-24D15		±15	±200	83%	
Remote ON/OFF	Enable High	MSGWI06-48S033		48 (18 – 75)	3.3	1450	76%
Case Material	Plastic (UL94V-0 rated)	MSGWI06-48S05			5	1200	79%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MSGWI06-48S12			12	500	83%
		MSGWI06-48S15			15	400	83%
		MSGWI06-48S24	24		250	83%	
		MSGWI06-48D05	±5		±600	82%	
		MSGWI06-48D12	±12		±250	83%	
		MSGWI06-48D15	±15		±200	83%	

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter for water-washable process, please add a suffix -W.

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
6	NC	Common
8	NC	-Vout
9	+Vout	+Vout
11	-Vout	Common
16	+Vin	+Vin

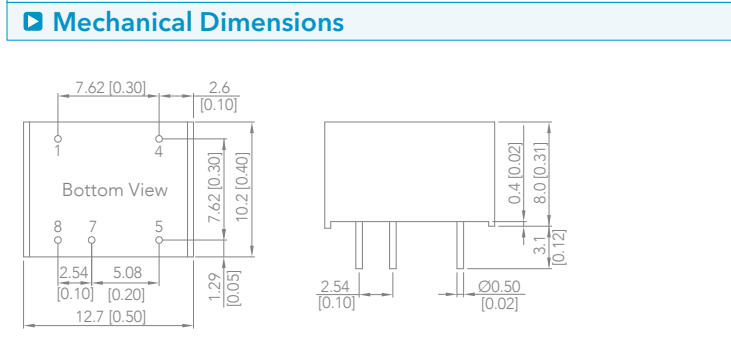
NC = No Connection

MFPU01H Series • 1W

- Industrial Standard DIP-8 Package
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Overload and Short Circuit Protection
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% - 100% load change)	7% - 15% max. (Depending on model)	MFPU01-033S033H	3.3 (2.97 – 3.63)	3.3	300	75%
Ripple & Noise (20MHz)	100mVp-p max.	MFPU01-033S05H		5	200	79%
Efficiency	Up to 83%	MFPU01-033S12H		12	84	80%
I/O Isolation Voltage	3000VDC min.	MFPU01-033S15H		15	67	81%
I/O Isolation Capacitance	20pF typ.	MFPU01-033D05H		±5	±100	78%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MFPU01-033D12H		±12	±42	80%
Short Circuit Protection	Continuous (Auto. Recovery)	MFPU01-033D15H	±15	±33	81%	
Case Material	Plastic (UL94V-0 rated)	MFPU01-05S033H	5 (4.5 – 5.5)	3.3	300	77%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MFPU01-05S05H		5	200	80%
*For full series datasheet, please refer to www.minmax.com.tw		MFPU01-05S12H		12	84	82%
		MFPU01-05S15H		15	67	83%
		MFPU01-05D05H		±5	±100	80%
		MFPU01-05D12H		±12	±42	83%
		MFPU01-05D15H	±15	±33	83%	
		MFPU01-12S033H	3.3	300	77%	
		MFPU01-12S05H	5	200	79%	
		MFPU01-12S12H	12	84	81%	
		MFPU01-12S15H	15 (10.8 – 13.2)	67	82%	
		MFPU01-12D05H	±5	±100	80%	
		MFPU01-12D12H	±12	±42	82%	
		MFPU01-12D15H	±15	±33	82%	



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
4	+Vin	+Vin
5	+Vout	+Vout
7	-Vout	Common
8	No Pin	-Vout

MFW02 Series • 2W

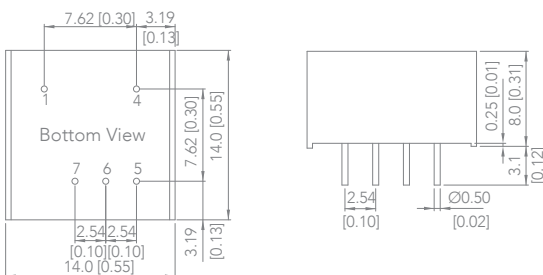
- Smallest Encapsulated 2W Converter
- Ultra-compact DIP-8 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- UL/cUL/IEC/EN 62368-1 (60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.5% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MFW02-05S033	5 (4.5 – 10)	3.3	400	79%
Load Regulation	±1.0% max.	MFW02-05S05		5	400	81%
Ripple & Noise (20MHz)	70mVp-p typ.	MFW02-05S12		12	167	85%
Efficiency	Up to 87%	MFW02-05S15		15	134	87%
I/O Isolation Voltage	1500VDC min.	MFW02-05D05		±5	±200	83%
I/O Isolation Capacitance	100pF typ.	MFW02-05D12	±12	±83	85%	
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MFW02-05D15	±15	±67	85%	
Short Circuit Protection	Continuous (Auto. Recovery)	MFW02-12S033	12 (9 – 18)	3.3	400	80%
Case Material	Plastic (UL94V-0 rated)	MFW02-12S05		5	400	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MFW02-12S12		12	167	87%
		MFW02-12S15		15	134	87%
		MFW02-12D05		±5	±200	84%
		MFW02-12D12	±12	±83	86%	
		MFW02-12D15	±15	±67	86%	
		MFW02-24S033	24 (18 – 36)	3.3	400	79%
		MFW02-24S05		5	400	84%
		MFW02-24S12		12	167	86%
		MFW02-24S15		15	134	87%
		MFW02-24D05		±5	±200	84%
		MFW02-24D12	±12	±83	86%	
		MFW02-24D15	±15	±67	86%	
		MFW02-48S033	48 (36 – 75)	3.3	400	79%
		MFW02-48S05		5	400	83%
		MFW02-48S12		12	167	85%
		MFW02-48S15		15	134	86%
		MFW02-48D05		±5	±200	82%
		MFW02-48D12	±12	±83	84%	
		MFW02-48D15	±15	±67	84%	

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		4	+Vin	+Vin
		5	+Vout	+Vout
		6	No Pin	Common
		7	-Vout	-Vout



MFW03 Series • 3W

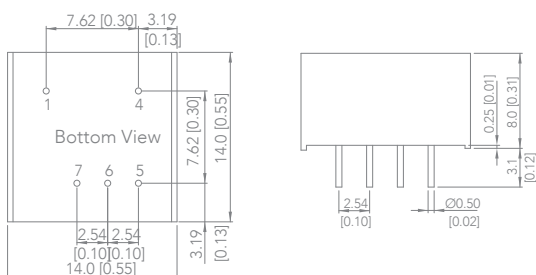
- Smallest Encapsulated 3W Converter
- Ultra-compact DIP-8 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- UL/cUL/IEC/EN 62368-1 (60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.5% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MFW03-05S033	5 (4.5 – 10)	3.3	600	79%
Load Regulation	±1.0% max.	MFW03-05S05		5	600	81%
Ripple & Noise (20MHz)	70mVp-p typ.	MFW03-05S12		12	250	85%
Efficiency	Up to 87%	MFW03-05S15		15	200	85%
I/O Isolation Voltage	1500VDC min.	MFW03-05D05		±5	±300	82%
I/O Isolation Capacitance	100pF typ.	MFW03-05D12		±12	±125	84%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MFW03-05D15	±15	±100	85%	
Short Circuit Protection	Continuous (Auto. Recovery)	MFW03-12S033	12 (9 – 18)	3.3	600	80%
Case Material	Plastic (UL94V-0 rated)	MFW03-12S05		5	600	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MFW03-12S12		12	250	87%
		MFW03-12S15		15	200	87%
		MFW03-12D05		±5	±300	84%
		MFW03-12D12		±12	±125	86%
		MFW03-12D15	±15	±100	87%	
		MFW03-24S033	24 (18 – 36)	3.3	600	80%
		MFW03-24S05		5	600	83%
		MFW03-24S12		12	250	87%
		MFW03-24S15		15	200	87%
		MFW03-24D05		±5	±300	84%
		MFW03-24D12		±12	±125	86%
		MFW03-24D15	±15	±100	87%	
		MFW03-48S033	48 (36 – 75)	3.3	600	79%
		MFW03-48S05		5	600	82%
		MFW03-48S12		12	250	86%
		MFW03-48S15		15	200	86%
		MFW03-48D05		±5	±300	82%
		MFW03-48D12		±12	±125	85%
		MFW03-48D15	±15	±100	85%	

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
4	+Vin	+Vin
5	+Vout	+Vout
6	No Pin	Common
7	-Vout	-Vout

MIW03 Series • 3W

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC (opt. 3000VDC)
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- EMI Emission EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE-Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MIW03-05S033		3.3	750	77%
Load Regulation	±0.3% typ.	MIW03-05S05		5	600	80%
Ripple & Noise (20MHz)	70mVp-p max.	MIW03-05S12		12	250	82%
Efficiency	Up to 85%	MIW03-05S15	5	15	200	82%
I/O Isolation Voltage	1500VDC (opt. 3000VDC) min.	MIW03-05S24	(4.5 - 9)	24	125	81%
I/O Isolation Capacitance	300pF max.	MIW03-05D05		±5	±250	80%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIW03-05D12		±12	±125	82%
Short Circuit Protection	Continuous (Auto. Recovery)	MIW03-05D15		±15	±100	82%
Case Material	Plastic (UL94V-0 rated)	MIW03-12S033		3.3	750	79%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MIW03-12S05		5	600	81%
*For full series datasheet, please refer to www.minmax.com.tw		MIW03-12S12		12	250	85%
		MIW03-12S15	12	15	200	85%
		MIW03-12S24	(9 - 18)	24	125	84%
		MIW03-12D05		±5	±250	80%
		MIW03-12D12		±12	±125	84%
		MIW03-12D15		±15	±100	84%
		MIW03-24S033		3.3	750	79%
		MIW03-24S05		5	600	81%
		MIW03-24S12		12	250	85%
		MIW03-24S15	24	15	200	85%
		MIW03-24S24	(18 - 36)	24	125	84%
		MIW03-24D05		±5	±250	80%
		MIW03-24D12		±12	±125	84%
		MIW03-24D15		±15	±100	84%
		MIW03-48S033		3.3	750	79%
		MIW03-48S05		5	600	81%
		MIW03-48S12		12	250	85%
		MIW03-48S15	48	15	200	85%
		MIW03-48S24	(36 - 75)	24	125	84%
		MIW03-48D05		±5	±250	80%
		MIW03-48D12		±12	±125	84%
		MIW03-48D15		±15	±100	84%

*To order the converter with 3000VDC isolation, please add a suffix H.

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		2,3	-Vin	-Vin
		9	No Pin	Common
		11	NC	-Vout
		14	+Vout	+Vout
		16	-Vout	Common
		22,23	+Vin	+Vin

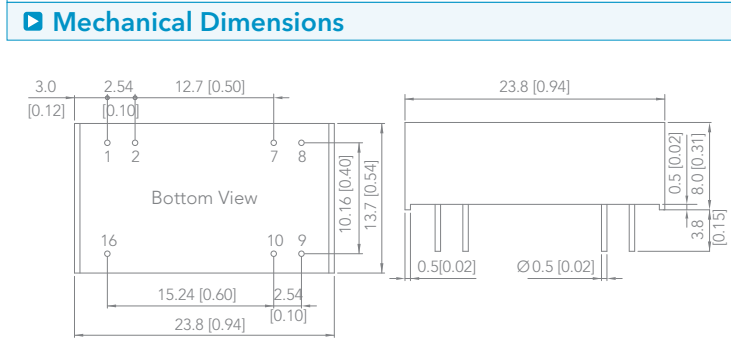
NC = No Connection

MDWI03 Series • 3W

- Compact DIP-16 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MDWI03-24S033		3.3	600	75%
Load Regulation	±0.5% typ.	MDWI03-24S05		5	600	78%
Ripple & Noise (20MHz)	50mVp-p typ.	MDWI03-24S12		12	250	80%
Efficiency	Up to 80%	MDWI03-24S15	24 (9 – 36)	15	200	80%
I/O Isolation Voltage	1500VDC min.	MDWI03-24S24		24	125	80%
I/O Isolation Capacitance	350pF typ.	MDWI03-24D05		±5	±300	77%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MDWI03-24D12		±12	±125	80%
Short Circuit Protection	Continuous (Auto. Recovery)	MDWI03-24D15		±15	±100	80%
Remote ON/OFF	Enable High	MDWI03-48S033		3.3	600	75%
Case Material	Plastic (UL94V-0 rated)	MDWI03-48S05		5	600	78%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MDWI03-48S12		12	250	80%
*For full series datasheet, please refer to www.minmax.com.tw		MDWI03-48S15	48 (18 – 75)	15	200	80%
		MDWI03-48S24		24	125	80%
		MDWI03-48D05		±5	±300	77%
			MDWI03-48D12	±12	±125	80%
			MDWI03-48D15	±15	±100	80%



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
2	Remote On/Off	Remote On/Off
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

NC = No Connection

MIWI03 Series • 3W

- Industrial Standard DIP-24 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC (opt. 3000VDC)
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- EMI Emission EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE-Marking



Specifications		Model Selection Guide					
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.3% typ.	MIWI03-24S033		3.3	750	77%	
Load Regulation	±0.3% typ.	MIWI03-24S05		5	600	79%	
Ripple & Noise (20MHz)	70mVp-p max.	MIWI03-24S12		12	250	82%	
Efficiency	Up to 84%	MIWI03-24S15	24	15	200	83%	
I/O Isolation Voltage	1500VDC (opt. 3000VDC) min.	MIWI03-24S24	(9 - 36)	24	125	81%	
I/O Isolation Capacitance	300pF max.	MIWI03-24D05		±5	±250	80%	
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIWI03-24D12		±12	±125	82%	
Short Circuit Protection	Continuous (Auto. Recovery)	MIWI03-24D15		±15	±100	82%	
Case Material	Plastic (UL94V-0 rated)	MIWI03-48S033		3.3	750	77%	
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MIWI03-48S05		5	600	80%	
*For full series datasheet, please refer to www.minmax.com.tw		MIWI03-48S12		12	250	83%	
		MIWI03-48S15	48	15	200	84%	
		MIWI03-48S24	(18 - 75)	24	125	82%	
		MIWI03-48D05		±5	±250	80%	
		MIWI03-48D12		±12	±125	82%	
		MIWI03-48D15		±15	±100	82%	
		*To order the converter with 3000VDC isolation, please add a suffix H.					

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		2,3	-Vin	-Vin
		9	No Pin	Common
		11	NC	-Vout
		14	+Vout	+Vout
		16	-Vout	Common
		22,23	+Vin	+Vin

NC = No Connection

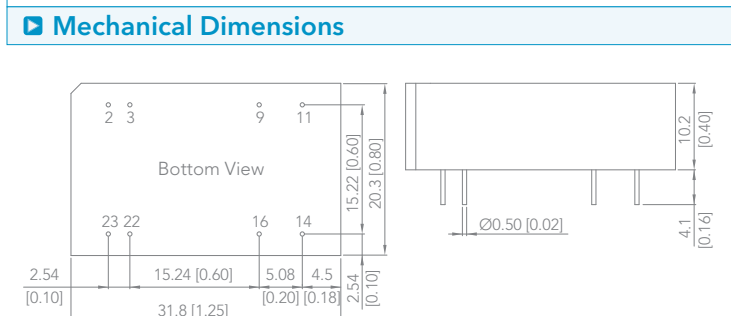
MIW06 Series • 6W

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC (opt. 3000VDC)
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.1% typ.	MIW06-12S033		3.3	1200	75%
Load Regulation	±0.6% typ.	MIW06-12S05		5	1200	78%
Ripple & Noise (20MHz)	80mVp-p max.	MIW06-12S12		12	500	82%
Efficiency	Up to 84%	MIW06-12S15	12	15	400	82%
I/O Isolation Voltage	1500VDC (opt. 3000VDC) min.	MIW06-12S24	(9 – 18)	24	250	84%
I/O Isolation Capacitance	1000pF typ.	MIW06-12D05		±5	±500	78%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIW06-12D12		±12	±250	82%
Short Circuit Protection	Continuous (Auto. Recovery)	MIW06-12D15		±15	±200	82%
Case Material	Plastic (UL94V-0 rated)	MIW06-24S033		3.3	1200	77%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MIW06-24S05		5	1200	80%
*For full series datasheet, please refer to www.minmax.com.tw		MIW06-24S12		12	500	84%
		MIW06-24S15	24	15	400	84%
		MIW06-24S24	(18 – 36)	24	250	84%
		MIW06-24D05		±5	±500	80%
		MIW06-24D12		±12	±250	84%
		MIW06-24D15		±15	±200	84%
		MIW06-48S033		3.3	1200	77%
		MIW06-48S05		5	1200	80%
		MIW06-48S12		12	500	84%
		MIW06-48S15	48	15	400	84%
		MIW06-48S24	(36 – 75)	24	250	84%
		MIW06-48D05		±5	±500	80%
		MIW06-48D12		±12	±250	84%
		MIW06-48D15		±15	±200	84%

*To order the converter with 3000VDC isolation, please add a suffix H.



Pin Connections

Pin	Single	Dual
2,3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

NC = No Connection

MDWI06 Series • 6W

- Smallest Encapsulated 6W Converter
- Industrial Standard DIP-16 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDWI06-24S033		3.3	1500	78%
Load Regulation	±0.5% typ.	MDWI06-24S05		5	1200	82%
Ripple & Noise (20MHz)	55mVp-p max.	MDWI06-24S12		12	500	86%
Efficiency	Up to 87%	MDWI06-24S15	24 (9 – 36)	15	400	86%
I/O Isolation Voltage	1500VDC min.	MDWI06-24S24		24	250	87%
I/O Isolation Capacitance	500pF typ.	MDWI06-24D12		±12	±250	86%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MDWI06-24D15		±15	±200	87%
Short Circuit Protection	Continuous (Auto. Recovery)	MDWI06-48S033		3.3	1500	78%
Case Material	Metal (6 side shielded with insulated baseplate)	MDWI06-48S05		5	1200	82%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDWI06-48S12		12	500	86%
*For full series datasheet, please refer to www.minmax.com.tw		MDWI06-48S15	48 (18 – 75)	15	400	86%
		MDWI06-48S24		24	250	87%
		MDWI06-48D12		±12	±250	87%
		MDWI06-48D15		±15	±200	87%

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		7	NC	NC
		8	NC	Common
		9	+Vout	+Vout
		10	-Vout	-Vout
		16	+Vin	+Vin

NC = No Connection

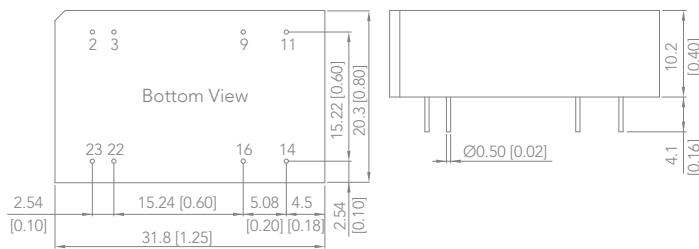
MIWI06 Series • 6W

- Industrial Standard DIP-24 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC (opt. 3000VDC)
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.1% typ.	MIWI06-24S033		3.3	1200	77%
Load Regulation	±0.6% typ.	MIWI06-24S05		5	1200	80%
Ripple & Noise (20MHz)	80mVp-p max.	MIWI06-24S12		12	500	84%
Efficiency	Up to 84%	MIWI06-24S15	24	15	400	84%
I/O Isolation Voltage	1500VDC (opt. 3000VDC) min.	MIWI06-24S24	(9 – 36)	24	250	84%
I/O Isolation Capacitance	1000pF typ.	MIWI06-24D05		±5	±500	80%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIWI06-24D12		±12	±250	84%
Short Circuit Protection	Continuous (Auto. Recovery)	MIWI06-24D15		±15	±200	84%
Case Material	Plastic (UL94V-0 rated)	MIWI06-48S033		3.3	1200	77%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MIWI06-48S05		5	1200	80%
*For full series datasheet, please refer to www.minmax.com.tw		MIWI06-48S12		12	500	84%
		MIWI06-48S15	48	15	400	84%
		MIWI06-48S24	(18 – 75)	24	250	84%
		MIWI06-48D05		±5	±500	80%
		MIWI06-48D12		±12	±250	84%
		MIWI06-48D15		±15	±200	84%
		*To order the converter with 3000VDC isolation, please add a suffix H.				

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
2,3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

NC = No Connection

MDW08 Series • 8W

- Smallest Encapsulated 8W Converter
- Industrial Standard DIP-16 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDW08-12S033	12 (9 – 18)	3.3	1600	78%
Load Regulation	±0.5% typ.	MDW08-12S05		5	1600	81%
Ripple & Noise (20MHz)	55mVp-p max.	MDW08-12S12		12	665	84%
Efficiency	Up to 86%	MDW08-12S15		15	535	84%
I/O Isolation Voltage	1500VDC min.	MDW08-12S24		24	335	85%
I/O Isolation Capacitance	500pF typ.	MDW08-12D12		±12	±335	85%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MDW08-12D15	±15	±265	84%	
Short Circuit Protection	Continuous (Auto. Recovery)	MDW08-24S033	24 (18 – 36)	3.3	1600	78%
Case Material	Metal (6 side shielded with insulated baseplate)	MDW08-24S05		5	1600	82%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDW08-24S12		12	665	85%
		MDW08-24S15		15	535	85%
		MDW08-24S24		24	335	86%
		MDW08-24D12		±12	±335	85%
		MDW08-24D15	±15	±265	86%	
		MDW08-48S033	48 (36 – 75)	3.3	1600	78%
		MDW08-48S05		5	1600	81%
		MDW08-48S12		12	665	85%
		MDW08-48S15		15	535	85%
		MDW08-48S24		24	335	86%
		MDW08-48D12		±12	±335	86%
		MDW08-48D15	±15	±265	86%	

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
	Pin	Single	Dual	
	1	-Vin	-Vin	
	7	NC	NC	
	8	NC	Common	
	9	+Vout	+Vout	
	10	-Vout	-Vout	
	16	+Vin	+Vin	

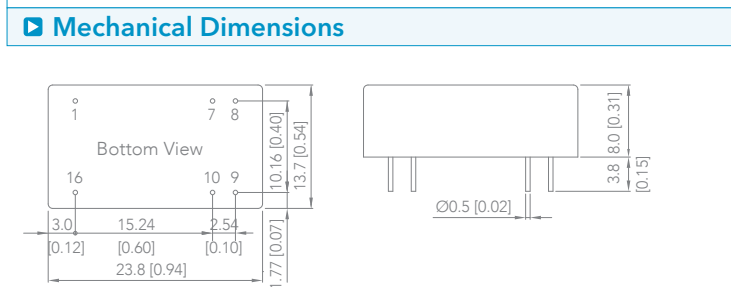
NC = No Connection

MDWI08 Series • 8W

- Smallest Encapsulated 8W Converter
- Industrial Standard DIP-16 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDWI08-24S033		3.3	2000	78%
Load Regulation	±0.5% typ.	MDWI08-24S05		5	1600	82%
Ripple & Noise (20MHz)	55mVp-p max.	MDWI08-24S12		12	665	85%
Efficiency	Up to 86%	MDWI08-24S15	24 (9 – 36)	15	535	85%
I/O Isolation Voltage	1500VDC min.	MDWI08-24S24		24	335	86%
I/O Isolation Capacitance	500pF typ.	MDWI08-24D12		±12	±335	85%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MDWI08-24D15		±15	±265	86%
Short Circuit Protection	Continuous (Auto. Recovery)	MDWI08-48S033		3.3	2000	78%
Case Material	Metal (6 side shielded with insulated baseplate)	MDWI08-48S05		5	1600	81%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDWI08-48S12		12	665	85%
*For full series datasheet, please refer to www.minmax.com.tw		MDWI08-48S15	48 (18 – 75)	15	535	85%
		MDWI08-48S24		24	335	86%
		MDWI08-48D12		±12	±335	86%
		MDWI08-48D15		±15	±265	86%



NC = No Connection

MDW10 Series • 10W

NEW

- Smallest Encapsulated 10W Converter
- Industrial Standard DIP-16 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +88°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDW10-12S033		3.3	2700	79%
Load Regulation	±1.0% max.	MDW10-12S05		5	2000	82%
Ripple & Noise (20MHz) 3.3, 5V, 5.1V Others	60mVp-p typ.	MDW10-12S051		5.1	2000	82%
	80mVp-p typ.	MDW10-12S12	12	12	833	86%
Efficiency	Up to 88%	MDW10-12S15	(9 – 18)	15	666	87%
I/O Isolation Voltage	1500VDC min.	MDW10-12S24		24	416	87%
I/O Isolation Capacitance	1500pF max.	MDW10-12D12		±12	±416	86%
Operating Ambient Temp. Range	-40°C to +88°C (See Derating Curve)	MDW10-12D15		±15	±333	86%
Short Circuit Protection	Continuous (Auto. Recovery)	MDW10-24S033		3.3	2700	80%
Case Material	Metal (6 side shielded with insulated baseplate)	MDW10-24S05		5	2000	83%
		MDW10-24S051		5.1	2000	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDW10-24S12	24	12	833	87%
		MDW10-24S15	(18 – 36)	15	666	88%
		MDW10-24S24		24	416	88%
		MDW10-24D12		±12	±416	87%
		MDW10-24D15		±15	±333	87%
		MDW10-48S033		3.3	2700	80%
		MDW10-48S05		5	2000	83%
		MDW10-48S051		5.1	2000	83%
		MDW10-48S12	48	12	833	87%
		MDW10-48S15	(36 – 75)	15	666	88%
		MDW10-48S24		24	416	88%
		MDW10-48D12		±12	±416	87%
		MDW10-48D15		±15	±333	87%

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		7	NC	NC
		8	NC	Common
		9	+Vout	+Vout
		10	-Vout	-Vout
		16	+Vin	+Vin

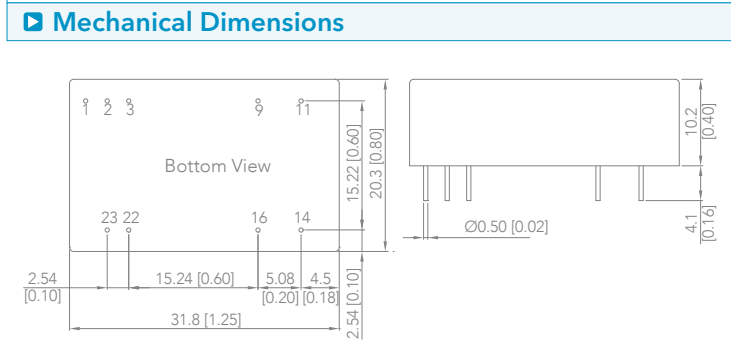
NC = No Connection

MIW10 Series • 10W

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approva



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MIW10-12S033		3.3	2700	86%
Load Regulation	±0.5% typ.	MIW10-12S05		5	2000	85%
Ripple & Noise (20MHz) 3.3V & 5V	80mVp-p typ.	MIW10-12S051		5.1	2000	85%
	Others 100mVp-p typ.	MIW10-12S12	12 (9 – 18)	12	833	88%
Efficiency	Up to 89%	MIW10-12S15		15	666	89%
I/O Isolation Voltage	1500VDC min.	MIW10-12D12		±12	±416	88%
I/O Isolation Capacitance	1000pF typ.	MIW10-12D15		±15	±333	89%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIW10-24S033		3.3	2700	86%
Short Circuit Protection	Continuous (Auto. Recovery)	MIW10-24S05		5	2000	85%
Remote ON/OFF	Enable High	MIW10-24S051		5.1	2000	85%
Case Material	Metal (6 side shielded with insulated baseplate)	MIW10-24S12	24 (18 – 36)	12	833	89%
		MIW10-24S15		15	666	89%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MIW10-24D12		±12	±416	88%
		MIW10-24D15		±15	±333	89%
*For full series datasheet, please refer to www.minmax.com.tw		MIW10-48S033		3.3	2700	86%
		MIW10-48S05		5	2000	85%
		MIW10-48S051		5.1	2000	85%
		MIW10-48S12	48 (36 – 75)	12	833	87%
		MIW10-48S15		15	666	88%
		MIW10-48D12		±12	±416	87%
		MIW10-48D15		±15	±333	88%



▣ Pin Connections

Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2,3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

NC = No Connection

MDWI10 Series • 10W

NEW

- Smallest Encapsulated 10W Converter
- Industrial Standard DIP-16 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +88°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDWI10-24S033		3.3	2700	80%
Load Regulation	±1.0% max.	MDWI10-24S05		5	2000	83%
Ripple & Noise (20MHz) 3.3, 5V, 5.1V Others	60mVp-p typ.	MDWI10-24S051		5.1	2000	83%
	80mVp-p typ.	MDWI10-24S12	24	12	833	87%
Efficiency	Up to 88%	MDWI10-24S15	(9 – 36)	15	666	88%
I/O Isolation Voltage	1500VDC min.	MDWI10-24S24		24	416	88%
I/O Isolation Capacitance	1500pF max.	MDWI10-24D12		±12	±416	87%
Operating Ambient Temp. Range	-40°C to +88°C (See Derating Curve)	MDWI10-24D15		±15	±333	87%
Short Circuit Protection	Continuous (Auto. Recovery)	MDWI10-48S033		3.3	2700	80%
Case Material	Metal (6 side shielded with insulated baseplate)	MDWI10-48S05		5	2000	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDWI10-48S051		5.1	2000	83%
		MDWI10-48S12	48	12	833	87%
*For full series datasheet, please refer to www.minmax.com.tw		MDWI10-48S15	(18 – 75)	15	666	88%
		MDWI10-48S24		24	416	88%
		MDWI10-48D12		±12	±416	87%
		MDWI10-48D15		±15	±333	87%
		Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual		
		1	-Vin	-Vin		
		7	NC	NC		
		8	NC	Common		
		9	+Vout	+Vout		
		10	-Vout	-Vout		
16	+Vin	+Vin				

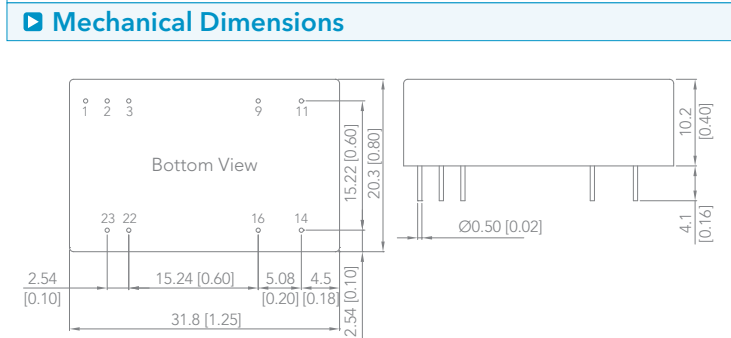
NC = No Connection

MIWI10 Series • 10W

- Industrial Standard DIP-24 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 87%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MIWI10-24S033		3.3	2700	86%
Load Regulation	±0.5% typ.	MIWI10-24S05		5	2000	85%
Ripple & Noise (20MHz)	100mVp-p max.	MIWI10-24S051		5.1	2000	85%
Efficiency	Up to 87%	MIWI10-24S12	24	12	833	87%
I/O Isolation Voltage	1500VDC min.	MIWI10-24S15	(9 – 36)	15	666	87%
I/O Isolation Capacitance	1000pF typ.	MIWI10-24S24		24	416	87%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIWI10-24D12		±12	±416	87%
Short Circuit Protection	Continuous (Auto. Recovery)	MIWI10-24D15		±15	±333	87%
Remote ON/OFF	Enable High	MIWI10-48S033		3.3	2700	86%
Case Material	Metal (6 side shielded with insulated baseplate)	MIWI10-48S05		5	2000	85%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MIWI10-48S051		5.1	2000	85%
*For full series datasheet, please refer to www.minmax.com.tw		MIWI10-48S12	48	12	833	87%
		MIWI10-48S15	(18 – 75)	15	666	87%
		MIWI10-48S24		24	416	87%
		MIWI10-48D12		±12	±416	87%
		MIWI10-48D15		±15	±333	87%



▣ Pin Connections

Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2,3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

NC = No Connection

MDW12 Series • 12W

NEW

- Smallest Encapsulated 12W Converter
- Industrial Standard DIP-16 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide					
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.2% typ.	MDW12-12S05		5	2400	83%	
Load Regulation	±1.0% max.	MDW12-12S051		5.1	2400	83%	
Ripple & Noise (20MHz)	70mVp-p typ.	MDW12-12S12	12 (9 – 18)	12	1000	87%	
Efficiency	Up to 88%	MDW12-12S15		15	800	88%	
I/O Isolation Voltage	1500VDC min.	MDW12-12S24		24	500	88%	
I/O Isolation Capacitance	2200pF max.	MDW12-12D12			±12	±500	87%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MDW12-12D15		±15	±400	87%	
Short Circuit Protection	Continuous (Auto. Recovery)	MDW12-24S05		5	2400	83%	
Case Material	Metal (6 side shielded with insulated baseplate)	MDW12-24S051		5.1	2400	83%	
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MDW12-24S12	24 (18 – 36)	12	1000	87%	
		MDW12-24S15		15	800	88%	
		MDW12-24S24		24	500	88%	
		MDW12-24D12			±12	±500	87%
			MDW12-24D15		±15	±400	87%
			MDW12-48S05		5	2400	83%
			MDW12-48S051		5.1	2400	83%
			MDW12-48S12	48 (36 – 75)	12	1000	87%
	MDW12-48S15	15	800		88%		
	MDW12-48S24	24	500		88%		
	MDW12-48D12		±12		±500	87%	
	MDW12-48D15		±15	±400	87%		

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		8	NC	Common
		9	+Vout	+Vout
		10	-Vout	-Vout
		16	+Vin	+Vin

NC = No Connection

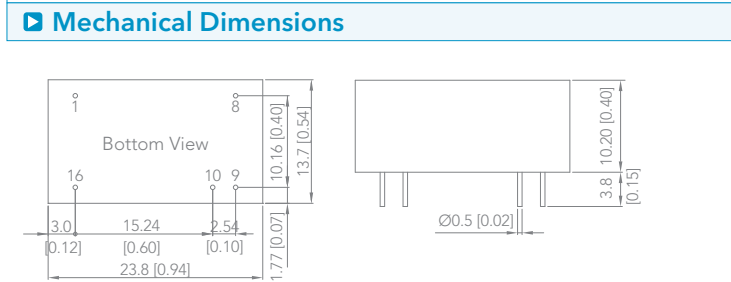
MDWI12 Series • 12W

NEW

- Smallest Encapsulated 12W Converter
- Industrial Standard DIP-16 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.	MDWI12-24S05		5	2400	83%
Load Regulation	±1.0% max.	MDWI12-24S051		5.1	2400	83%
Ripple & Noise (20MHz)	70mVp-p typ.	MDWI12-24S12		12	1000	87%
Efficiency	Up to 88%	MDWI12-24S15	24 (9 – 36)	15	800	88%
I/O Isolation Voltage	1500VDC min.	MDWI12-24S24		24	500	88%
I/O Isolation Capacitance	2200pF max.	MDWI12-24D12		±12	±500	87%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MDWI12-24D15		±15	±400	87%
Short Circuit Protection	Continuous (Auto. Recovery)	MDWI12-48S05		5	2400	83%
Case Material	Metal (6 side shielded with insulated baseplate)	MDWI12-48S051		5.1	2400	83%
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MDWI12-48S12		12	1000	87%
*For full series datasheet, please refer to www.minmax.com.tw		MDWI12-48S15	48 (18 – 75)	15	800	88%
		MDWI12-48S24		24	500	88%
		MDWI12-48D12		±12	±500	87%
		MDWI12-48D15		±15	±400	87%



NC = No Connection

MJW10 Series • 10W

- Industrial Standard 1"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control (option)
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation		±1.0% max.	MJW10-12S033		3.3	2500	82%
Load Regulation	Single	±0.5% max.	MJW10-12S05		5	2000	85%
	Dual	±1.0% max.	MJW10-12S051		5.1	2000	85%
Ripple & Noise (20MHz) 3.3V & 5V		80mVp-p typ.	MJW10-12S12	12	12	830	87%
	Others	100mVp-p typ.	MJW10-12S15	(9 – 18)	15	670	88%
Efficiency		Up to 89%	MJW10-12D05		±5	±1000	84%
I/O Isolation Voltage		1500VDC min.	MJW10-12D12		±12	±416	87%
I/O Isolation Capacitance		2000pF max.	MJW10-12D15		±15	±333	87%
Operating Ambient Temp. Range		-40°C to +80°C (See Derating Curve)	MJW10-24S033		3.3	2500	83%
			MJW10-24S05		5	2000	85%
Short Circuit Protection		Continuous (Auto. Recovery)	MJW10-24S051		5.1	2000	85%
			MJW10-24S12	24	12	830	88%
Remote ON/OFF		Enable High	MJW10-24S15	(18 – 36)	15	670	89%
			MJW10-24D05		±5	±1000	85%
Case Material		Metal (6 side shielded with insulated baseplate)	MJW10-24D12		±12	±416	88%
			MJW10-24D15		±15	±333	89%
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MJW10-48S033		3.3	2500	83%
			MJW10-48S05		5	2000	86%
*For full series datasheet, please refer to www.minmax.com.tw			MJW10-48S051		5.1	2000	85%
			MJW10-48S12	48	12	830	89%
			MJW10-48S15	(36 – 75)	15	670	89%
			MJW10-48D05		±5	±1000	86%
			MJW10-48D12		±12	±416	87%
			MJW10-48D15		±15	±333	88%
			*To order the converter with heatsink, please add a suffix -HS.				

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	+Vout	+Vout
		4	No Pin	Common
		5	-Vout	-Vout
		6	Remote On/Off (Optional)	

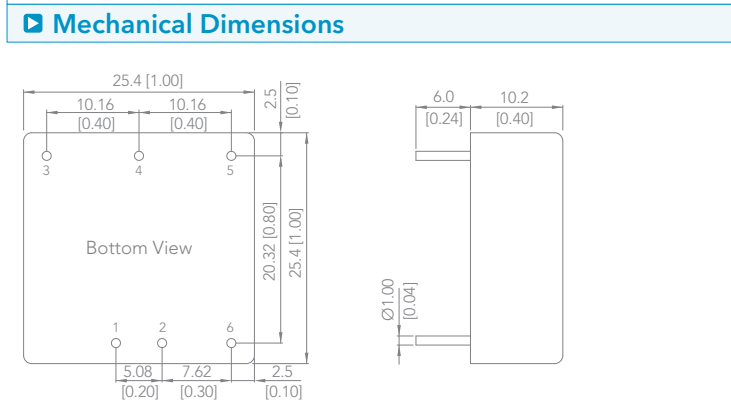
MJWI10 Series • 10W

- Ultra-compact 1"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 87%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55022 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.					
Load Regulation	±0.5% typ.	MJWI10-24S033		3.3	2200	86%
Ripple & Noise (20MHz)	100mVp-p max.	MJWI10-24S05		5	2000	84%
Efficiency	Up to 87%	MJWI10-24S051		5.1	2000	84%
I/O Isolation Voltage	1500VDC min.	MJWI10-24S12		12	830	86%
I/O Isolation Capacitance	1500pF max.	MJWI10-24S15	24 (9 – 36)	15	660	87%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MJWI10-24S24		24	410	86%
Short Circuit Protection	Continuous (Auto. Recovery)	MJWI10-24D05		±5	±1000	84%
Remote ON/OFF	Enable High	MJWI10-24D12		±12	±410	86%
Case Material	Metal (6 side shielded with insulated baseplate)	MJWI10-24D15		±15	±330	87%
Safety Approval	UUL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MJWI10-48S033		3.3	2200	85%
*For full series datasheet, please refer to www.minmax.com.tw		MJWI10-48S05		5	2000	84%
		MJWI10-48S051		5.1	2000	84%
		MJWI10-48S12		12	830	86%
		MJWI10-48S15	48 (18 – 75)	15	660	87%
		MJWI10-48S24		24	410	86%
		MJWI10-48D05		±5	±1000	84%
		MJWI10-48D12		±12	±410	86%
		MJWI10-48D15		±15	±330	87%

*To order the converter with heatsink, please add a suffix -HS.



▣ Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

MJW15 Series • 15W

- Industrial Standard 1"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking

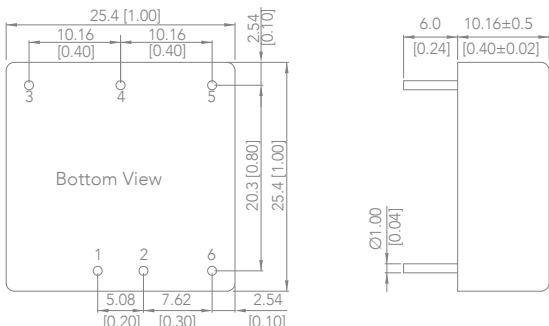


Specifications			Model Selection Guide				
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	Single	±0.2% max.	MJW15-12S033		3.3	3400	86%
	Dual	±0.5% max.	MJW15-12S05		5	3000	89%
Load Regulation	3.3V, 5V	±0.5% max.	MJW15-12S12		12	1250	89%
	12V, 15V, 24V	±0.2% max.	MJW15-12S15	12	15	1000	89%
	Dual	±1.0% max.	MJW15-12S24	(9 – 18)	24	625	90%
			MJW15-12D12		±12	±625	89%
Ripple & Noise (20MHz)	3.3V, 5V	75mVp-p max.	MJW15-12D15		±15	±500	90%
	12V, 15V, Dual	100mVp-p max.	MJW15-24S033		3.3	3400	86%
	24V	150mVp-p max.	MJW15-24S05		5	3000	88%
Efficiency		Up to 91%	MJW15-24S12		12	1250	90%
I/O Isolation Voltage		1500VDC min.	MJW15-24S15	24	15	1000	90%
I/O Isolation Capacitance		1500pF max.	MJW15-24S24	(18 – 36)	24	625	91%
Operating Ambient Temp. Range		-40°C to +90°C (See Derating Curve)	MJW15-24D12		±12	±625	90%
Short Circuit Protection		Continuous (Auto. Recovery)	MJW15-24D15		±15	±500	90%
Output Voltage Trim		±10% max.	MJW15-48S033		3.3	3400	87%
Remote ON/OFF		Enable High	MJW15-48S05		5	3000	88%
Case Material	Metal (6 side shielded with insulated baseplate)	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MJW15-48S12		12	1250	90%
			MJW15-48S15	48	15	1000	90%
			MJW15-48S24	(36 – 75)	24	625	91%
Safety Approval			MJW15-48D12		±12	±625	89%
			MJW15-48D15		±15	±500	90%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

Mechanical Dimensions		Pin Connections	
		Pin	Single / Dual
		1	+Vin / +Vin
		2	-Vin / -Vin
		3	+Vout / +Vout
		4	Trim / Common
		5	-Vout / -Vout
		6	Remote On/Off / Remote On/Off



MJWI15 Series • 15W

- Industrial Standard 1"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 91%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation Single	±0.2% max.	MJWI15-24S033		3.3	3400	86%
Dual	±0.5% max.	MJWI15-24S05		5	3000	88%
Load Regulation 3.3V, 5V	±0.5% max.	MJWI15-24S12		12	1250	88%
12V, 15V, 24V	±0.2% max.	MJWI15-24S15	24	15	1000	89%
Dual	±1.0% max.	MJWI15-24S24	(9 - 36)	24	625	91%
Ripple & Noise (20MHz) 3.3V, 5V	75mVp-p max.	MJWI15-24D12		±12	±625	89%
12V, 15V, Dual	100mVp-p max	MJWI15-24D15		±15	±500	89%
24V	150mVp-p max.	MJWI15-48S033		3.3	3400	86%
Efficiency	Up to 91%	MJWI15-48S05		5	3000	88%
I/O Isolation Voltage	1500VDC min.	MJWI15-48S12		12	1250	89%
I/O Isolation Capacitance	1500pF max.	MJWI15-48S15	48	15	1000	89%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MJWI15-48S24	(18 - 75)	24	625	91%
Short Circuit Protection	Continuous (Auto. Recovery)	MJWI15-48D12		±12	±625	90%
Output Voltage Trim	±10% max.	MJWI15-48D15		±15	±500	89%
Remote ON/OFF	Enable High	*To order the converter with heatsink, please add a suffix -HS.				
Case Material	Metal (6 side shielded with insulated baseplate)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	+Vout	+Vout
		4	Trim	Common
		5	-Vout	-Vout
		6	Remote On/Off	Remote On/Off

MJWI20 Series • 20W

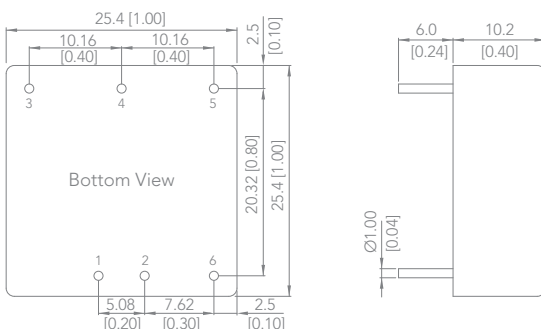
- Smallest Encapsulated 20W Converter
- Ultra-compact 1"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 89%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	Single	±0.2% max.	MJWI20-24S033		3.3	4500	87%
	Dual	±0.5% max.	MJWI20-24S05		5	4000	89%
Load Regulation	3.3V, 5V	±0.5% max.	MJWI20-24S12		12	1670	89%
	12V, 15V, 24V	±0.2% max.	MJWI20-24S15	24 (9 - 36)	15	1340	89%
	Dual	±1.0% max.	MJWI20-24S24		24	835	88%
Ripple & Noise (20MHz)	3.3V, 5V	75mVp-p typ.	MJWI20-24D12		±12	±835	89%
	12V, 15V, Dual	100mVp-p typ.	MJWI20-24D15		±15	±670	89%
	24V	150mVp-p typ.	MJWI20-48S033		3.3	4500	88%
Efficiency		Up to 89%	MJWI20-48S05		5	4000	89%
I/O Isolation Voltage		1500VDC min.	MJWI20-48S12		12	1670	89%
I/O Isolation Capacitance		1500pF max.	MJWI20-48S15	48 (18 - 75)	15	1340	89%
Operating Ambient Temp. Range		-40°C to +85°C (See Derating Curve)	MJWI20-48S24		24	835	88%
Short Circuit Protection		Continuous (Auto. Recovery)	MJWI20-48D12		±12	±835	89%
Output Voltage Trim		±10% max.	MJWI20-48D15		±15	±670	89%
Remote ON/OFF		Enable High	*To order the converter with heatsink, please add a suffix -HS.				
Case Material		Metal (6 side shielded with insulated baseplate)					
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

MJW25 Series • 25W

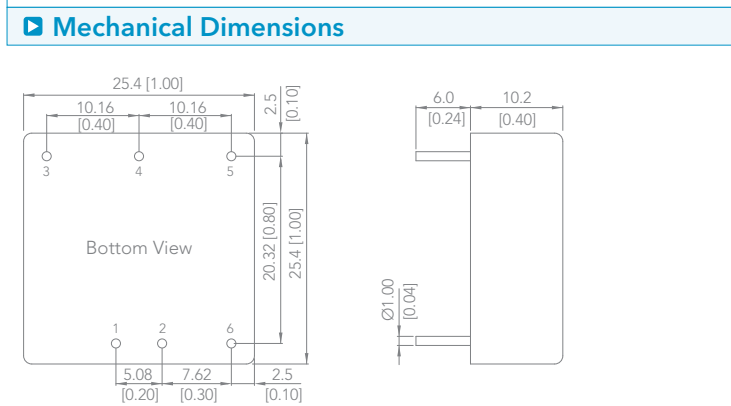
- Smallest Encapsulated 25W Converter
- Ultra-compact 1"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 90%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MJW25-12S033		3.3	6000	87%
Load Regulation	Single	MJW25-12S05		5	5000	89%
	Dual	MJW25-12S12		12	2090	89%
Ripple & Noise (20MHz) 3.3V, 5V		MJW25-12S15	12	12	2090	89%
	12V, 15V, Dual	MJW25-12D12	(9 – 18)	15	1670	89%
Efficiency	Up to 90%	MJW25-12D15		±12	±1040	89%
I/O Isolation Voltage	1500VDC min.	MJW25-24S033		3.3	6000	88%
I/O Isolation Capacitance	2000pF max.	MJW25-24S05		5	5000	90%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MJW25-24S12	24	12	2090	90%
Short Circuit Protection	Continuous (Auto. Recovery)	MJW25-24S15	(18 – 36)	15	1670	90%
Output Voltage Trim	±10% max.	MJW25-24D12		±12	±1040	89%
Remote ON/OFF	Enable High	MJW25-24D15		±15	±840	89%
Case Material	Metal (6 side shielded with insulated baseplate)	MJW25-48S033		3.3	6000	88%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MJW25-48S05		5	5000	90%
		MJW25-48S12	48	12	2090	90%
		MJW25-48S15	(36 – 75)	15	1670	90%
		MJW25-48D12		±12	±1040	89%
		MJW25-48D15		±15	±840	89%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

MJWI25 Series • 25W

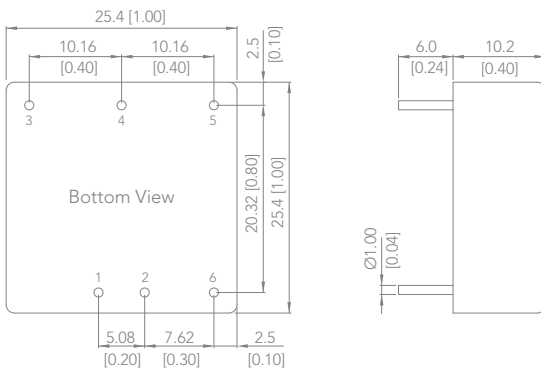
- Smallest Encapsulated 25W Converter
- Ultra-compact 1"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 90%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation		±0.2% max.					
Load Regulation	Single	±0.2% max.	MJWI25-24S033		3.3	6000	87%
	Dual	±1.0% max.	MJWI25-24S05		5	5000	89%
Ripple & Noise (20MHz)	3.3V & 5V	100mVp-p max.	MJWI25-24S12		12	2090	89%
	12V, 15V, Dual	150mVp-p max.	MJWI25-24S15	24 (9 - 36)	15	1670	90%
Efficiency		Up to 90%	MJWI25-24D12		±12	±1040	89%
I/O Isolation Voltage		1500VDC min.	MJWI25-24D15		±15	±840	89%
I/O Isolation Capacitance		2000pF max.	MJWI25-48S033		3.3	6000	88%
Operating Ambient Temp. Range		-40°C to +80°C (See Derating Curve)	MJWI25-48S05		5	5000	90%
Short Circuit Protection		Continuous (Auto. Recovery)	MJWI25-48S12		12	2090	90%
Output Voltage Trim		±10% max.	MJWI25-48S15	48 (18 - 75)	15	1670	90%
Remote ON/OFF		Enable High	MJWI25-48D12		±12	±1040	89%
Case Material		Metal (6 side shielded with insulated baseplate)	MJWI25-48D15		±15	±840	89%
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	*To order the converter with heatsink, please add a suffix -HS.				

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

MJWI30 Series • 30W



- Smallest Encapsulated 30W Converter
- Ultra-compact 1"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 90%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Very Low No Load Power Consumption
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation Single	±0.2% max.	MJWI30-24S033	24 (9 - 36)	3.3	7000	87%
Line Regulation Dual	±0.5% max.	MJWI30-24S05		5	6000	88%
Load Regulation Single	±0.2% max.	MJWI30-24S12		12	2500	88%
Load Regulation Dual	±1.0% max.	MJWI30-24S15		15	2000	88%
Ripple & Noise (20MHz)	75mVp-p max.	MJWI30-24S24		24	1250	88%
Efficiency	Up to 90%	MJWI30-24D12		±12	±1250	88%
I/O Isolation Voltage	1500VDC min.	MJWI30-24D15	±15	±1000	88%	
I/O Isolation Capacitance	1500pF max.	MJWI30-48S033	48 (18 - 75)	3.3	7000	87%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MJWI30-48S05		5	6000	88%
Short Circuit Protection	Continuous (Auto. Recovery)	MJWI30-48S12		12	2500	90%
Output Voltage Trim	±10% max.	MJWI30-48S15		15	2000	90%
Remote On/Off	Enable High	MJWI30-48S24		24	1250	90%
Case Material	Metal (6 side shielded with insulated baseplate)	MJWI30-48D12		±12	±1250	90%
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MJWI30-48D15	±15	±1000	90%	

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	+Vout	+Vout
		4	Trim	Common
		5	-Vout	-Vout
		6	Remote On/Off	Remote On/Off

MKW40 Series • 40W

- Smallest Encapsulated 40W Converter
- Ultra-compact 2"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 92%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



Specifications			Model Selection Guide					
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation		±0.5% max.						
Load Regulation	Single	±0.5% max.	MKW40-12S033 MKW40-12S05 MKW40-12S12 MKW40-12S15 MKW40-12S24 MKW40-12D12 MKW40-12D15 MKW40-24S033 MKW40-24S05 MKW40-24S12 MKW40-24S15 MKW40-24S24 MKW40-24D12 MKW40-24D15 MKW40-48S033 MKW40-48S05 MKW40-48S12 MKW40-48S15 MKW40-48S24 MKW40-48D12 MKW40-48D15	12 (9 – 18)	3.3	8000	89%	
	Dual	±1.0% max.			5	8000	89%	
Ripple & Noise (20MHz) 3.3V & 5V others		100mVp-p typ.			12	3330	89%	
		150mVp-p typ.			15	2670	90%	
Efficiency		Up to 92%			24	1670	91%	
I/O Isolation Voltage		1500VDC min.			±12	±1670	88%	
I/O Isolation Capacitance		1500pF max.			±15	±1330	88%	
Operating Ambient Temp. Range		-40°C to +80°C (See Derating Curve)			24 (18 – 36)	3.3	8000	90%
Short Circuit Protection		Continuous (Auto. Recovery)				5	8000	91%
Output Voltage Trim	24V others	+20% / -10% max. ±10% max.				12	3330	91%
Remote ON/OFF		Enable High	15	2670	91%			
Case Material		Metal (6 side shielded with insulated baseplate)	24	1670	91%			
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	±12	±1670	89%			
			±15	±1330	89%			
			3.3	8000	90%			
			5	8000	91%			
			12	3330	92%			
			15	2670	92%			
			24	1670	91%			
			±12	±1670	89%			
			±15	±1330	89%			

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	Remote On/Off
		4	+Vout	+Vout
		5	-Vout	Common
		6	Trim	-Vout

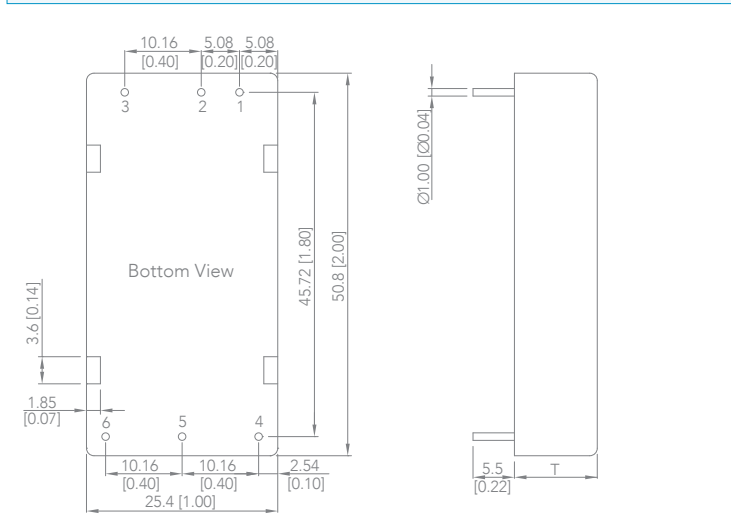
T : 10.2 [0.40] for other output models
T : 11.0 [0.43] for 24V output models

MKWI40 Series • 40W

- Smallest Encapsulated 40W Converter
- Ultra-compact 2"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 91%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.					
Load Regulation	Single	MKWI40-24S033		3.3	8000	89%
	Dual					
Ripple & Noise (20MHz) 3.3V & 5V others		MKWI40-24S05		5	8000	90%
		100mVp-p max. 150mVp-p max.	MKWI40-24S12		12	3330
Efficiency	Up to 91%	MKWI40-24S15	24 (9 – 36)	15	2670	89%
I/O Isolation Voltage	1500VDC min.	MKWI40-24S24		24	1670	91%
I/O Isolation Capacitance	1500pF max.	MKWI40-24D12		±12	±1670	88%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MKWI40-24D15		±15	±1330	88%
Short Circuit Protection	Continuous (Auto. Recovery)	MKWI40-48S033		3.3	8000	89%
Output Voltage Trim 24V others	+20% / -10% max.	MKWI40-48S05		5	8000	90%
	±10% max.	MKWI40-48S12		12	3330	90%
Remote ON/OFF	Enable High	MKWI40-48S15	48 (18 – 75)	15	2670	90%
Case Material	Metal (6 side shielded with insulated baseplate)	MKWI40-48S24		24	1670	91%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MKWI40-48D12		±12	±1670	88%
		MKWI40-48D15		±15	±1330	88%
*For full series datasheet, please refer to www.minmax.com.tw		*To order the converter with heatsink, please add a suffix -HS.				



▣ Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	-Vout	Common
6	Trim	-Vout

T : 10.2 [0.40] for other output models
 T : 11.0 [0.43] for 24V output models

MKW50 Series • 50W

- Smallest Encapsulated 50W Converter
- Ultra-compact 2"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 92%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking

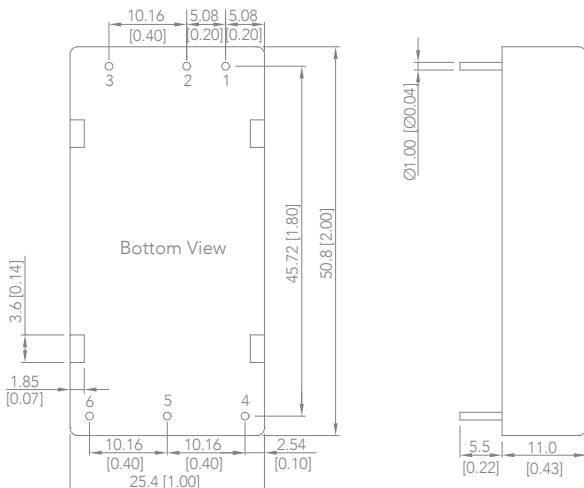


▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MKW50-12S033		3.3	10000	89%
Load Regulation	±0.5% max.	MKW50-12S05		5	10000	90%
Ripple & Noise (20MHz) 3.3V & 5V others	100mVp-p max. 150mVp-p max.	MKW50-12S12	12 (9 – 18)	12	4170	91%
Efficiency	Up to 92%	MKW50-12S15		15	3330	91%
I/O Isolation Voltage	1500VDC min.	MKW50-12S24		24	2080	91%
I/O Isolation Capacitance	2200pF max.	MKW50-24S033		3.3	10000	89%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MKW50-24S05		5	10000	92%
Short Circuit Protection	Continuous (Auto. Recovery)	MKW50-24S12	24 (18 – 36)	12	4170	92%
Output Voltage Trim 24V others	+20% / -10% max. ±10% max.	MKW50-24S15		15	3330	92%
Remote ON/OFF	Enable High	MKW50-24S24		24	2080	91%
Case Material	Metal (6 side shielded with insulated baseplate)	MKW50-48S033		3.3	10000	89%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MKW50-48S05		5	10000	92%
		MKW50-48S12	48 (36 – 75)	12	4170	92%
		MKW50-48S15		15	3330	92%
		MKW50-48S24		24	2080	91%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

▣ Mechanical Dimensions



▣ Pin Connections

Pin	Function
1	+Vin
2	-Vin
3	Remote On/Off
4	+Vout
5	-Vout
6	Trim

MKWI50 Series • 50W

- Smallest Encapsulated 50W Converter
- Compact Size of 2"×1" Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 92%
- I/O Isolation 1500VDC
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Shielded Metal Case with Insulated Baseplate
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.					
Load Regulation	±0.5% max.	MKWI50-24S033		3.3	10000	90%
Ripple & Noise (20MHz) 3.3V &5V others	100mVp-p max.	MKWI50-24S05		5	10000	91%
	150mVp-p max.	MKWI50-24S12	24 (9 – 36)	12	4170	92%
Efficiency	Up to 92%	MKWI50-24S15		15	3330	92%
I/O Isolation Voltage	1500VDC min.	MKWI50-24S24		24	2080	91%
I/O Isolation Capacitance	2200pF max.	MKWI50-48S033		3.3	10000	90%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MKWI50-48S05		5	10000	91%
Short Circuit Protection	Continuous (Auto. Recovery)	MKWI50-48S12	48 (18 – 75)	12	4170	92%
Output Voltage Trim 24V others	+20% / -10% max. ±10% max.	MKWI50-48S15		15	3330	92%
Remote ON/OFF	Enable High	MKWI50-48S24		24	2080	91%
Case Material	Metal (6 side shielded with insulated baseplate)	*To order the converter with heatsink, please add a suffix -HS.				
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	+Vin
		2	-Vin
		3	Remote On/Off
		4	+Vout
		5	-Vout
		6	Trim

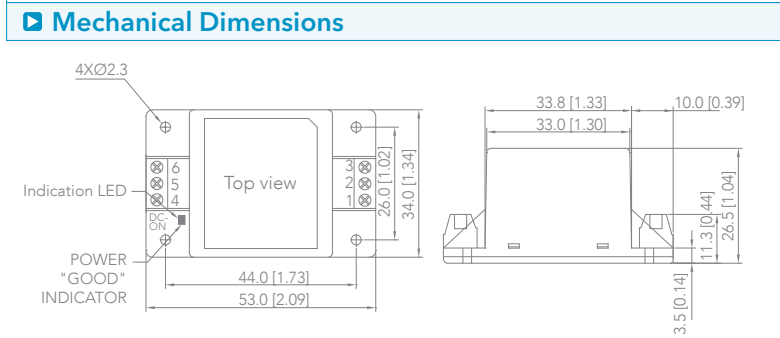
MJWI06C Series • 6W

NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 85%
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +92.5°C
- No Min.Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN55032 Class A & FCC Level A Approved
- EMC Immunity EN61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MJWI06-24S05C	24 (9 - 36)	5	1200	81%
Load Regulation	±0.5% max.	MJWI06-24S051C		5.1	1200	81%
Ripple & Noise (20MHz) 24V & ±24V & 48V others	180mVp-p typ. 75mVp-p typ.	MJWI06-24S12C		12	500	84%
Efficiency	Up to 85%	MJWI06-24S15C		15	400	84%
I/O Isolation Voltage	3000VDC min.	MJWI06-24S24C		24	250	85%
I/O Isolation Capacitance	2200pF typ.	MJWI06-24S48C		48	125	83%
Operating Ambient Temp. Range	-40°C to +92.5°C (See Derating Curve)	MJWI06-24D12C		±12	±250	84%
Short Circuit Protection	Continuous (Auto. Recovery)	MJWI06-24D15C		±15	±200	85%
Remote On/Off	Enable High	MJWI06-24D24C		±24	±125	84%
Case Material	Plastic(UL94V-0 rated)	MJWI06-48S05C		48 (18 - 75)	5	1200
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MJWI06-48S051C	5.1		1200	80%
*For full series datasheet, please refer to www.minmax.com.tw		MJWI06-48S12C	12		500	84%
		MJWI06-48S15C	15		400	84%
		MJWI06-48S24C	24		250	85%
		MJWI06-48S48C	48		125	83%
		MJWI06-48D12C	±12		±250	85%
		MJWI06-48D15C	±15		±200	85%
		MJWI06-48D24C	±24		±125	84%



NC = No Connection

MKW10C Series • 10W

NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 86%
- I/O Isolation 3000VDC
- Operating Ambient Temp. Range -40°C to +92.5°C
- No Min.Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MKW10-24S05C	24 (9 – 36)	5	2000	84%
Load Regulation	±0.5% max.	MKW10-24S051C		5.1	2000	84%
Ripple & Noise (20MHz) 24V & ±24V & 48V others	180mVp-p typ. 90mVp-p typ.	MKW10-24S12C		12	833	86%
Efficiency	Up to 86%	MKW10-24S15C		15	666	86%
I/O Isolation Voltage	3000VDC min.	MKW10-24S24C		24	416	86%
I/O Isolation Capacitance	2200pF typ.	MKW10-24S48C		48	208	84%
Operating Ambient Temp. Range	-40°C to +92.5°C (See Derating Curve)	MKW10-24D12C		±12	±416	86%
Short Circuit Protection	Continuous (Auto. Recovery)	MKW10-24D15C		±15	±333	86%
Remote On/Off	Enable High	MKW10-24D24C		±24	±208	85%
Case Material	Plastic(UL94V-0 rated)	MKW10-48S05C		48 (18 – 75)	5	2000
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking	MKW10-48S051C	5.1		2000	84%
*For full series datasheet, please refer to www.minmax.com.tw		MKW10-48S12C	12		833	86%
		MKW10-48S15C	15		666	86%
		MKW10-48S24C	24		416	86%
		MKW10-48S48C	48		208	84%
		MKW10-48D12C	±12		±416	86%
		MKW10-48D15C	±15		±333	86%
		MKW10-48D24C	±24		±208	85%

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	Remote On/Off	Remote On/Off
		2	-Vin	-Vin
		3	+Vin	+Vin
		4	-Vout	-Vout
		5	NC	Common
		6	+Vout	+Vout
		NC = No Connection		

MOWI20C Series • 20W

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 91%
- I/O Isolation 2500VDC
- Operating Ambient Temp. Range -40°C to +90°C
- Under-voltage, Overload/Voltage and Short Circuit Protection
- No Min. Load Requirement
- Remote On/Off Control
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.					
Load Regulation	±0.5% typ.	MOWI20-24S051C		5.1	4000	90%
Ripple & Noise (20MHz) 5.1V 12V & 24V 48V	100mVp-p max.	MOWI20-24S12C	24 (9 - 36)	12	1670	91%
	150mVp-p max.	MOWI20-24S24C		24	835	91%
	200mVp-p max.	MOWI20-24S48C		48	420	89%
Efficiency	Up to 91%	MOWI20-48S051C		5.1	4000	90%
I/O Isolation Voltage	2500VDC min.	MOWI20-48S12C	48 (18 - 75)	12	1670	91%
I/O Isolation Capacitance	2200pF max.	MOWI20-48S24C		24	835	91%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MOWI20-48S48C		48	420	89%
Short Circuit Protection	Continuous (Auto. Recovery)					
Remote ON/OFF	Enable High					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						

Mechanical Dimensions		Pin Connections	
		Pin	Function
		1	Remote On/Off
	2	-Vin	
	3	+Vin	
	4	NC	
	5	-Vout	
	6	NC	
	7	+Vout	
	8	NC	

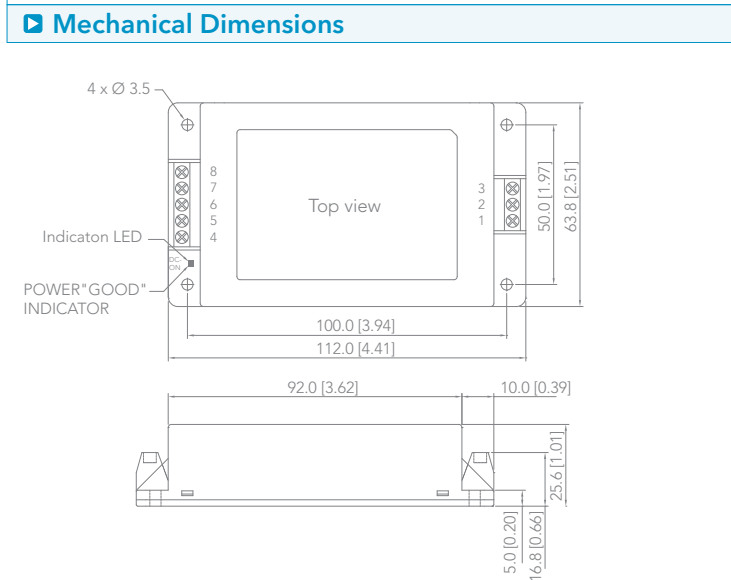
NC = No Connection

MQWI40C Series • 40W

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 92%
- I/O Isolation 2500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Under-voltage, Overload/Voltage and Short Circuit Protection
- No Min. Load Requirement
- Remote On/Off Control
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±2.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MQWI40-24S051C	24 (9 – 36)	5.1	8000	90%
Load Regulation	±1.0% typ.	MQWI40-24S12C		12	3330	90%
Ripple & Noise (20MHz) 5.1V	100mVp-p max.	MQWI40-24S24C		24	1670	90%
12V & 24V	150mVp-p max.	MQWI40-24S48C		48	835	89%
48V	200mVp-p max.	MQWI40-48S051C	48 (18 – 75)	5.1	8000	89%
Efficiency	Up to 92%	MQWI40-48S12C		12	3330	91%
I/O Isolation Voltage	2500VDC min.	MQWI40-48S24C		24	1670	92%
I/O Isolation Capacitance	2400pF max.	MQWI40-48S48C		48	835	90%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Remote ON/OFF	Enable High					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						



▣ Pin Connections

Pin	Function
1	Remote On/Off
2	-Vin
3	+Vin
4	+Vout
5	NC
6	-Vout
7	NC
8	NC

NC = No Connection

MRWI60C Series • 60W

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- Excellent Efficiency up to 92%
- I/O Isolation 2500VDC
- Operating Ambient Temp. Range -40°C to +85°C
- Under-voltage, Overload/Voltage and Short Circuit Protection
- No Min. Load Requirement
- Remote On/Off Control
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% typ.					
Load Regulation	±0.5% typ.	MRWI60-24S051C	24 (9 – 36)	5.1	12000	90%
Ripple & Noise (20MHz) 5.1V 12V & 24V 48V	100mVp-p max.	MRWI60-24S12C		12	5000	91%
	150mVp-p max.	MRWI60-24S24C		24	2500	91%
	200mVp-p max.	MRWI60-24S48C		48	1250	91%
Efficiency	Up to 92%	MRWI60-48S051C	48 (18 – 75)	5.1	12000	91%
I/O Isolation Voltage	2500VDC min.	MRWI60-48S12C		12	5000	92%
I/O Isolation Capacitance	3000pF max.	MRWI60-48S24C		24	2500	91%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MRWI60-48S48C		48	1250	91%
Short Circuit Protection	Continuous (Auto. Recovery)					
Remote ON/OFF	Enable High					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						

Mechanical Dimensions		Pin Connections	
		Pin	Function
		1	Remote On/Off
		2	-Vin
		3	+Vin
		4	NC
		5	+Vout
		6	NC
		7	-Vout
		8	NC

NC = No Connection

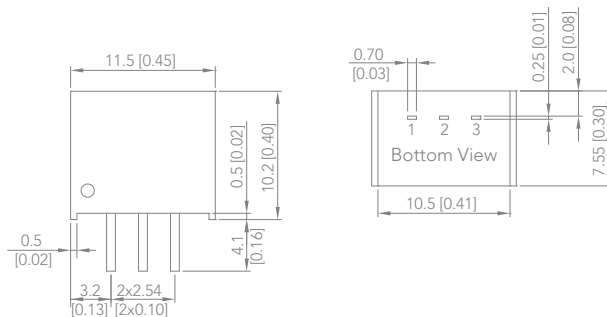
M78AR-0.5 Series • 0.5A

- Industrial Standard SIP-3 Package
- Pin-out compatible with LM78xx Linear Regulator
- Fully Regulated Output Voltage
- Low Ripple & Noise
- Excellent Efficiency up to 97%
- Operating Ambient Temp. Range -40°C to +90°C
- No Min. Load Requirement
- Over Temp. and Short Circuit Protection



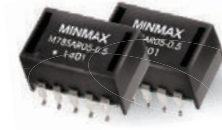
▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy		±2.0% typ.				
Line Regulation	1.5V to 6.5V	±0.2% typ.				
	9V to 15V	±0.1% typ.				
Load Regulation	1.5V to 6.5V	±0.4% typ.				
	9V to 15V	±0.25% typ				
Ripple & Noise (20MHz)	1.5V to 6.5V	30mVp-p max.				
	9V to 15V	40mVp-p max.				
Efficiency		Up to 97%				
Operating Ambient Temp. Range		-40°C to +90°C (See Derating Curve)				
Short Circuit Protection		Continuous (Auto. Recovery)				
Case Material		Plastic (UL94V-0 rated)				
*For full series datasheet, please refer to www.minmax.com.tw						

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	+Vin
		2	GND
		3	+Vout



M78SAR-0.5 Series • 0.5A

- Industrial SMD Package
- Fully Regulated Output Voltage
- Low Ripple & Noise
- Excellent Efficiency up to 97%
- Operating Ambient Temp. Range -40°C to +90°C
- No Min. Load Requirement
- Over Temp. and Short Circuit Protection
- Remote ON/OFF Control, Output Voltage Trim
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available



► Specifications		► Model Selection Guide				
Output Voltage Accuracy	±2.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency @ Min. Vin
Line Regulation	1.5V to 6.5V	M78SAR015-0.5	4.75 – 32	1.5	500	73%
	9V to 15V			±0.2% typ.	1.8	500
Load Regulation	1.5V to 6.5V	M78SAR018-0.5	4.75 – 32	2.5	500	87%
	9V to 15V			±0.1% typ.	2.5	500
Ripple & Noise (20MHz)	1.5V to 6.5V	M78SAR025-0.5	4.75 – 32	3.3	500	91%
	9V to 15V			±0.4% typ.	3.3	500
		M78SAR033-0.5	4.75 – 32	5	500	94%
Efficiency	Up to 97%			5	500	94%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	M78SAR065-0.5	8 – 32	6.5	500	95%
Short Circuit Protection	Continuous (Auto. Recovery)	M78SAR09-0.5	11 – 32	9	500	96%
Output Voltage Trim	Refer to the Datasheet	M78SAR12-0.5	15 – 32	12	500	97%
Remote ON/OFF	Enable High	M78SAR15-0.5	18 – 32	15	500	97%
Case Material	Plastic (UL94V-0 rated)	*For full series datasheet, please refer to www.minmax.com.tw				

► Mechanical Dimensions		► Pin Connections	
		Pin	Function
		1	+Vin
		2	+Vin
		3	GND
		4	+Vout
		5	+Vout
		6	V adj
		7	GND
		8	GND
		9	GND
		10	Remote On/Off

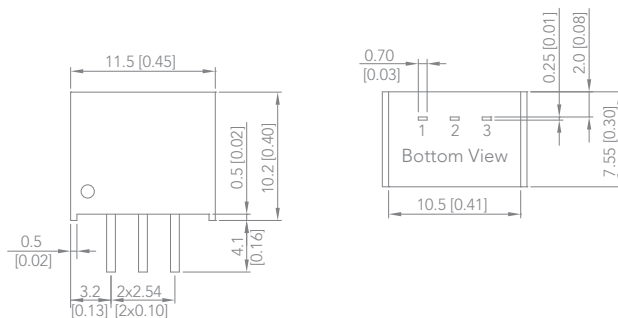
M78AR-1 Series • 1A

- Industrial Standard SIP-3 Package
- Pin-out compatible with LM78xx Linear Regulators
- Fully Regulated Output Voltage
- Low Ripple & Noise
- Excellent Efficiency up to 96%
- Operating Ambient Temp. Range -40°C to +85°C
- Low No Load Power Consumption
- No Min. Load Requirement
- Over Temp. and Short Circuit Protection



► Specifications			► Model Selection Guide				
Output Voltage Accuracy		±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency @ Min. Vin
Line Regulation	3.3V & 5V	±0.2% typ.	M78AR033-1	6.5 – 32	3.3	1000	93%
	12V	±0.1% typ.	M78AR05-1	6.5 – 32	5	1000	94%
Load Regulation	3.3V & 5V	±0.4% typ.	M78AR12-1	15 – 32	12	1000	96%
	12V	±0.25% typ					
Ripple & Noise (20MHz)	3.3V & 5V	50mVp-p max.					
	12V	75mVp-p max.					
Efficiency		Up to 96%					
Operating Ambient Temp. Range		-40°C to +85°C (See Derating Curve)					
Short Circuit Protection		Continuous (Auto. Recovery)					
Case Material		Plastic (UL94V-0 rated)					
*For full series datasheet, please refer to www.minmax.com.tw							

► Mechanical Dimensions		► Pin Connections	
		Pin	Function
		1	+Vin
		2	GND
		3	+Vout



AAF-03 Series • 3W

- Ultra Compact Size 1.0" × 1.0" × 0.64"
- Fully Encapsulated Plastic Case for PCB Mounting
- Universal Input 85-264VAC
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -25°C to +70°C
- No Min. Load Requirement
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 150mW
- UL/cUL/IEC/EN 62368-1(60950-1), TUV/IEC/EN 60335-1 Safety Approval & CE Marking

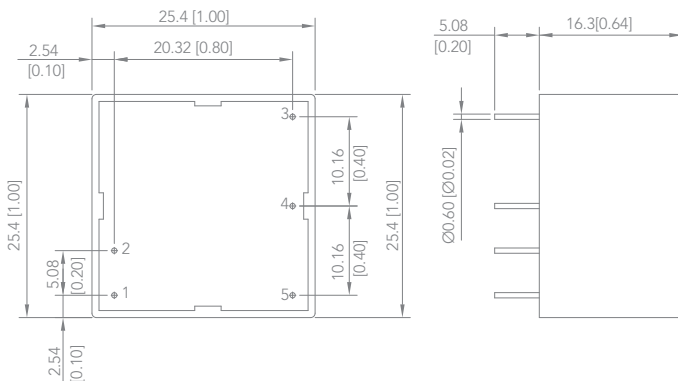


▶ Specifications		▶ Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±2.0% max.	AAF-03S03	85 – 264	3.3	900	70%
Line Regulation	±1.0% max.	AAF-03S05		5	600	72%
Load Regulation	±1.0% max.	AAF-03S09		9	333	77%
Ripple & Noise (20MHz)	70mVp-p max.	AAF-03S12		12	250	78%
Efficiency	Up to 78%	AAF-03S15		15	200	78%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	AAF-03S24		24	125	78%
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)					
Overload Protection	>150% typ., Foldback (Auto. Recovery)					
Short Current Protection	Continuous (Auto. Recovery)					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, TUV/IEC/EN 60335-1, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

▶ Mechanical Dimensions		▶ Pin Connections	
		Pin	Function
		1	AC Neutral
		2	AC Line
		3	NC
		4	-Vout
		5	+Vout

NC = No Connection

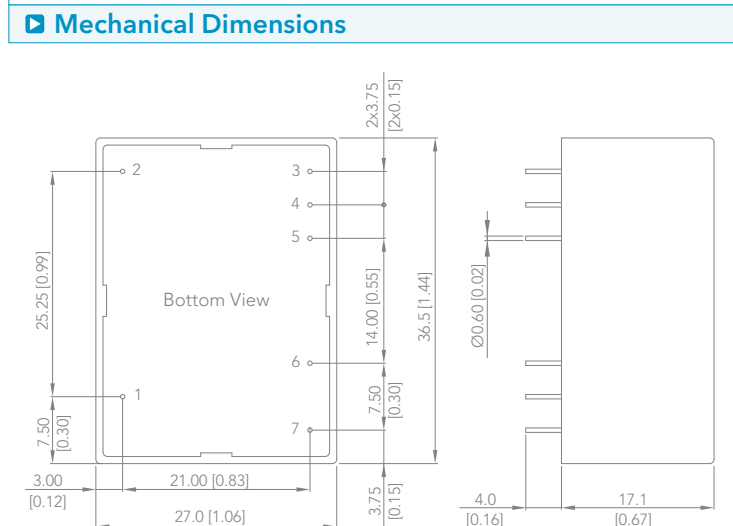


ABF-04 Series • 4W

- Fully Encapsulated Plastic Case for PCB Mounting
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -25°C to +60°C
- No Min. Load Requirement
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Compliant to Energy Star Specification and ErP Directive 2009/125/EC
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide				
Input Voltage Range	85-264VAC (120 -370VDC)		Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy Single & Dual	±1.0% typ.		ABF-04S03	85 – 264	3.3	1200	70%
Others	±2.0% typ.		ABF-04S05		5	800	72%
Line Regulation Single & Dual	±0.5% typ.		ABF-04S09		9	444	75%
Others Vo 1	±0.5% typ.		ABF-04S12		12	333	76%
Vo 2	±1.0% typ.		ABF-04S15		15	267	76%
Load Regulation 3.3V	±1.0% typ.		ABF-04S24		24	167	77%
5-24V & Dual	±0.5% typ.		ABF-04D53		+5	600	72%
Others Vo 1	±0.5% typ.		ABF-04D125		+3.3	150	75%
Vo 2	±2.5% typ.		ABF-04D12		+12	250	75%
Ripple & Noise (20MHz) 3.3V & 5V	100mVp-p typ.		ABF-04D15		+5	120	75%
others	0.8%Vp-p of Vo typ.			±12	±166	77%	
Efficiency	Up to 77%			±15	±133	77%	
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)						
Operating Ambient Temp. Range	-25°C to +60°C (See Power Derating)						
Overload Protection	>105% min., Foldback (Auto. Recovery)						
Short Circuit Protection	Continuous (Auto. Recovery)						
Case Material	Plastic (UL94V-0 rated)						
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking						
*Others = ABF-04D53 & ABF-04D125							
*For full series datasheet, please refer to www.minmax.com.tw							



Pin Connections			
Pin	Single	D12/D15	D53/D125
1,2	NC		
3	+Vout	+Vout	+Vout 1
4	-Vout	Common	Common
5	No Pin	-Vout	+Vout 2
6	AC Neutral		
7	AC Line		

NC = No Connection

AAF-05 Series • 5W

- Ultra Compact Size 1.0×1.0×0.64"
- Fully Encapsulated Plastic Case for PCB and Chassis Mounting Version
- Universal Input 85-264VAC
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption 300mW max.
- UL/cUL/IEC/EN 62368-1(60950-1), TUV IEC/EN 60335-1 Safety Approval & CE Marking



► Specifications		► Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±2.0% max.	AAF-05S03	85 – 264	3.3	1515	74%
Line Regulation	±1.0% max.	AAF-05S05		5	1000	80%
Load Regulation	±1.0% max.	AAF-05S09		9	555	82%
Ripple & Noise (20MHz) 3.3V & 5V others	60mVp-p max. 1.0%Vp-p of Vo max.	AAF-05S12		12	416	82%
Efficiency	Up to 85%	AAF-05S15		15	333	83%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	AAF-05S24		24	208	83%
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)	AAF-05S48		48	104	85%
Overload Protection	>150% typ., Foldback (Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, TUV/IEC/EN 60335-1, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

► Mechanical Dimensions		► Pin Connections (PCB & Chassis)	
		Pin	Function
		1	AC Neutral
		2	AC Line
		3	NC
		4	-Vout
		5	+Vout
		NC = No Connection	

ADF-07 Series • 7W

- Fully Encapsulated Plastic Case for PCB Mounting
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Compliant to Energy Star Specification and ErP Directive 2009/125/EC
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	ADF-07S03	85 – 264	3.3	1400	70%
Line Regulation	±0.5% typ.	ADF-07S05		5	1400	73%
Load Regulation	±0.5% typ.	ADF-07S12		12	583	78%
Ripple & Noise (20MHz) 3.3V & 5V others	1.5%Vp-p of Vo typ. 0.8%Vp-p of Vo typ.	ADF-07S15		15	466	78%
Efficiency	Up to 78%	ADF-07S24		24	291	78%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)					
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)					
Overload Protection	>105% min., Foldback (Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	AC Neutral
		2	AC Line
		3	+Vout
		4	-Vout

ACF-10 Series • 10W

- Ultra Compact Size 1.5×1.0×0.6"
- Fully Encapsulated Module for PCB Mounting
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 4000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 150mW
- UL/cUL/IEC/EN 62368-1(60950-1), TUV IEC/EN 60335-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	ACF-10S03	85 – 264	3.3	2600	77%
Line Regulation	±0.5% max.	ACF-10S05		5	2000	80%
Load Regulation	±1.0% max.	ACF-10S09		9	1100	83%
Ripple & Noise (20MHz) 3.3V & 5V others	60mVp-p max. 1.0%Vp-p of Vo max.	ACF-10S12		12	830	84%
Efficiency	Up to 86%	ACF-10S15		15	660	84%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	ACF-10S24		24	410	86%
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)	ACF-10S48		48	210	84%
Overload Protection	>150% typ., Foldback (Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, TUV/IEC/EN 60335-1, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	AC Neutral
	2	AC Line	
	3	-Vout	
	4	+Vout	

AGF-15 Series • 15W



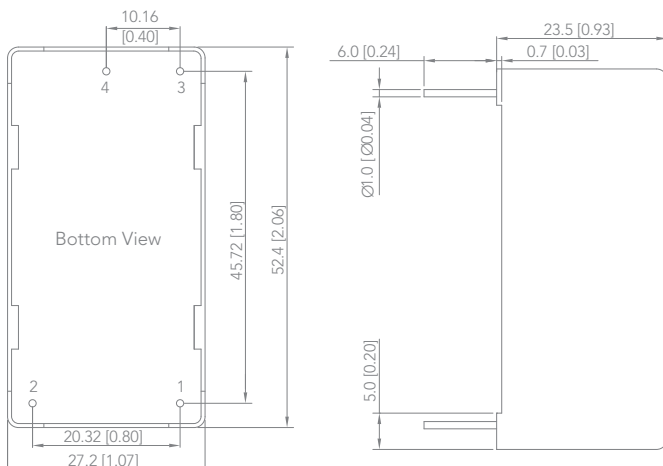
- Ultra Compact Size 2.06×1.07×0.93"
- Fully Encapsulated Plastic Case for PCB Mounting
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 100mW
- UL/cUL/IEC/EN 62368-1(60950-1), TUV IEC/EN 60335-1 Safety Approval & CE Marking



► Specifications		► Model Selection Guide				
Input Voltage Range	85-264VAC(120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AGF-15S033	85 – 264	3.3	3500	75%
Line Regulation	±0.5% max.	AGF-15S05		5	3000	79%
Load Regulation	±1.0% max.	AGF-15S09		9	1667	81%
Ripple & Noise (20MHz) 3.3V & 5V others	80mVp-p max. 1.0%Vp-p of Vo max.	AGF-15S12		12	1250	82%
Efficiency	Up to 84%	AGF-15S15		15	1000	82%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	AGF-15S24		24	625	84%
Operating Ambient Temp. Range	-25°C to +70°C (See Derating Curve)	AGF-15S48		48	313	82%
Overload Protection	>150% typ., Foldback(Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, TUV/IEC/EN 60335-1 & CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

► Mechanical Dimensions		► Pin Connections	
		Pin	Function
		1	AC Neutral
		2	AC Line
		3	+Vout
		4	-Vout



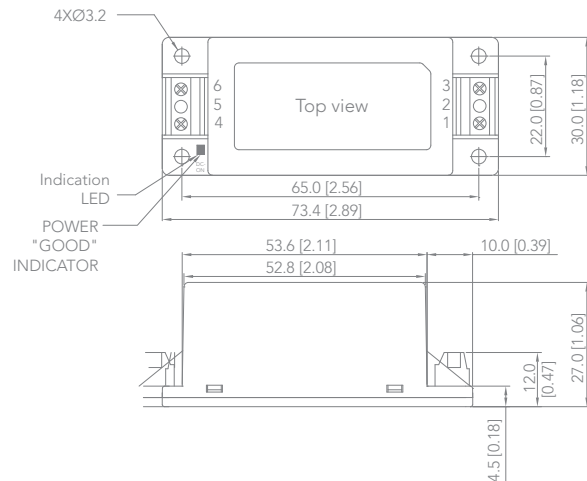
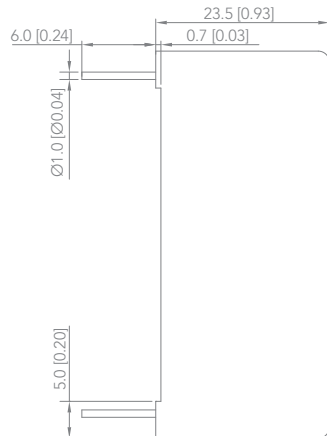
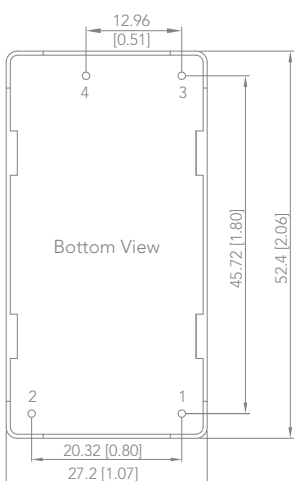
AIF-15 Series • 15W

NEW

- Ultra Compact Size 2.06×1.07×0.93"
- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -40°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 150mW
- UL/cUL/IEC/EN 62368-1, TUV IEC/EN 60335-1 Safety Approval & CE Marking



► Specifications		► Model Selection Guide				
Input Voltage Range	85-264VAC(90-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AIF-15S051	85 – 264	5.1	3000	79%
Line Regulation	±0.5% max.	AIF-15S12		12	1250	82%
Load Regulation	±1.0% max.	AIF-15S15		15	1000	82%
Ripple & Noise (20MHz) 5.1V others	80mVp-p max. 1.0%Vp-p of Vo max.	AIF-15S24		24	625	84%
Efficiency	Up to 84%	AIF-15S48		48	313	82%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)					
Operating Ambient Temp. Range	-40°C to +70°C (See Derating Curve)					
Overload Protection	>150% typ., (Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, TUV/IEC/EN 60335-1 & CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						
► Mechanical Dimensions		► Pin Connections				
		Pin	Function			
		1	AC Neutral			
		2	AC Line			
		3	+Vout			
		4	-Vout			



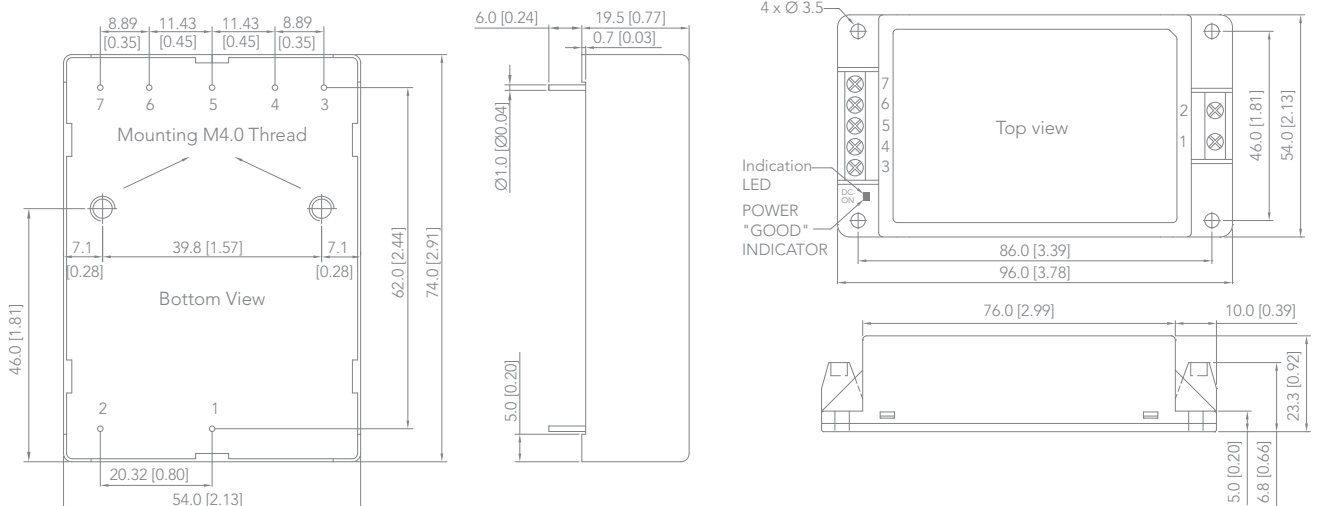
AKF-15 Series • 15W

- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Single, Dual and Triple Outputs
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- UL508 Safety Approval (Option) Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide								
Input Voltage Range	85-264VAC (120-370VDC)		Model Number	Input Voltage VAC	Output 1		Output 2		Output 3		Efficiency
Output Voltage Accuracy	±1.0% typ.				Voltage VDC	Current mA Max.	Voltage VDC	Current mA Max.	Voltage VDC	Current mA Max.	
Line Regulation	±0.5% typ.		AKF-15S05	85-264	5	3000					75%
Load Regulation	Single	±0.5% typ.	AKF-15S12		12	1250					79%
	others	±2.5% typ.	AKF-15S15		15	1000					79%
Ripple & Noise (20MHz) 5V	1.5%Vp-p of Vo typ.		AKF-15S24		24	625					79%
	0.8%Vp-p of Vo typ.		AKF-15S48		48	310					79%
			AKF-15D12		±12	±650					79%
Efficiency	Up to 79%		AKF-15D15		±15	±500					79%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)		AKF-15D512		5	1500	12	625			72%
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)		AKF-15T512		5	2000	+12	200	-12	-200	74%
Overload Protection	>105% min., Foldback (Auto. Recovery)		AKF-15T515		5	2000	+15	150	-15	-150	74%
Short Circuit Protection	Continuous (Auto. Recovery)		Pin Connections (PCB & Chassis)								
Case Material	Plastic (UL94V-0 rated)		Pin	Single	D12/D15	D512	T512/T515				
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, UL508 (Option), CE Marking		1	AC Neutral							
			2	AC Line							
			3	No Pin	No Pin	No Pin	-Vout3				
			4	-Vout	-Vout	-Vout2	Common				
			5	No Pin	Common	+Vout2	+Vout2				
			6	+Vout	+Vout	-Vout1	-Vout1				
			7	No Pin	No Pin	+Vout1	+Vout1				
*For full series datasheet, please refer to www.minmax.com.tw			No Pin = NC (No Connection) in Chassis Package								

Mechanical Dimensions



AHF-30 Series • 30W

NEW

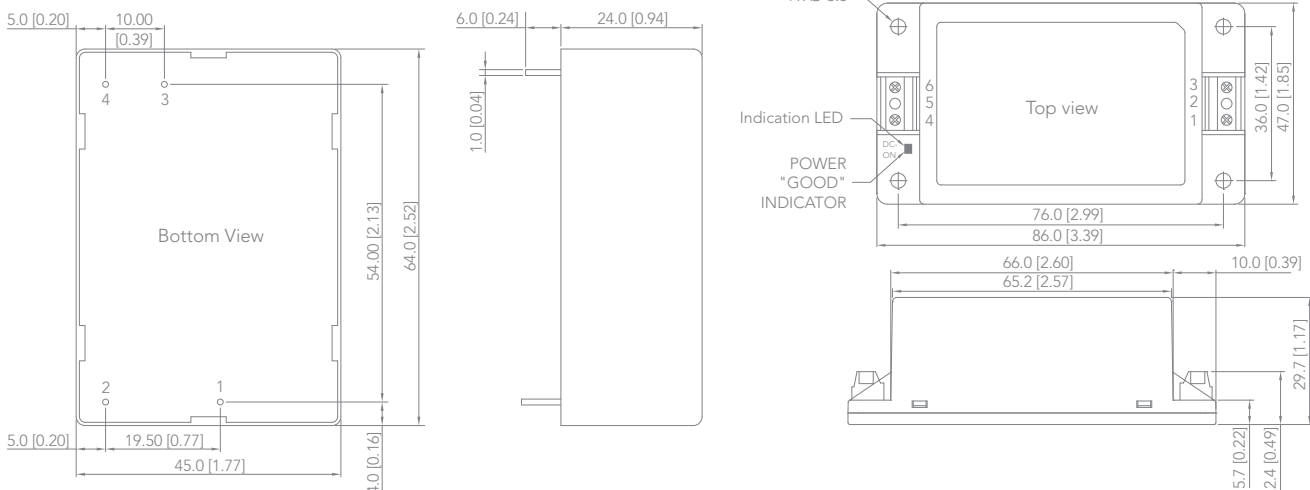
- Ultra Compact Size 2.52×1.77×0.94"
- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -40°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 100mW
- UL/cUL/IEC/EN 62368-1, TUV IEC/EN 60335-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Input Voltage Range	85-264VAC(90-370VDC)=	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AHF-30S051	85 – 264	5.1	5000	86%
Line Regulation	±0.5% max.	AHF-30S12		12	2500	88%
Load Regulation	±1.0% max.	AHF-30S15		15	2000	88%
Ripple & Noise (20MHz) 5.1V others	1.8%Vp-p of Vo max. 1.0%Vp-p of Vo max.	AHF-30S24		24	1250	88%
Efficiency	Up to 88%	AHF-30S48		48	625	88%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)					
Operating Ambient Temp. Range	-40°C to +70°C (See Derating Curve)	Pin Connections				
Overload Protection	>110% min., (Auto. Recovery)	Pin	PCB	Chassis		
Short Circuit Protection	Continuous (Auto. Recovery)	1	AC Neutral	AC Neutral		
Case Material	Plastic(UL94V-0 rated)	2	AC Line	No Pin		
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, TUV/IEC/EN 60335-1 & CE Marking	3	+Vout	AC Line		
		4	-Vout	+Vout		
		5	-	No Pin		
		6	-	-Vout		

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions

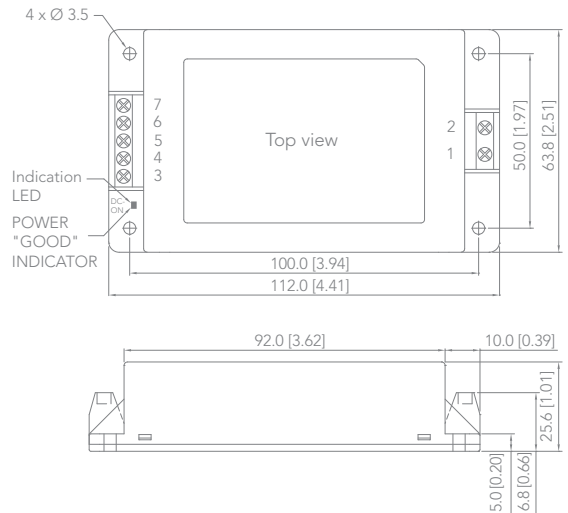
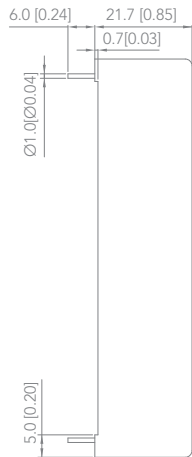
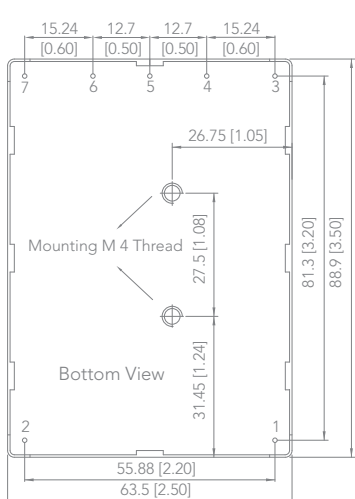


AQF-30 Series • 30W

- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Single, Dual and Triple Outputs
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -25°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- UL508 Safety Approval (Option) Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide									
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output 1		Output 2		Output 3		Efficiency	
Output Voltage Accuracy Single & Dual	±1.0% typ.			Voltage VDC	Current mA Max.	Voltage VDC	Current mA Max.	Voltage VDC	Current mA Max.		
Others Vo1	±1.0% typ.	AQF-30S05	5	6000						78%	
Vo2 & Vo3	±3.0% typ.	AQF-30S12	12	2500						80%	
Line Regulation	±0.2% typ.	AQF-30S15	15	2000						80%	
Load Regulation Single	±0.5% typ.	AQF-30S24	24	1250						80%	
Dual	±2.5% typ.	AQF-30S48	48	625						80%	
Triple Vo1	±2.5% typ.	AQF-30D12	±12	±1300						80%	
Vo2 & Vo3	±4.0% typ.	AQF-30D15	±15	±1000						80%	
Ripple & Noise (20MHz) 3.3V & 5V	1.5%Vp-p of Vo typ.	AQF-30D512	*5	3000	*12	1250				76%	
others	1.0%Vp-p of Vo typ.	AQF-30T512	*5	3000	12	600	-12	-600		76%	
Efficiency	Up to 80%	AQF-30T512A	*5	3000	12	1000	-12	-250		76%	
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	AQF-30T515	*5	3000	15	500	-15	-500		76%	
Operating Ambient Temp. Range	-25°C to +70°C (See Power Derating)	AQF-30T5312P	*5	4500	3.3	1000	12	250		71%	
Overload Protection	>105% min., Foldback (Auto. Recovery)	AQF-30T3512P	*3.3	4000	5	1500	12	250		71%	
Short Circuit Protection	Continuous (Auto. Recovery)	* Output floating									
Case Material	Plastic (UL94V-0 rated)	Pin Connections (PCB & Chassis)									
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, UL508 (Option), CE Marking	Pin	Single	D12/D15	D512	T512/T512A/T515	T5312P/T3512P				
		1	AC Neutral								
		2	AC Line								
		3	+Vout	+Vout	+Vout2	+Vout2	+Vout2				
		4	No Pin	No Pin	+Vout1	+Vout1	+Vout1				
		5	-Vout	Common	-Vout2	Common 2/3	Common 2/3				
		6	No Pin	No Pin	-Vout1	-Vout1	-Vout1				
		7	NC	-Vout	NC	-Vout3	+Vout3				
		No Pin = NC (No Connection) in Chassis Package									
*Others = AQF-30D512 & Triple Output											
*For full series datasheet, please refer to www.minmax.com.tw											
Mechanical Dimensions											



AKF-60 Series • 60W

NEW

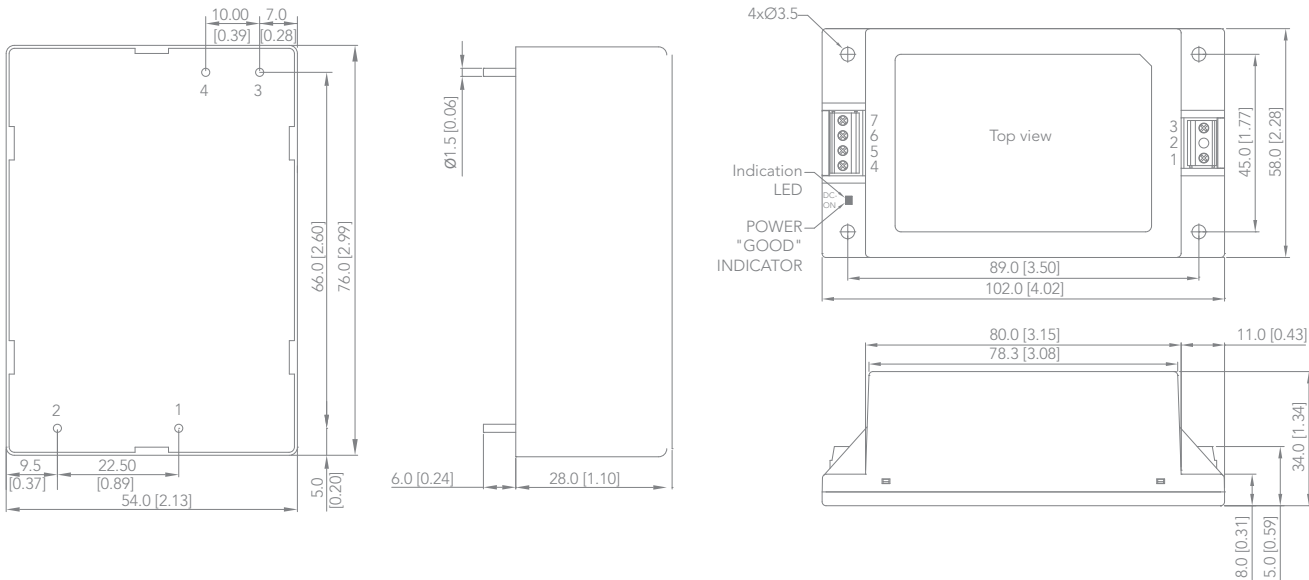
- Ultra Compact Size 2.99×2.13×1.10"
- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- No Min. Load Requirement
- Operating Ambient Temp. Range -40°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032/14-1 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Eco Design, Low No Load Power Consumption < 100mW
- UL/cUL/IEC/EN 62368-1, TUV IEC/EN 60335-1 Safety Approval & CE Marking



► Specifications		► Model Selection Guide				
Input Voltage Range	85-264VAC(90-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AKF-60S051	85 – 264	5.1	10000	87%
Line Regulation	±0.5% max.	AKF-60S12		12	5000	89%
Load Regulation	±1.0% max.	AKF-60S15		15	4000	89%
Ripple & Noise (20MHz) 5.1V	1.8%Vp-p of Vo max.	AKF-60S24		24	2500	89%
others	1.0%Vp-p of Vo max.	AKF-60S48		48	1250	89%
Efficiency	Up to 89%					
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	► Pin Connections				
Operating Ambient Temp. Range	-40°C to +70°C (See Derating Curve)	Pin	PCB	Chassis		
Overload Protection	>110% min., (Auto. Recovery)	1	AC Neutral	AC Neutral		
Short Circuit Protection	Continuous (Auto. Recovery)	2	AC Line	No Pin		
Case Material	Plastic(UL94V-0 rated)	3	-Vout	AC Line		
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, TUV/IEC/EN 60335-1 & CE Marking	4	+Vout	-Vout		
		5	-	-Vout		
		6	-	+Vout		
		7	-	+Vout		

*For full series datasheet, please refer to www.minmax.com.tw

► Mechanical Dimensions



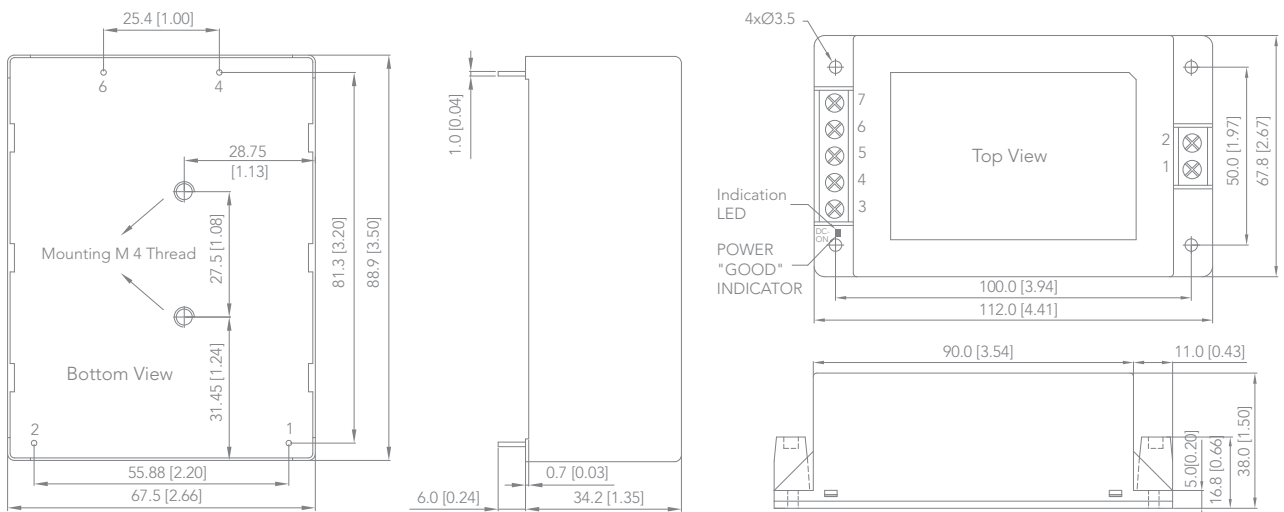
AZF-60 Series • 60W

- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC
- Protection Class II as per IEC/EN 60536
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -10°C to +70°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- UL508 Safety Approval (Option) Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC)	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AZF-60S051	85 – 264	5.1	10000	79%
Line Regulation	±0.2% typ.	AZF-60S12		12	5000	82%
Load Regulation	±0.5% typ.	AZF-60S15		15	4000	83%
Ripple & Noise (20MHz) 5.1V	2.0%Vp-p of Vo typ.	AZF-60S24		24	2500	84%
others	1.0%Vp-p of Vo typ.	AZF-60S36		36	1666	84%
Efficiency	Up to 84%	AZF-60S48		48	1250	84%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	▣ Pin Connections (PCB & Chassis)				
Operating Ambient Temp. Range	-10°C to +70°C (See Power Derating)	Pin	PCB	Chassis		
Overload Protection	>105% min., Foldback (Auto. Recovery)	1	AC Neutral	AC Neutral		
Short Circuit Protection	Continuous (Auto. Recovery)	2	AC Line	AC Line		
Case Material	Plastic (UL94V-0 rated)	3	-	NC		
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, UL508 (Option), CE Marking	4	+Vout	+Vout		
		5	-	NC		
		6	-Vout	-Vout		
		7	-	NC		
*For full series datasheet, please refer to www.minmax.com.tw		NC = No Connection				

▣ Mechanical Dimensions

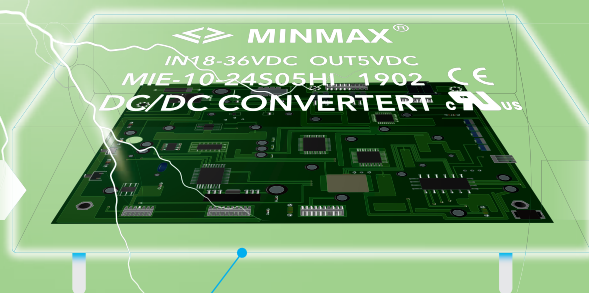


**Isolation
5000VAC / 60sec**

Input

Output

Reinforced Insulation



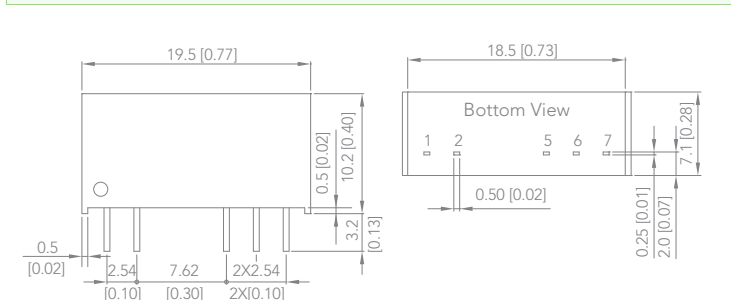
MA01-HI Series • 1W



- Industrial Standard SIP-7 Package
- Ultra-high I/O Isolation 5200VDC
- Common Mode Transient Immunity : 15KV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +90°C
- Short Circuit Protection
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



Specifications		Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	10% - 20% max. (Depending on model)					
Ripple & Noise (20MHz)	100mVp-p max.	MA01-05S033HI	5 (4.95-5.05)	3.3	303	70%
Efficiency	Up to 80%	MA01-05S05HI		5	200	70%
I/O Isolation Voltage	5200VDC min.	MA01-05S09HI		9	111	75%
I/O Isolation Capacitance	7pF typ.	MA01-05S12HI		12	84	77%
Common Mode Transient Immunity	15KV/μs	MA01-05S15HI		15	66	78%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MA01-05D05HI		±5	±100	71%
Short Circuit Protection	Continuous (Auto. Recovery)	MA01-05D09HI		±9	±56	75%
Case Material	Plastic (UL94V-0 rated)	MA01-05D12HI		±12	±42	77%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report	MA01-05D15HI		±15	±33	78%
*For full series datasheet, please refer to www.minmax.com.tw		MA01-05A1509HI		15	+33	-55
		MA01-12S033HI	12 (11.88-12.12)	3.3	303	71%
		MA01-12S05HI		5	200	71%
		MA01-12S09HI		9	111	76%
		MA01-12S12HI		12	84	78%
		MA01-12S15HI		15	66	79%
		MA01-12D05HI		±5	±100	72%
		MA01-12D09HI		±9	±56	76%
		MA01-12D12HI		±12	±42	78%
		MA01-12D15HI		±15	±33	79%
		MA01-12A1509HI		15	+33	-55
		MA01-15S033HI	15 (14.85-15.15)	3.3	303	70%
		MA01-15S05HI		5	200	70%
		MA01-15S09HI		9	111	75%
		MA01-15S12HI		12	84	75%
		MA01-15S15HI		15	66	79%
		MA01-15D05HI		±5	±100	71%
		MA01-15D09HI		±9	±56	75%
		MA01-15D12HI		±12	±42	78%
		MA01-15D15HI		±15	±33	79%
		MA01-15A1509HI		15	+33	-55
		MA01-24S033HI	24 (23.76-24.24)	3.3	303	70%
		MA01-24S05HI		5	200	70%
		MA01-24S09HI		9	111	75%
		MA01-24S12HI		12	84	78%
		MA01-24S15HI		15	66	80%
		MA01-24D05HI		±5	±100	71%
		MA01-24D09HI		±9	±56	75%
		MA01-24D12HI		±12	±42	77%
		MA01-24D15HI		±15	±33	78%
		MA01-24A1509HI		15	+33	-55



Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

MAEU02-HI Series • 2W

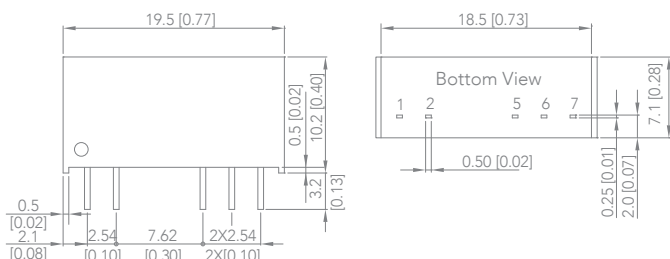


- Industrial Standard SIP-7 Package
- Ultra-high I/O Isolation 5200VDC
- Common Mode Transient Immunity : 15KV/ μ s
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +85°C
- Short Circuit Protection
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval



Specifications		Model Selection Guide				
Line Regulation (1% change Vin)	$\pm 1.2\%$ typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	10% - 20% max. (Depending on model)	MAEU02-05S033HI	5 (4.95–5.05)	3.3	500	74%
Ripple & Noise (20MHz)	100mVp-p max.	MAEU02-05S05HI		5	400	80%
Efficiency	Up to 85%	MAEU02-05S09HI		9	222	81%
I/O Isolation Voltage (Test for 1s)	5700VDC min.	MAEU02-05S12HI		12	168	82%
(Rated for 60s)	5200VDC min.	MAEU02-05S15HI		15	132	79%
I/O Isolation Capacitance	7pF typ.	MAEU02-05D05HI		± 5	± 200	78%
Common Mode Transient Immunity	15KV/ μ s	MAEU02-05D09HI		± 9	± 112	80%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MAEU02-05D12HI		± 12	± 84	80%
Short Circuit Protection	Continuous (Auto. Recovery)	MAEU02-05D15HI		± 15	± 66	79%
Case Material	Plastic (UL94V-0 rated)	MAEU02-05A1509HI		15	66	80%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report		-9	-110		
*For full series datasheet, please refer to www.minmax.com.tw		MAEU02-12S033HI	12 (11.88–12.12)	3.3	500	76%
		MAEU02-12S05HI		5	400	79%
		MAEU02-12S09HI		9	222	81%
		MAEU02-12S12HI		12	168	83%
		MAEU02-12S15HI		15	132	82%
		MAEU02-12D05HI		± 5	± 200	79%
		MAEU02-12D09HI		± 9	± 112	81%
		MAEU02-12D12HI		± 12	± 84	82%
		MAEU02-12D15HI		± 15	± 66	83%
		MAEU02-12A1509HI		15	66	81%
			-9	-110		
		MAEU02-15S033HI	15 (14.85–15.15)	3.3	500	77%
		MAEU02-15S05HI		5	400	79%
		MAEU02-15S09HI		9	222	83%
		MAEU02-15S12HI		12	168	83%
		MAEU02-15S15HI		15	132	85%
		MAEU02-15D05HI		± 5	± 200	81%
		MAEU02-15D09HI		± 9	± 112	84%
		MAEU02-15D12HI		± 12	± 84	82%
		MAEU02-15D15HI		± 15	± 66	82%
		MAEU02-15A1509HI		15	66	83%
			-9	-110		
		MAEU02-24S033HI	24 (23.76–24.24)	3.3	500	76%
		MAEU02-24S05HI		5	400	77%
		MAEU02-24S09HI		9	222	81%
		MAEU02-24S12HI		12	168	82%
		MAEU02-24S15HI		15	132	82%
		MAEU02-24D05HI		± 5	± 200	77%
		MAEU02-24D09HI		± 9	± 112	81%
		MAEU02-24D12HI		± 12	± 84	81%
		MAEU02-24D15HI		± 15	± 66	80%
		MAEU02-24A1509HI		15	66	81%
			-9	-110		

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

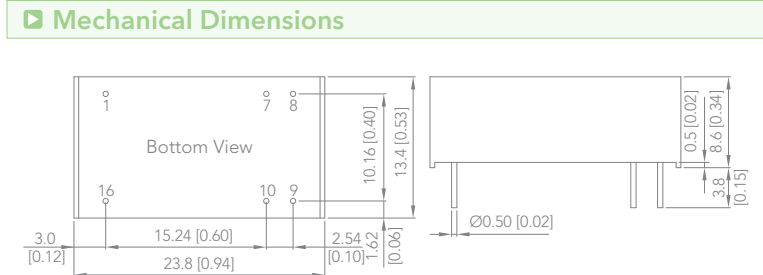
MDEU02-HI Series • 2W



- Industrial Standard DIP-16 Package
- Ultra-high I/O Isolation 8000VDC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Common Mode Transient Immunity : 15KV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -25°C to +80°C
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	10% - 12% max. (Depending on model)					
Ripple & Noise (20MHz)	150mVp-p max.	MDEU02-05S05HI	5 (4.5 – 5.5)	5	400	65%
Efficiency	Up to 75%	MDEU02-05S12HI		12	165	65%
I/O Isolation Voltage (Test for 1s) (Rated for 60s)	8000VDC min. (Reinforced Insulation)	MDEU02-05S15HI	±12	15	133	66%
	4000VAC min. (Reinforced Insulation)	MDEU02-05D12HI		±12	±83	72%
I/O Isolation Capacitance	15pF typ.	MDEU02-05D15HI	±15	±66	73%	
Common Mode Transient Immunity	15KV/μs	MDEU02-12S05HI	12 (10.8 – 13.2)	5	400	65%
Operating Ambient Temp. Range	-25°C to +80°C (See Derating Curve)	MDEU02-12S12HI		12	165	65%
Short Circuit Protection	Short Term	MDEU02-12S15HI	15	133	66%	
Case Material	Plastic (UL94V-0 rated)	MDEU02-12D12HI	±12	±83	74%	
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MDEU02-12D15HI		±15	±66	75%
*For full series datasheet, please refer to www.minmax.com.tw		MDEU02-24S05HI	24 (21.6 – 26.4)	5	400	65%
		MDEU02-24S12HI		12	165	65%
		MDEU02-24S15HI	15	133	66%	
		MDEU02-24D12HI	±12	±83	74%	
		MDEU02-24D15HI	±15	±66	75%	



▣ Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

NC = No Connection

MIE03-HI Series • 3.5W



- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Ultra-high I/O Isolation 9000VDC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Common Mode Transient Immunity : 15KV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +96°C
- No Min. Load Requirement
- Under-Voltage, Overload/Voltage and Short Circuit Protection
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MIE03-05S05HI	5 (4.5 – 9)	5	700	82%
Load Regulation	±0.5% max.	MIE03-05S058HI		5.8	600	82%
Ripple & Noise (20MHz)	70mVp-p max.	MIE03-05S12HI		12	290	83%
Efficiency	Up to 87%	MIE03-05S15HI		15	235	84%
I/O Isolation Voltage (Test for 1s) (Rated for 60s)	9000VDC min. (Reinforced Insulation) 5000VAC min. (Reinforced Insulation)	MIE03-05S24HI		24	146	83%
I/O Isolation Capacitance	40pF max.	MIE03-05D12HI		±12	±145	84%
Common Mode Transient Immunity	15KV/μs	MIE03-05D15HI		±15	±115	84%
Operating Ambient Temp. Range	-40°C to +96°C (See Derating Curve)	MIE03-12S05HI	12 (9 – 18)	5	700	82%
Short Circuit Protection	Continuous (Auto. Recovery)	MIE03-12S12HI		12	290	86%
Case Material	Plastic (UL94V-0 rated)	MIE03-12S15HI		15	235	87%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MIE03-12S24HI	24	146	86%	
		MIE03-12D12HI		±12	±145	87%
		MIE03-12D15HI		±15	±115	87%
		MIE03-24S05HI	24 (18 – 36)	5	700	82%
		MIE03-24S12HI		12	290	85%
		MIE03-24S15HI		15	235	87%
		MIE03-24S24HI		24	146	86%
		MIE03-24D12HI			±12	±145
		MIE03-24D15HI		±15	±115	86%
		MIE03-48S05HI	48 (36 – 75)	5	700	82%
		MIE03-48S12HI		12	290	85%
		MIE03-48S15HI		15	235	85%
		MIE03-48S24HI		24	146	83%
		MIE03-48D12HI			±12	±145
		MIE03-48D15HI		±15	±115	84%

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

MIE06-HI Series • 6W



- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Ultra-high I/O Isolation 9000VDC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Common Mode Transient Immunity : 15KV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +95°C
- No Min. Load Requirement
- Under-Voltage, Overload/Voltage and Short Circuit Protection
- Conducted EMI EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MIE06-12S05HI	12	5	1200	83%
Load Regulation	±0.5% max.	MIE06-12S12HI		12	500	86%
Load Regulation	±1.0% max.	MIE06-12S15HI	(9 – 18)	15	400	86%
Ripple & Noise (20MHz)	70mVp-p max.	MIE06-12S24HI		24	250	86%
Efficiency	Up to 89%	MIE06-12D12HI	±12	±12	±250	87%
I/O Isolation Voltage (Test for 1s)	9000VDC min. (Reinforced Insulation)	MIE06-12D15HI		±15	±200	87%
I/O Isolation Voltage (Rated for 60s)	5000VAC min. (Reinforced Insulation)	MIE06-24S05HI	24	5	1200	83%
I/O Isolation Capacitance	40pF max.	MIE06-24S12HI		12	500	86%
Common Mode Transient Immunity	15KV/μs	MIE06-24S15HI	(18 – 36)	15	400	87%
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MIE06-24S24HI		24	250	85%
Short Circuit Protection	Continuous (Auto. Recovery)	MIE06-24D12HI	±12	±12	±250	86%
Case Material	Plastic (UL94V-0 rated)	MIE06-24D15HI		±15	±200	87%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MIE06-48S05HI	48	5	1200	83%
*For full series datasheet, please refer to www.minmax.com.tw		MIE06-48S12HI		12	500	86%
		MIE06-48S15HI	(36 – 75)	15	400	89%
		MIE06-48S24HI		24	250	86%
		MIE06-48D12HI	±12	±12	±250	87%
		MIE06-48D15HI		±15	±200	88%

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

MIE10-HI Series • 10W



NEW

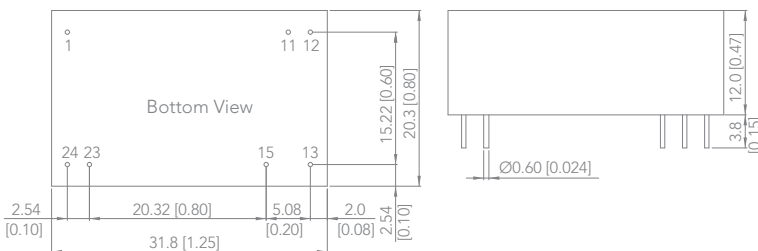
- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Ultra-high I/O Isolation 9000VDC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Common Mode Transient Immunity: 15kV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +90°C
- No Min. Load Requirement
- Under-Voltage, Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications			Model Selection Guide					
Output Voltage Accuracy	±1.0% max.		Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.5% max.		MIE10-12S033HI	12 (9 – 18)	3.3	2700	81%	
Load Regulation	Single	±0.5% max.	MIE10-12S05HI		5	2000	83%	
	Dual	±1.0% max.	MIE10-12S051HI		5.1	2000	83%	
Ripple & Noise (20MHz)	50mVp-p typ.		MIE10-12S12HI		12	833	86%	
Efficiency	Up to 88%		MIE10-12S15HI		15	666	88%	
I/O Isolation Voltage (Test for 1s)	9000VDC min.(Reinforced Insulation)		MIE10-12S24HI		24	416	88%	
(Rated for 60s)	5000VAC min.(Reinforced Insulation)		MIE10-12D12HI		±12	±416	88%	
I/O Isolation Capacitance	20pF max.		MIE10-12D15HI		±15	±333	87%	
Common Mode Transient Immunity	15KV/μs		MIE10-24S033HI		24 (18 – 36)	3.3	2700	81%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)		MIE10-24S05HI			5	2000	84%
Short Circuit Protection	Continuous (Auto. Recovery)		MIE10-24S051HI	5.1		2000	84%	
Case Material	Plastic(UL94V-0 rated)		MIE10-24S12HI	12		833	87%	
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking		MIE10-24S15HI	15		666	88%	
			MIE10-24S24HI	24		416	88%	
			MIE10-24D12HI	±12		±416	88%	
			MIE10-24D15HI	±15		±333	87%	
			MIE10-48S033HI	48 (36 – 75)		3.3	2700	81%
			MIE10-48S05HI			5	2000	84%
			MIE10-48S051HI		5.1	2000	84%	
			MIE10-48S12HI		12	833	87%	
			MIE10-48S15HI		15	666	88%	
			MIE10-48S24HI		24	416	87%	
			MIE10-48D12HI		±12	±416	87%	
			MIE10-48D15HI		±15	±333	87%	

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

MKE15-HI Series • 15W



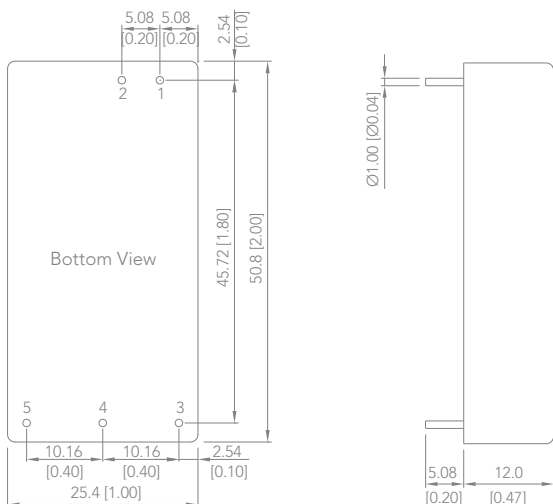
- Industrial Standard 2"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Ultra-high I/O Isolation 8000VDC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Common Mode Transient Immunity : 15KV/μs
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MKE15-12S05HI	12 (9 – 18)	5	3000	85%
Load Regulation	Single ±0.5% max. Dual ±1.0% max.	MKE15-12S051HI		5.1	3000	85%
Ripple & Noise (20MHz) 5V & 5.1V	50mVp-p typ. 24V 150mVp-p typ. others 100mVp-p typ.	MKE15-12S12HI		12	1250	88%
		MKE15-12S15HI		15	1000	88%
		MKE15-12S24HI		24	625	88%
Efficiency	Up to 90%	MKE15-12D12HI	±12	±625	88%	
I/O Isolation Voltage (Test for 1s) (Rated for 60s)	8000VDC min. (Reinforced Insulation) 4200VAC min. (Reinforced Insulation)	MKE15-12D15HI	±15	±500	89%	
		MKE15-24S05HI	24 (18 – 36)	5	3000	87%
I/O Isolation Capacitance	80pF max.	MKE15-24S051HI		5.1	3000	87%
Common Mode Transient Immunity	15KV/μs	MKE15-24S12HI		12	1250	88%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MKE15-24S15HI		15	1000	89%
Short Circuit Protection	Continuous (Auto. Recovery)	MKE15-24S24HI		24	625	90%
Case Material	Plastic (UL94V-0 rated)	MKE15-24D12HI	±12	±625	90%	
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MKE15-24D15HI	±15	±500	89%	
		MKE15-48S05HI	48 (36 – 75)	5	3000	87%
		MKE15-48S051HI		5.1	3000	87%
		MKE15-48S12HI		12	1250	87%
		MKE15-48S15HI		15	1000	90%
		MKE15-48S24HI		24	625	89%
		MKE15-48D12HI		±12	±625	89%
MKE15-48D15HI	±15	±500		88%		

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions	▣ Pin Connections
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Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

MKE20-HI Series • 20W



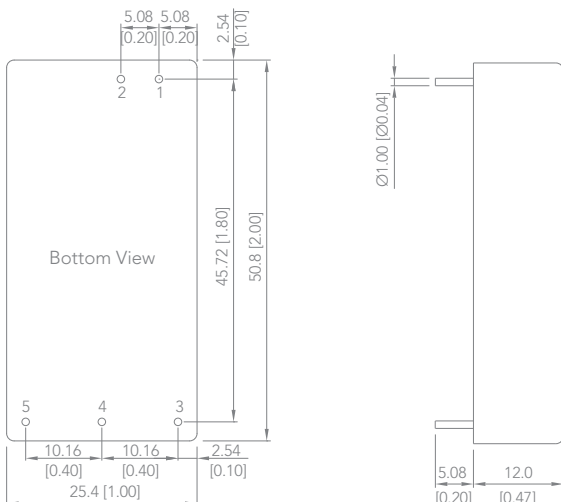
- Industrial Standard 2" x 1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- Ultra-high I/O Isolation 8000VDC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Common Mode Transient Immunity : 15KV/ μ s
- Qualified for IGBT and High Isolation Applications
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55032 Class A & FCC Level A Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		$\pm 1.0\%$ max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation		$\pm 0.5\%$ max.	MKE20-12S05HI		5	4000	85%
Load Regulation	Single	$\pm 0.5\%$ max.	MKE20-12S051HI		5.1	4000	85%
	Dual	$\pm 1.0\%$ max.	MKE20-12S12HI		12	1670	88%
Ripple & Noise (20MHz) 5V & 5.1V		50mVp-p typ.	MKE20-12S15HI	12 (9 – 18)	15	1333	88%
	24V	150mVp-p typ.	MKE20-12S24HI		24	840	89%
	others	100mVp-p typ.	MKE20-12D12HI		± 12	± 840	89%
			MKE20-12D15HI		± 15	± 670	89%
Efficiency		Up to 90%	MKE20-24S05HI		5	4000	87%
I/O Isolation Voltage (Test for 1s)		8000VDC min. (Reinforced Insulation)	MKE20-24S051HI		5.1	4000	87%
	(Rated for 60s)	4200VAC min. (Reinforced Insulation)	MKE20-24S12HI		12	1670	88%
I/O Isolation Capacitance		80pF max.	MKE20-24S15HI	24 (18 – 36)	15	1333	89%
Common Mode Transient Immunity		15KV/ μ s	MKE20-24S24HI		24	840	90%
Operating Ambient Temp. Range		-40°C to +80°C (See Derating Curve)	MKE20-24D12HI		± 12	± 840	90%
Short Circuit Protection		Continuous (Auto. Recovery)	MKE20-24D15HI		± 15	± 670	90%
Case Material		Plastic (UL94V-0 rated)	MKE20-48S05HI		5	4000	87%
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, CE Marking	MKE20-48S051HI		5.1	4000	87%
			MKE20-48S12HI		12	1670	88%
			MKE20-48S15HI	48 (36 – 75)	15	1333	90%
			MKE20-48S24HI		24	840	89%
			MKE20-48D12HI		± 12	± 840	89%
			MKE20-48D15HI		± 15	± 670	90%

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

MJA06C Series • 6W



NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- 80-160VDC Wide Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 84%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +92.5°C
- No Min. Load Requirement
- Very Low No Load Power Consumption
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MJA06-110S05C	110 (80 - 160)	5	1200	79%
Load Regulation	±0.5% max.	MJA06-110S051C		5.1	1200	79%
Ripple & Noise (20MHz) 24V & ±24V & 48V others	180mVp-p typ. 75mVp-p typ.	MJA06-110S12C		12	500	83%
Efficiency	Up to 84%	MJA06-110S15C		15	400	83%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	MJA06-110S24C		24	250	84%
I/O Isolation Capacitance	2200pF typ.	MJA06-110S48C		48	125	82%
Operating Ambient Temp. Range	-40°C to +92.5°C (See Derating Curve)	MJA06-110D12C		±12	±250	84%
Short Circuit Protection	Continuous (Auto. Recovery)	MJA06-110D15C		±15	±200	84%
Remote On/Off	Enable High	MJA06-110D24C		±24	±125	83%
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
	Pin	Single	Dual	
	1	Remote On/Off	Remote On/Off	
	2	-Vin	-Vin	
	3	+Vin	+Vin	
	4	-Vout	-Vout	
	5	NC	Common	
	6	+Vout	+Vout	

NC = No Connection

MKA10C Series • 10W



NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- 80-160VDC Wide Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 85%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +87°C
- No Min. Load Requirement
- Very Low No Load Power Consumption
- Under-voltage, Overload and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MKA10-110S05C		5	2000	83%
Load Regulation	±0.5% max.	MKA10-110S051C		5.1	2000	83%
Ripple & Noise (20MHz) 24V & ±24V & 48V others	180mVp-p typ. 90mVp-p typ.	MKA10-110S12C		12	833	85%
Efficiency	Up to 85%	MKA10-110S15C		15	666	85%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	MKA10-110S24C	110 (80 - 160)	24	416	85%
I/O Isolation Capacitance	2200pF max.	MKA10-110S48C		48	208	83%
Operating Ambient Temp. Range	-40°C to +87°C (See Derating Curve)	MKA10-110D12C		±12	±416	85%
Short Circuit Protection	Continuous (Auto. Recovery)	MKA10-110D15C		±15	±333	85%
Remote On/Off	Enable High	MKA10-110D24C		±24	±208	84%
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
<p>Top view dimensions: 71.0 [2.80], 79.0 [3.11], 26.0 [1.02], 34.0 [1.34]. Side view dimensions: 59.0 [2.32], 58.4 [2.30], 10.0 [0.39], 11.6 [0.46], 22.0 [0.87], 4.0 [0.16].</p>		Pin	Single	Dual
		1	Remote On/Off	Remote On/Off
		2	-Vin	-Vin
		3	+Vin	+Vin
		4	-Vout	-Vout
		5	NC	Common
		6	+Vout	+Vout

NC = No Connection

MOA20C Series • 20W

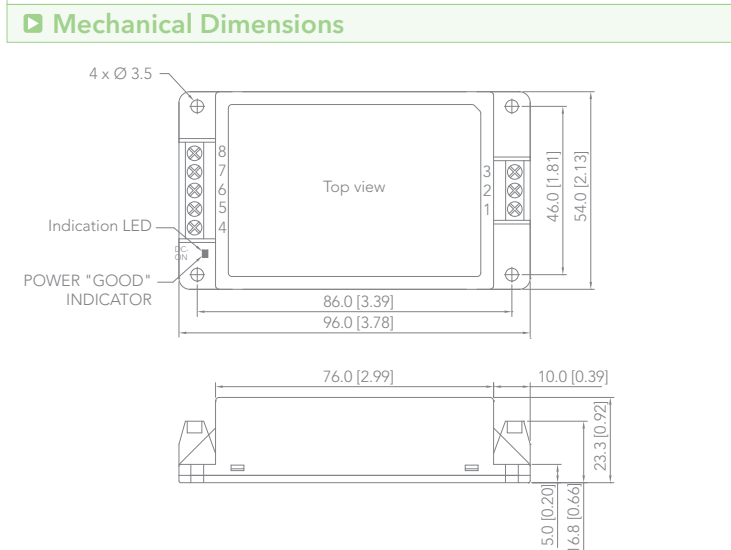


NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- 80-160VDC Wide Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 88%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +94.5°C
- No Min. Load Requirement
- Very Low No Load Power Consumption
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MOA20-110S05C	110 (80 – 160)	5	4000	87%
Load Regulation	±0.5% typ.	MOA20-110S051C		5.1	4000	87%
Ripple & Noise (20MHz) 5V & 5.1V	100mVp-p typ.	MOA20-110S12C		12	1670	88%
±24V & 48V	200mVp-p typ.	MOA20-110S15C		15	1340	88%
Others	150mVp-p typ.	MOA20-110S24C		24	830	88%
Efficiency	Up to 88%	MOA20-110S48C		48	420	86%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	MOA20-110D12C		±12	±830	87%
I/O Isolation Capacitance	2200pF max.	MOA20-110D15C		±15	±670	87%
Operating Ambient Temp. Range	-40°C to +94.5°C (See Derating Curve)	MOA20-110D24C		±24	±420	87%
Short Circuit Protection	Continuous (Auto. Recovery)					
Remote On/Off	Enable High					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						



▣ Pin Connections

Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	+Vin	+Vin
4	NC	NC
5	-Vout	-Vout
6	NC	Common
7	+Vout	+Vout
8	NC	NC

NC = No Connection

MQA40C Series • 40W



NEW

- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- 80-160VDC Wide Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 89%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +90°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±2.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% typ.	MQA40-110S05C		5	8000	87%
Load Regulation	±1.0% typ.	MQA40-110S051C		5.1	8000	87%
Ripple & Noise (20MHz) 5V & 5.1V	100mVp-p max.	MQA40-110S12C		12	3330	89%
±24V & 48V	200mVp-p max.	MQA40-110S15C		15	2670	89%
Others	150mVp-p max.	MQA40-110S24C	110 (80 – 160)	24	1670	89%
Efficiency	Up to 89%	MQA40-110S48C		48	840	87%
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	MQA40-110D12C		±12	±1670	89%
I/O Isolation Capacitance	2400pF max.	MQA40-110D15C		±15	±1330	89%
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MQA40-110D24C		±24	±830	87%
Short Circuit Protection	Continuous (Auto. Recovery)					
Remote On/Off	Enable High					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1,CB-Report, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	Remote On/Off	Remote On/Off
		2	-Vin	-Vin
		3	+Vin	+Vin
		4	+Vout	+Vout
		5	NC	NC
		6	-Vout	Common
		7	NC	NC
		8	NC	-Vout

NC = No Connection

MRA60C Series • 60W



NEW

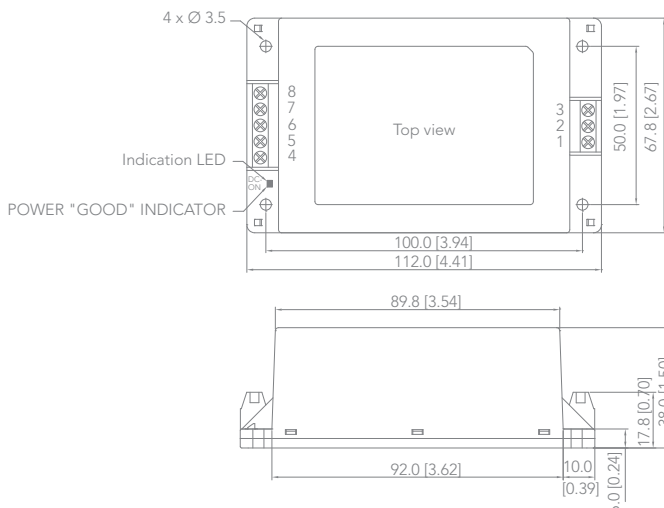
- Fully Encapsulated Plastic Case for Chassis and DIN-Rail Mounting Version
- 80-160VDC Wide Input Voltage Range
- Fully Regulated Output Voltage
- High Efficiency up to 89%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +90.5°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control
- EMI Emission EN 55032 Class A & FCC Level A Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8 Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide					
Output Voltage Accuracy	±1.0% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.2% typ.	MRA60-110S05C	110 (80 – 160)	5	12000	88%	
Load Regulation	±0.5% typ.	MRA60-110S051C		5.1	12000	88%	
Ripple & Noise (20MHz) 5V & 5.1V ±24V & 48V Others	100mVp-p max.	MRA60-110S12C		12	5000	89%	
	200mVp-p max.	MRA60-110S15C		15	4000	89%	
	150mVp-p max.	MRA60-110S24C		24	2500	88%	
Efficiency	Up to 89%	MRA60-110S48C		48	1250	88%	
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)	MRA60-110D12C			±12	±2500	88%
I/O Isolation Capacitance	3000pF max.	MRA60-110D15C			±15	±2000	88%
Operating Ambient Temp. Range	-40°C to +90.5°C (See Derating Curve)	MRA60-110D24C			±24	±1250	88%
Short Circuit Protection	Continuous (Auto. Recovery)						
Remote On/Off	Enable High						
Case Material	Plastic(UL94V-0 rated)						
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, CE Marking						

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions		▣ Pin Connections		
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Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	+Vin	+Vin
4	NC	+Vout
5	+Vout	NC
6	NC	Common
7	-Vout	NC
8	NC	-Vout

NC = No Connection

RAILWAY CERTIFIED

POWER SOLUTIONS



MKZI10 Series • 10W



- Industrial Standard 2" x 1" Package
- Ultra-wide Input Range 9-36VDC, 18-75VDC, 40-160VDC
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +95°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Conducted EMI EN 55032/11 Class A & FCC Level A Approved
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- Fire Protection Test EN 45545-2 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.					
Load Regulation	Single	MKZI10-24S05	24 (9 – 36)	5	2000	84%
	Dual	MKZI10-24S12		12	835	86%
Ripple & Noise (20MHz) 5V		MKZI10-24S15	24 (9 – 36)	15	670	87%
	24V	MKZI10-24S24		24	417	88%
	others	MKZI10-24D12		±12	±417	86%
		MKZI10-24D15	±15	±335	87%	
Efficiency	Up to 89%	MKZI10-48S05	48 (18 – 75)	5	2000	85%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	MKZI10-48S12		12	835	87%
I/O Isolation Capacitance	1500pF typ.	MKZI10-48S15		15	670	87%
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MKZI10-48S24	24	417	86%	
Short Circuit Protection	Continuous (Auto. Recovery)	MKZI10-48D12	±12	±417	89%	
Output Voltage Trim	±10% max.	MKZI10-48D15	±15	±335	88%	
Remote ON/OFF	Enable High	MKZI10-110S05	110 (40 – 160)	5	2000	82%
Case Material	Metal (6 side shielded with insulated baseplate)	MKZI10-110S12		12	835	85%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, EN 50155 (IEC 60571), CE Marking	MKZI10-110S15		15	670	85%
		MKZI10-110S24	24	417	85%	
		MKZI10-110D12	±12	±417	86%	
		MKZI10-110D15	±15	±335	86%	

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

*To order the converter with package type A, please add a suffix A.

Mechanical Dimensions		Pin Connections		
<p>Package Type A -</p>		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	
		4	+Vout	+Vout
		5	Trim	Common
		6	-Vout	-Vout
Pin Connections (For Type A)		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	
		4	+Vout	+Vout
		5	-Vout	Common
		6	Trim	-Vout

MKZI20 Series • 20W



- Industrial Standard 2"×1" Package
- Ultra-wide Input Range 9-36VDC, 18-75VDC, 40-160VDC
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +88.5°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Conducted EMI EN 55032/11 Class A & FCC Level A Approved
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- Fire Protection Test EN 45545-2 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications			▣ Model Selection Guide				
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation		±0.2% max.					
Load Regulation	Single	±0.5% max.	MKZI20-24S05	24	5	4000	87%
	Dual	±1.0% max.	MKZI20-24S12		12	1670	87%
Ripple & Noise (20MHz) 5V		50mVp-p typ.	MKZI20-24S15	(9 – 36)	15	1330	87%
	24V	150mVp-p typ.	MKZI20-24S24		24	833	87%
	others	100mVp-p typ.	MKZI20-24D12		±12	±833	86%
			MKZI20-24D15		±15	±667	86%
Efficiency		Up to 88%	MKZI20-48S05	48	5	4000	87%
I/O Isolation Voltage		3000VAC min. (Reinforced Insulation)	MKZI20-48S12		12	1670	88%
I/O Isolation Capacitance		1500pF typ.	MKZI20-48S15	(18 – 75)	15	1330	88%
Operating Ambient Temp. Range		-40°C to +88.5°C (See Derating Curve)	MKZI20-48S24		24	833	88%
Short Circuit Protection		Continuous (Auto. Recovery)	MKZI20-48D12		±12	±833	87%
Output Voltage Trim		±10% max.	MKZI20-48D15		±15	±667	87%
Remote ON/OFF		Enable High	MKZI20-110S05	110	5	4000	84%
Case Material		Metal (6 side shielded with insulated baseplate)	MKZI20-110S12		12	1670	86%
Safety Approval		UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, EN 50155 (IEC 60571), CE Marking	MKZI20-110S15	(40 – 160)	15	1330	86%
			MKZI20-110S24		24	833	86%
			MKZI20-110D12		±12	±833	86%
			MKZI20-110D15		±15	±667	86%

*For full series datasheet, please refer to www.minmax.com.tw

*To order the converter with heatsink, please add a suffix -HS.

*To order the converter with package type A, please add a suffix A.

▣ Mechanical Dimensions		▣ Pin Connections		
<p>Package Type A -</p>		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	
		4	+Vout	+Vout
		5	Trim	Common
		6	-Vout	-Vout
▣ Pin Connections (For Type A)				
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	
		4	+Vout	+Vout
		5	-Vout	Common
		6	Trim	-Vout

MKZI40 Series • 40W



NEW

- Industrial Standard 2"×1" Package
- Ultra-wide Input Range 36-160VDC
- I/O Isolation 3000VAC with Reinforced Insulation
- Excellent Efficiency up to 90%
- Operating Ambient Temp. Range -40°C to +85.5°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim
- Vibration and Shock/Bump Test EN61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Fire Protection Test EN 45545-2 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation		±0.2% max.					
Load Regulation	Single	±0.5% max.	MKZI40-110S05		5	8000	88%
	Dual	±1.0% max.	MKZI40-110S12		12	3330	89%
Ripple & Noise (20MHz) 5V		75mVp-p typ.	MKZI40-110S15		15	2670	89%
	12V, 15V, ±12 & ±15V	125mVp-p typ.	MKZI40-110S24	110 (36 – 160)	24	1670	89%
	24V	150mVp-p typ.	MKZI40-110S54		54	741	90%
	54V	250mVp-p typ.	MKZI40-110D12		±12	±1670	89%
Efficiency		Up to 90%	MKZI40-110D15		±15	±1330	89%
I/O Isolation Voltage		3000VAC min.(Reinforced Insulation)	*To order the converter with heatsink, please add a suffix -HS.				
I/O Isolation Capacitance		1500pF typ.					
Operating Ambient Temp. Range		-40°C to +85.5°C (See Derating Curve)					
Short Circuit Protection		Continuous (Auto. Recovery)					
Output Voltage Trim	54V	+5% / -15% max.					
	others	±10% max.					
Remote On/Off	Standard	Enable High					
	Option	Enable Low					
Case Material		Metal (6 side shielded with insulated baseplate)					
Safety Approval		UL/cUL/IEC/EN 62368-1, CB-Report, EN50155 (IEC60571) & EN 45545-2, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		3	Remote On/Off	Remote On/Off
		4	+Vout	+Vout
		5	-Vout	Common
		6	Trim	-Vot

MTQZ50 Series • 50W



- Industrial Standard Quarter Brick Package
- Wide Input Range 43-101VDC & 66-160VDC
- Excellent Efficiency up to 92%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off, Output Voltage Trim, Output Sense
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- Fire Protection Test EN 45545-2 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MTQZ50-72S05		5	10000	90%
Load Regulation	±0.3% max.	MTQZ50-72S12		12	4170	92%
Ripple & Noise (20MHz) 24V	150mVp-p max.	MTQZ50-72S15	72 (43 – 101)	15	3330	92%
others	100mVp-p max.	MTQZ50-72S24		24	2080	91%
Efficiency	Up to 92%	MTQZ50-110S05		5	10000	90%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	MTQZ50-110S12	110	12	4170	91%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MTQZ50-110S15	(66 – 160)	15	3330	92%
Short Circuit Protection	Continuous (Auto. Recovery)	MTQZ50-110S24		24	2080	91%
Output Voltage Trim	±10% max.	*To order the converter with heatsink, please add a suffix -HS.				
Remote ON/OFF	Enable High					
Case Material	Metal (6 side shielded with insulated baseplate)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, EN50155 (IEC60571) & EN 45545-2, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions		▣ Pin Connections	
<p>Mounting Inserts M3x0.5 Through 4pl.</p>		Pin	Function
		1	+Vin
		2	Remote On/Off
		3	-Vin
		4	-Vout
		5	*-Sense
		6	Trim
		7	*+Sense
		8	+Vout

* If remote sense not used the +sense should be connected to +output and -sense should be connected to -output. Maximum output deviation is 10% inclusive of trim.

MTQZ75 Series • 75W



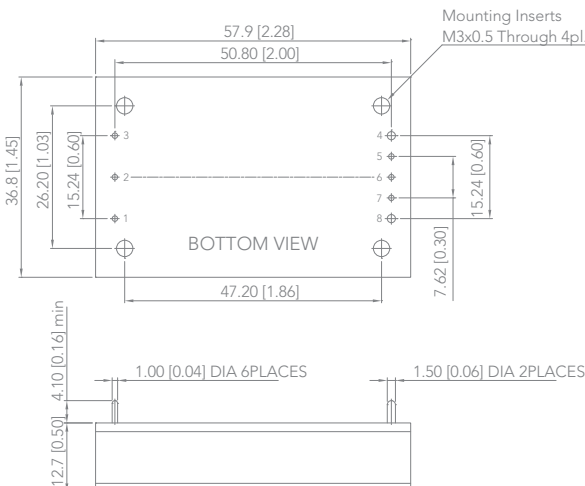
- Industrial Standard Quarter Brick Package
- Wide Input Range 43-101VDC & 66-160VDC
- Excellent Efficiency up to 92%
- I/O Isolation 3000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off, Output Voltage Trim, Output Sense
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- Fire Protection Test EN 45545-2 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.2% max.	MTQZ75-72S05		5	15000	89%
Load Regulation	±0.3% max.	MTQZ75-72S12		12	6250	92%
Ripple & Noise (20MHz) 24V	150mVp-p max.	MTQZ75-72S15	72 (43 – 101)	15	5000	92%
others	100mVp-p max.	MTQZ75-72S24		24	3125	91%
Efficiency	Up to 92%	MTQZ75-110S05		5	15000	89%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	MTQZ75-110S12	110	12	6250	91%
Operating Ambient Temp. Range	-40°C to +80°C (See Derating Curve)	MTQZ75-110S15	(66 – 160)	15	5000	91%
Short Circuit Protection	Continuous (Auto. Recovery)	MTQZ75-110S24		24	3125	90%
Output Voltage Trim	±10% max.	*To order the converter with heatsink, please add a suffix -HS.				
Remote ON/OFF	Enable High					
Case Material	Metal (6 side shielded with insulated baseplate)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, EN50155 (IEC60571) & EN 45545-2, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions	Pin Connections
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MTQZ100 Series • 100W



- Industrial Standard Quarter Brick Package
- Ultra-wide Input Range 40-160VDC
- I/O Isolation 3000VAC with Reinforced Insulation
- Excellent Efficiency up to 91.5%
- Operating Baseplate Temp. Range -40°C to +105°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim, Output Sense
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Fire Protection Test EN 45545-2 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current (A) max	Efficiency
Line Regulation	±0.2% max.					
Load Regulation	±0.3% max.	MTQZ100-110S05	110	5	20	91.5%
Ripple & Noise (20MHz) 5V	12V, 15V	MTQZ100-110S12	(40 – 160)	12	8.4	91%
	24V	MTQZ100-110S15		15	6.7	90.5%
	54V	MTQZ100-110S24		24	4.2	89%
		MTQZ100-110S54		54	1.85	89%
Efficiency	Up to 91.5%	*To order the converter with heatsink, please add a suffix -HS.				
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)					
Operating Baseplate Temp. Range	-40°C to +105°C (See Derating Curve)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Output Voltage Trim	54V +5% / -15% max. others ±10% max.					
Remote On/Off	Standard Enable High Option Enable Low					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, EN50155 (IEC60571) & EN 45545-2, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	+Vin
		2	Remote On/Off
		3	-Vin
		4	-Vout
		5	*-Sense
		6	Trim
		7	*+Sense
		8	+Vout

* If remote sense not used the +sense should be connected to +output and -sense should be connected to -output. Maximum output deviation is 10% inclusive of trim.

MTQZ150 Series • 150W



NEW

- Industrial Standard Quarter Brick Package
- Ultra-wide Input Range 40-160VDC
- I/O Isolation 3000VAC with Reinforced Insulation
- Excellent Efficiency up to 90%
- Operating Baseplate Temp. Range -40°C to +105°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage/Temp. and Short Circuit Protection
- Remote On/Off Control, Output Voltage Trim, Output Sense
- Vibration and Shock/Bump Test EN 61373 Approved
- Cooling, Dry & Damp Heat Test IEC/EN 60068-2-1, 2, 30 Approved
- Fire Protection Test EN 45545-2 Approved
- Railway EMC Standard EN 50121-3-2 Approved
- Railway Certified EN 50155 (IEC 60571) Approved
- UL/cUL/IEC/EN 62368-1 Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current (A) max	Efficiency
Line Regulation	±0.2% max.	MTQZ1150-110S05		5	27	90%
Load Regulation	±0.3% max.	MTQZ1150-110S12		12	12.5	90%
Ripple & Noise (20MHz) 5V 12V, 15V 24V 54V	100mVp-p typ.	MTQZ1150-110S15	110 (40 - 160)	15	10	89%
	150mVp-p typ.	MTQZ1150-110S24		24	6.25	88%
	200mVp-p typ.	MTQZ1150-110S54		54	2.78	88.5%
	300mVp-p typ.					
Efficiency	Up to 90%	*To order the converter with heatsink, please add a suffix -HS.				
I/O Isolation Voltage	3000VAC min.(Reinforced Insulation)					
Operating Baseplate Temp. Range	-40°C to +105°C (See Derating Curve)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Output Voltage Trim	54V: +5% / -15% max. others: ±10% max.					
Remote On/Off	Standard: Enable High Option: Enable Low					
Case Material	Plastic(UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1, CB-Report, EN 50155 (IEC 60571) & EN 45545-2, CE Marking					

*For full series datasheet, please refer to www.minmax.com.tw

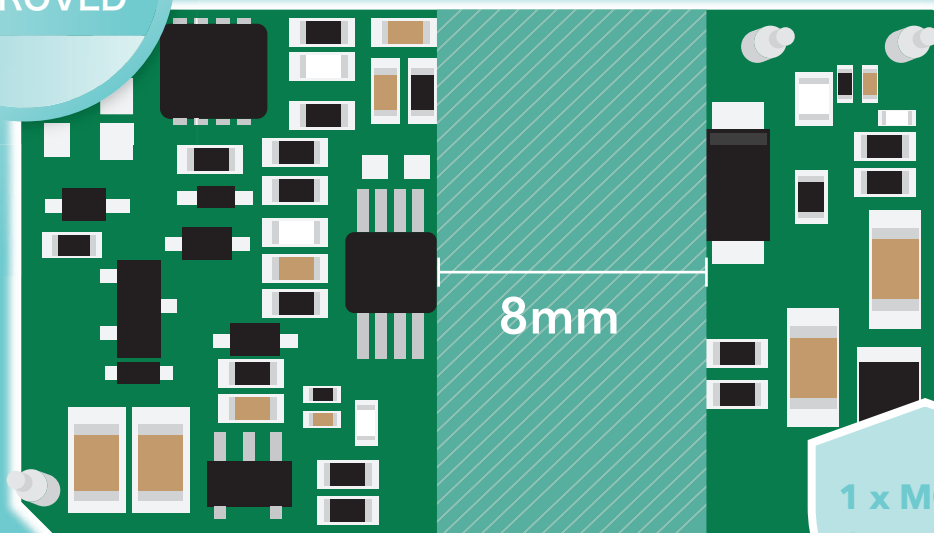
Mechanical Dimensions		Pin Connections	
		Pin	Function
		1	+Vin
	2	Remote On/Off	
	3	-Vin	
	4	-Vout	
	5	*-Sense	
	6	Trim	
	7	*+Sense	
	8	+Vout	

* If remote sense not used the +sense should be connected to +output and -sense should be connected to -output. Maximum output deviation is 10% inclusive of trim.

MEDICAL SAFETY

POWER SOLUTIONS

IEC 60601-1
APPROVED



1 x MOOP
2 x MOPP

MAU400 Series • 1W

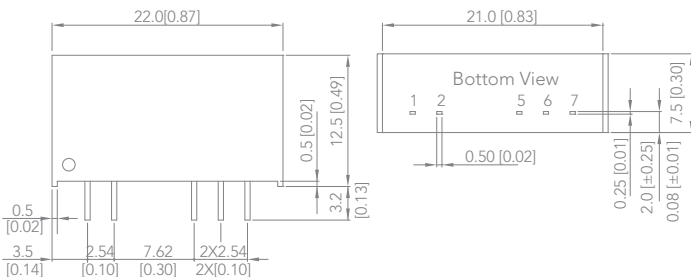


- Industrial Standard SIP-7 Package
- I/O Isolation 3000VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Operating Ambient Temp. Range -25°C to +85°C
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 1xMOPP & 2xMOOP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	8% - 10% max. (Depending on model)	MAU401		5	200	66%
Ripple & Noise (20MHz)	150mVp-p max.	MAU402		12	80	66%
Efficiency	Up to 75%	MAU403		15	65	66%
I/O Isolation Voltage	3000VAC min. (Reinforced Insulation)	MAU404	5 (4.5 – 5.5)	±5	±100	66%
I/O Isolation Capacitance	15pF typ.	MAU405		±12	±40	72%
Operating Ambient Temp. Range	-25°C to +85°C (See Derating Curve)	MAU406		±15	±35	73%
Short Circuit Protection	Short Term	MAU411		5	200	66%
Case Material	Plastic (UL94V-0 rated)	MAU412		12	80	66%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, 2xMOOP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CE Marking	MAU413		15	65	66%
*For full series datasheet, please refer to www.minmax.com.tw		MAU414	12 (10.8 – 13.2)	±5	±100	66%
		MAU415		±12	±40	74%
		MAU416		±15	±35	75%

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		2	-Vin	-Vin
		5	-Vout	-Vout
		6	No Pin	Common
		7	+Vout	+Vout



MAU01M Series • 1W



NEW

- Industrial Standard SIP-7 Package
- I/O Isolation 4000VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to 95°C
- Short Circuit Protection
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



▣ Specifications		▣ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% to 100% load change)	±10% max.	MAU01-05S05M		5	200	79%
Ripple & Noise (20MHz)	75mVp-p max.	MAU01-05S12M	5 (4.5 – 5.5)	12	84	80%
Efficiency	Up to 81%	MAU01-05S15M		15	68	81%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	MAU01-12S05M		5	200	79%
I/O Isolation Capacitance	20pF typ.	MAU01-12S12M	12 (10.8 – 13.2)	12	84	81%
I/O Leakage Current	2µA max.	MAU01-12S15M		15	68	79%
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MAU01-24S05M		5	200	76%
Short Circuit Protection	Continuous (Auto. Recovery)	MAU01-24S12M	24 (21.6 – 26.4)	12	84	79%
Case Material	Plastic (UL94V-0 rated)	MAU01-24S15M		15	68	79%
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw						

▣ Mechanical Dimensions		▣ Pin Connections	
		Pin	Function
		1	+Vin
		2	-Vin
		6	-Vout
		7	+Vout

MSCU01M Series • 1W



NEW

- Industrial Standard SMD Package
- I/O Isolation 4000VAC with Reinforced Insulation, rated for 250Vrms Working Voltage
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to 95°C
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- Short Circuit Protection
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



▶ Specifications		▶ Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 10% to 100% load change)	±10% max.	MSCU01-05S05M		5	200	76%
Ripple & Noise (20MHz)	100mVp-p max.	MSCU01-05S12M		12	84	80%
Efficiency	Up to 84%	MSCU01-05S15M	5 (4.5 – 5.5)	15	68	83%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	MSCU01-05D12M		±12	±42	80%
I/O Isolation Capacitance	20pF typ.	MSCU01-05D15M		±15	±33	84%
I/O Leakage Current	2µA max.	MSCU01-12S05M		5	200	76%
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MSCU01-12S12M		12	84	79%
Short Circuit Protection	Continuous (Auto. Recovery)	MSCU01-12S15M	12 (10.8 – 13.2)	15	68	80%
Case Material	Plastic (UL94V-0 rated)	MSCU01-12D12M		±12	±42	79%
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	MSCU01-12D15M		±15	±33	80%
*For full series datasheet, please refer to www.minmax.com.tw		MSCU01-24S05M		5	200	76%
		MSCU01-24S12M		12	84	80%
		MSCU01-24S15M	24 (21.6 – 26.4)	15	68	80%
		MSCU01-24D12M		±12	±42	80%
		MSCU01-24D15M		±15	±33	80%
*To order the converter for water-washable process, please add a suffix -W						

▶ Mechanical Dimensions		▶ Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		6	NC	Common
		7	NC	-Vout
		8	+Vout	+Vout
		9	-Vout	Common
		14	+Vin	+Vin
NC = No Connection				

MSHU100 Series • 2W



- Industrial Standard SMD Package
- I/O Isolation 4000VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -25°C to +80°C
- Water-washable Process Available (option)
- Qualified for Lead-free Reflow Solder Process According to IPC/JEDEC J-STD-020D.1
- Tape & Reel Package Available
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 1xMOPP & 2xMOOP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	10% - 12% max. (Depending on model)	MSHU102		5	400	66%
Ripple & Noise (20MHz)	150mVp-p max.	MSHU104		12	165	66%
Efficiency	Up to 75%	MSHU105	5 (4.5 – 5.5)	15	133	66%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	MSHU108		±12	±83	72%
I/O Isolation Capacitance	15pF typ.	MSHU109		±15	±66	73%
I/O Leakage Current	2µA max.	MSHU112		5	400	66%
Operating Ambient Temp. Range	-25°C to +80°C (See Derating Curve)	MSHU114		12	165	66%
Short Circuit Protection	Short Term	MSHU115	12 (10.8 – 13.2)	15	133	66%
Case Material	Plastic (UL94V-0 rated)	MSHU118		±12	±83	74%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, 2xMOOP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES60601-1, CE Marking	MSHU119		±15	±66	75%
*For full series datasheet, please refer to www.minmax.com.tw		MSHU122		5	400	66%
		MSHU124		12	165	66%
		MSHU125	24 (21.6 – 26.4)	15	133	66%
		MSHU128		±12	±83	74%
		MSHU129		±15	±66	75%
*To order the converter for water-washable process, please add a suffix -W.						

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	-Vin	-Vin
		7	NC	NC
		8	NC	Common
		9	+Vout	+Vout
		10	-Vout	-Vout
		16	+Vin	+Vin
NC = No Connection				

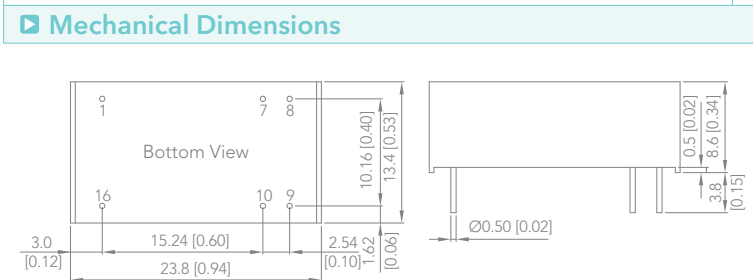
MDHU100 Series • 2W



- Industrial Standard DIP-16 Package
- I/O Isolation 4000VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Low I/O Leakage Current < 2μA
- Operating Ambient Temp. Range -25°C to +80°C
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 1xMOPP & 2xMOOP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Line Regulation (1% change Vin)	±1.2% typ.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Load Regulation (Io = 20% - 100% load change)	10% - 12% max. (Depending on model)	MDHU102		5	400	66%
Ripple & Noise (20MHz)	100mVp-p typ.	MDHU104		12	165	66%
Efficiency	Up to 75%	MDHU105	5 (4.5 – 5.5)	15	133	66%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	MDHU108		±12	±83	72%
I/O Isolation Capacitance	15pF typ.	MDHU109		±15	±66	73%
I/O Leakage Current	2μA max.	MDHU112		5	400	66%
Operating Ambient Temp. Range	-25°C to +80°C (See Derating Curve)	MDHU114		12	165	66%
Short Circuit Protection	Short Term	MDHU115	12 (10.8 – 13.2)	15	133	66%
Case Material	Plastic (UL94V-0 rated)	MDHU118		±12	±83	74%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, 2xMOOP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES60601-1, CE Marking	MDHU119		±15	±66	75%
*For full series datasheet, please refer to www.minmax.com.tw		MDHU122		5	400	66%
		MDHU124		12	165	66%
		MDHU125	24 (21.6 – 26.4)	15	133	66%
		MDHU128		±12	±83	74%
		MDHU129		±15	±66	75%



Pin Connections	
Pin	Single / Dual
1	Single: -Vin; Dual: -Vin
7	Single: NC; Dual: NC
8	Single: NC; Dual: Common
9	Single: +Vout; Dual: +Vout
10	Single: -Vout; Dual: -Vout
16	Single: +Vin; Dual: +Vin

NC = No Connection

MIHW2000 Series • 3W



- Industrial Standard DIP-24 Package
- Ultra-wide 4:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 4000VAC with Reinforced Insulation, rated for 1000Vrms Working Voltage
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to +85°C
- Under-voltage, Overload and Short Circuit Protection
- Conducted EMI EN 55011/22 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 1xMOPP & 2xMOOP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.3% typ.	MIHW2022		5	600	78%
Load Regulation	±0.5% typ.	MIHW2023	24	12	250	83%
Ripple & Noise (20MHz) 5V	75mVp-p typ.	MIHW2026	(9 – 40)	±12	±125	83%
others	100mVp-p typ.	MIHW2027		±15	±100	83%
Efficiency	Up to 83%	MIHW2032		5	600	78%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	MIHW2033	48	12	250	83%
I/O Isolation Capacitance	7pF typ.	MIHW2036	(18 – 80)	±12	±125	83%
I/O Leakage Current	2µA max.	MIHW2037		±15	±100	83%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)	MIHW2042		5	600	78%
Short Circuit Protection	Continuous (Auto. Recovery)	MIHW2043	110	12	250	83%
Case Material	Plastic (UL94V-0 rated)	MIHW2046	(36 – 160)	±12	±125	83%
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), CB-Report, 2xMOOP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES60601-1, CE Marking	MIHW2047		±15	±100	83%

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

MIW03M Series • 3.5W



NEW

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 5000VAC with Reinforced Insulation, rated for 250Vrms Working Voltage
- Creepage & Clearance Distance meet 8mm
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to 96°C
- No Min. Load Requirement
- Under-Voltage, Overload/Voltage and Short Circuit Protection
- Conducted EMI EN 55011 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



Specifications		Model Selection Guide				
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.	MIW03-05S05M		5	700	83%
Load Regulation	±0.5% max.	MIW03-05S058M		5.8	600	83%
Ripple & Noise (20MHz)	70mVp-p max.	MIW03-05S12M	5 (4.5 – 9)	12	290	84%
Efficiency	Up to 87%	MIW03-05S15M		15	235	84%
I/O Isolation Voltage	5000VAC min. (Reinforced Insulation)	MIW03-05D12M		±12	±145	84%
I/O Isolation Capacitance	40pF max.	MIW03-05D15M		±15	±115	84%
I/O Leakage Current	2µA max.	MIW03-12S05M	12 (9 – 18)	5	700	83%
Operating Ambient Temp. Range	-40°C to +96°C (See Derating Curve)	MIW03-12S12M		12	290	87%
Short Circuit Protection	Continuous (Auto. Recovery)	MIW03-12S15M		15	235	87%
Case Material	Plastic (UL94V-0 rated)	MIW03-12D12M		±12	±145	87%
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	MIW03-12D15M		±15	±115	87%
*For full series datasheet, please refer to www.minmax.com.tw		MIW03-24S05M	24 (18 – 36)	5	700	83%
		MIW03-24S12M		12	290	86%
		MIW03-24S15M		15	235	87%
		MIW03-24D12M		±12	±145	87%
		MIW03-24D15M	±15	±115	86%	
		MIW03-48S05M	48 (36 – 75)	5	700	83%
		MIW03-48S12M		12	290	86%
		MIW03-48S15M		15	235	85%
MIW03-48D12M	±12	±145		84%		
MIW03-48D15M	±15	±115	84%			

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

MIW06M Series • 6W



NEW

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 5000VAC with Reinforced Insulation, rated for 250Vrms Working Voltage
- Creepage & Clearance Distance meet 8mm
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to 95°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- Conducted EMI EN 55011 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



▣ Specifications		▣ Model Selection Guide						
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency		
Line Regulation	±0.5% max.							
Load Regulation Single	±0.5% max.	MIW06-12S05M	12 (9 – 18)	5	1200	84%		
Dual	±1.0% max.	MIW06-12S12M		12	500	87%		
Ripple & Noise (20MHz)	70mVp-p max.	MIW06-12S15M		15	400	86%		
Efficiency	Up to 89%	MIW06-12D12M	±12	±250	±200	87%		
I/O Isolation Voltage	5000VAC min. (Reinforced Insulation)	MIW06-12D15M					±15	
I/O Isolation Capacitance	40pF max.	MIW06-24S05M	24 (18 – 36)	5	1200	84%		
I/O Leakage Current	2µA max.	MIW06-24S12M		12	500	87%		
Operating Ambient Temp. Range	-40°C to +95°C (See Derating Curve)	MIW06-24S15M		15	400	87%		
Short Circuit Protection	Continuous (Auto. Recovery)	MIW06-24D12M	±12	±250	±200	86%		
Case Material	Plastic (UL94V-0 rated)	MIW06-24D15M					±15	
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	MIW06-48S05M	48 (36 – 75)	5	1200	84%		
		MIW06-48S12M		12	500	87%		
		MIW06-48S15M		15	400	89%		
		*For full series datasheet, please refer to www.minmax.com.tw		MIW06-48D12M	±12	±250	±200	87%
				MIW06-48D15M				

▣ Mechanical Dimensions		▣ Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

MIW10M Series • 10W



NEW

- Industrial Standard DIP-24 Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 5000VAC with Reinforced Insulation, rated for 250Vrms Working Voltage
- Creepage & Clearance Distance meet 8mm
- Low I/O Leakage Current < 2µA
- Operating Ambient Temp. Range -40°C to 90°C
- No Min. Load Requirement
- Under-voltage, Overload and Short Circuit Protection
- Conducted EMI EN 55011 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety meets 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



Specifications		Model Selection Guide					
Output Voltage Accuracy	±1.0% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency	
Line Regulation	±0.5% max.						
Load Regulation	Single	MIW10-12S033M	12 (9 – 18)	3.3	2700	81%	
	Dual	MIW10-12S05M		5	2000	84%	
Ripple & Noise (20MHz)	50mVp-p typ.	MIW10-12S051M		5.1	2000	84%	
Efficiency	Up to 88%	MIW10-12S12M		12	833	87%	
I/O Isolation Voltage	5000VAC min. (Reinforced Insulation)	MIW10-12S15M		15	666	88%	
I/O Isolation Capacitance	20pF max.	MIW10-12S24M		24	416	88%	
I/O Leakage Current	2µA max.	MIW10-12D12M		±12	±416	88%	
		MIW10-12D15M		±15	±333	87%	
Operating Ambient Temp. Range	-40°C to +90°C (See Derating Curve)	MIW10-24S033M			3.3	2700	81%
Short Circuit Protection	Continuous (Auto. Recovery)	MIW10-24S05M			5	2000	85%
Case Material	Plastic (UL 94V-0 rated)	MIW10-24S051M		5.1	2000	85%	
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-report, CE Marking	MIW10-24S12M	24	12	833	88%	
		MIW10-24S15M	(18 – 36)	15	666	88%	
		MIW10-24S24M		24	416	88%	
		MIW10-24D12M		±12	±416	88%	
		MIW10-24D15M		±15	±333	87%	
		MIW10-48S033M		3.3	2700	81%	
		MIW10-48S05M		5	2000	85%	
		MIW10-48S051M		5.1	2000	85%	
		MIW10-48S12M	48	12	833	88%	
		MIW10-48S15M	(36 – 75)	15	666	88%	
		MIW10-48S24M		24	416	87%	
		MIW10-48D12M		±12	±416	87%	
		MIW10-48D15M		±15	±333	87%	

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions		Pin Connections		
		Pin	Single	Dual
		1	+Vin	+Vin
		11	No Pin	Common
		12	-Vout	No Pin
		13	+Vout	-Vout
		15	No Pin	+Vout
		23	-Vin	-Vin
		24	-Vin	-Vin

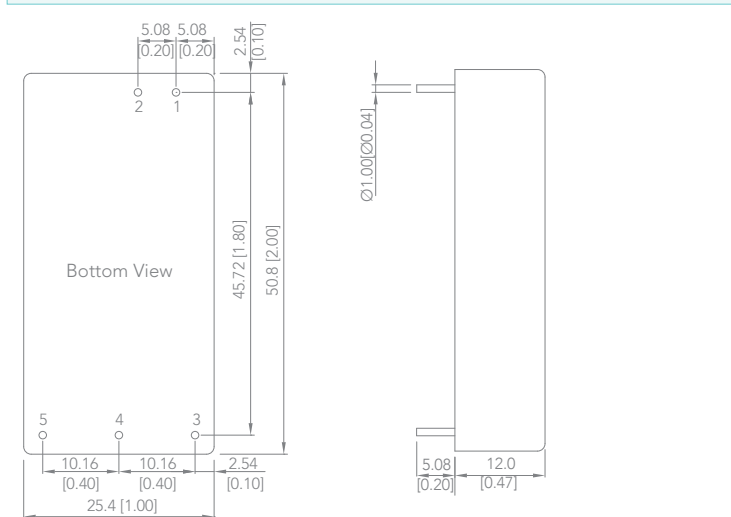
MKW15M Series • 15W



- Industrial Standard 2"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 4200VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Low I/O Leakage Current < 5µA
- Operating Ambient Temp. Range -40°C to +85°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



▣ Specifications			▣ Model Selection Guide				
Output Voltage Accuracy	±1.0% max.		Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
Line Regulation	±0.5% max.						
Load Regulation	Single	±0.5% max.	MKW15-12S05M MKW15-12S051M MKW15-12S12M MKW15-12S15M MKW15-12S24M MKW15-12D12M MKW15-12D15M	12 (9 – 18)	5	3000	86%
	Dual	±1.0% max.			5.1	3000	86%
Ripple & Noise (20MHz) 5V & 5.1V	50mVp-p typ.				12	1250	89%
	150mVp-p typ.				15	1000	88%
	100mVp-p typ.				24	625	88%
Efficiency	Up to 90%				±12	±625	88%
I/O Isolation Voltage	4200VAC min. (Reinforced Insulation)		±15	±500	89%		
I/O Isolation Capacitance	80pF max.		MKW15-24S05M MKW15-24S051M MKW15-24S12M MKW15-24S15M MKW15-24S24M MKW15-24D12M MKW15-24D15M	24 (18 – 36)	5	3000	88%
I/O Leakage Current	<5µA				5.1	3000	88%
Operating Ambient Temp. Range	-40°C to +85°C (See Derating Curve)				12	1250	89%
Short Circuit Protection	Continuous (Auto. Recovery)				15	1000	89%
Case Material	Plastic (UL94V-0 rated)				24	625	90%
Safety Approval	2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking				±12	±625	90%
			±15	±500	89%		
			MKW15-48S05M MKW15-48S051M MKW15-48S12M MKW15-48S15M MKW15-48S24M MKW15-48D12M MKW15-48D15M	48 (36 – 75)	5	3000	88%
					5.1	3000	88%
12	1250	88%					
15	1000	90%					
*For full series datasheet, please refer to www.minmax.com.tw			24	625	89%		
			±12	±625	89%		
			±15	±500	88%		



▣ Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

MKW20M Series • 20W



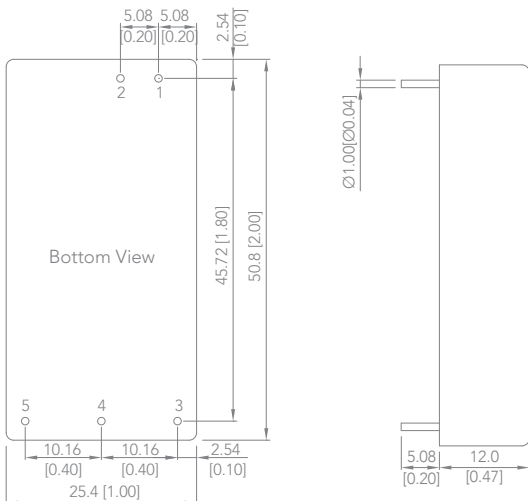
- Industrial Standard 2"×1" Package
- Wide 2:1 Input Voltage Range
- Fully Regulated Output Voltage
- I/O Isolation 4200VAC with Reinforced Insulation, rated for 300Vrms Working Voltage
- Low I/O Leakage Current < 5µA
- Operating Ambient Temp. Range -40°C to +80°C
- No Min. Load Requirement
- Under-voltage, Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011 Class A & FCC Level A Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 and EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved with CE Marking



Specifications			Model Selection Guide				
Output Voltage Accuracy		±1.0% max.					
Line Regulation		±0.5% max.					
Load Regulation	Single	±0.5% max.	Model Number	Input Voltage VDC	Output Voltage VDC	Output Current mA max	Efficiency
	Dual	±1.0% max.					
Ripple & Noise (20MHz)	5V & 5.1V	50mVp-p typ.	MKW20-12S05M MKW20-12S051M MKW20-12S12M MKW20-12S15M MKW20-12S24M MKW20-12D12M MKW20-12D15M	12 (9 – 18)	5	4000	86%
	24V	150mVp-p typ.			5.1	4000	86%
	Others	100mVp-p typ.			12	1670	89%
Efficiency		Up to 90%	MKW20-24S05M MKW20-24S051M MKW20-24S12M MKW20-24S15M MKW20-24S24M MKW20-24D12M MKW20-24D15M	24 (18 – 36)	15	1333	88%
I/O Isolation Voltage		4200VAC min. (Reinforced Insulation)			24	840	89%
I/O Isolation Capacitance		80pF max.			±12	±840	90%
I/O Leakage Current		<5µA	MKW20-48S05M MKW20-48S051M MKW20-48S12M MKW20-48S15M MKW20-48S24M MKW20-48D12M MKW20-48D15M	48 (36 – 75)	±15	±670	90%
Operating Ambient Temp. Range		-40°C to +80°C (See Derating Curve)			5	4000	88%
Short Circuit Protection		Continuous (Auto. Recovery)	5.1	4000	88%		
Case Material		Plastic (UL94V-0 rated)	12	1670	89%		
Safety Approval		2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	15	1333	90%		
			24	840	89%		
			±12	±840	89%		
			±15	±670	90%		

*For full series datasheet, please refer to www.minmax.com.tw

Mechanical Dimensions



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

AJM-24 Series • 24W

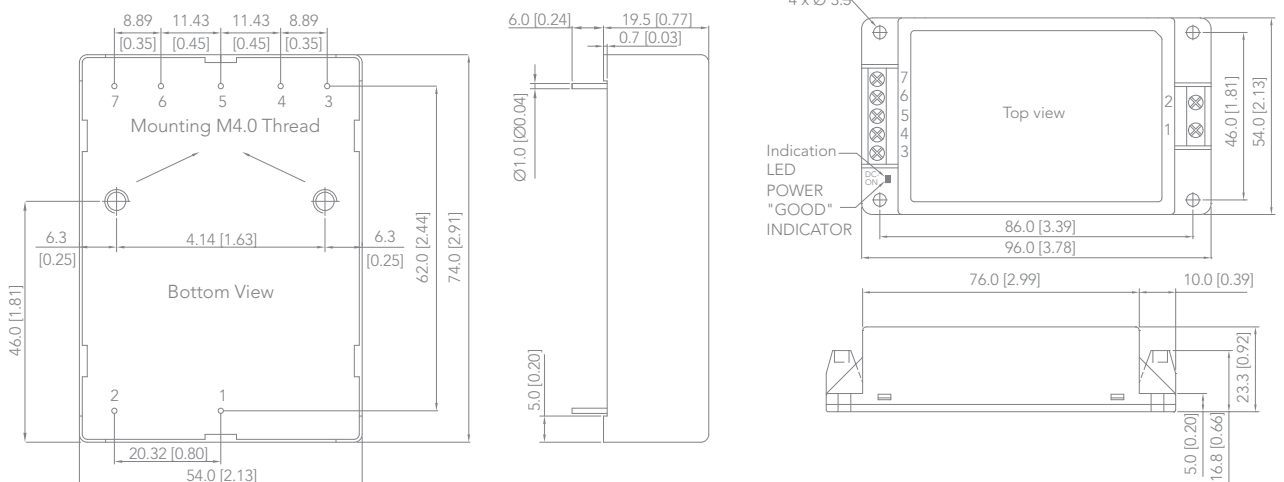


- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 4000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +80°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 & EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL 508 Safety Approval Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC) / 47-440Hz	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±2.0% typ.	AJM-24S05	85 – 264	5	3000	77%
Line Regulation	±0.5% typ.	AJM-24S09		9	2666	82%
Load Regulation	Single	AJM-24S12		12	2000	83%
	Dual	AJM-24S15		15	1600	82%
Ripple & Noise (20MHz) 5V		AJM-24S24		24	1000	85%
	others	AJM-24D12		±12	±1000	84%
Efficiency	Up to 85%	AJM-24D15		±15	±800	84%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	Pin Connections (PCB & Chassis)				
Operating Ambient Temp. Range	-40°C to +80°C (See Power Derating)	Pin	Single	Dual		
Overload Protection	>105% min., Hiccup (Auto. Recovery)	1	AC Neutral	AC Neutral		
Short Circuit Protection	Continuous (Auto. Recovery)	2	AC Line	AC Line		
Case Material	Plastic (UL94V-0 rated)	3	No Pin	No Pin		
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), UL 508, 2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	4	-Vout	-Vout		
		5	No Pin	Common		
		6	+Vout	+Vout		
		7	No Pin	No Pin		
*For full series datasheet, please refer to www.minmax.com.tw		No Pin = NC (No Connection) in Chassis Package				

Mechanical Dimensions



APM-40 Series • 40W

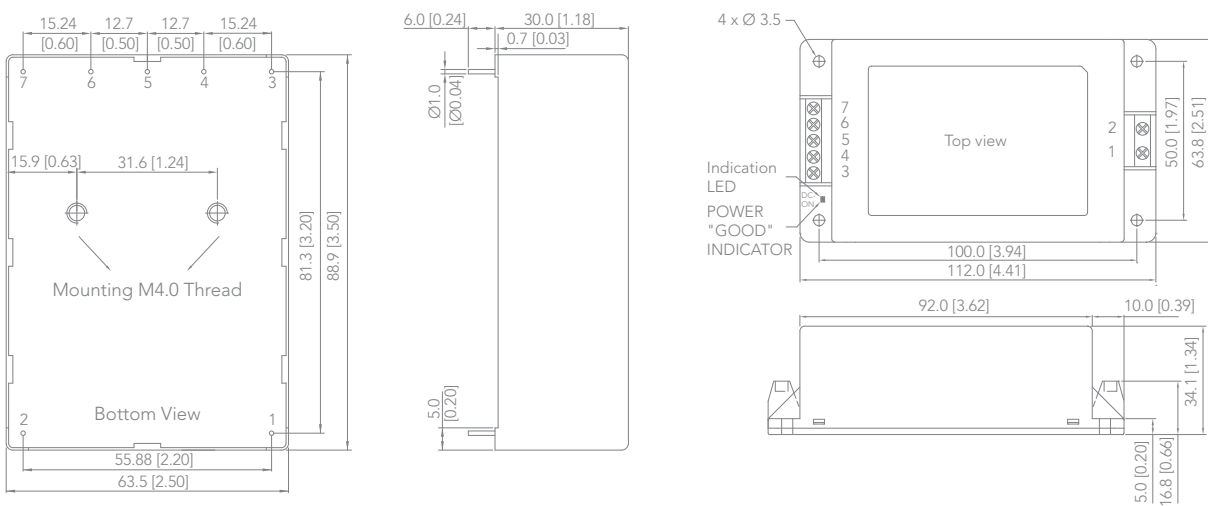


- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 4000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +80°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 & EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1 Approved
- UL 508 Safety Approval Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC) / 47-440Hz	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±2.0% typ.	APM-40S05	85 – 264	5	8000	81%
Line Regulation	±0.5% typ.	APM-40S12		12	3330	84%
Load Regulation	Single ±1.0% typ.	APM-40S15		15	2660	85%
	Dual ±2.0% typ.	APM-40S24		24	1660	84%
Ripple & Noise (20MHz) 5V	1.5%Vp-p of Vo typ.	APM-40D12		±12	±1660	84%
	others 1.0%Vp-p of Vo typ.	APM-40D15		±15	±1330	85%
Efficiency	Up to 85%					
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)					
Operating Ambient Temp. Range	-40°C to +80°C (See Power Derating)					
Overload Protection	>105% min., Hiccup (Auto. Recovery)					
Short Circuit Protection	Continuous (Auto. Recovery)					
Case Material	Plastic (UL94V-0 rated)					
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), UL 508, 2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking					
*For full series datasheet, please refer to www.minmax.com.tw		No Pin = NC (No Connection) in Chassis Package				

Mechanical Dimensions



AYM-60 Series • 60W

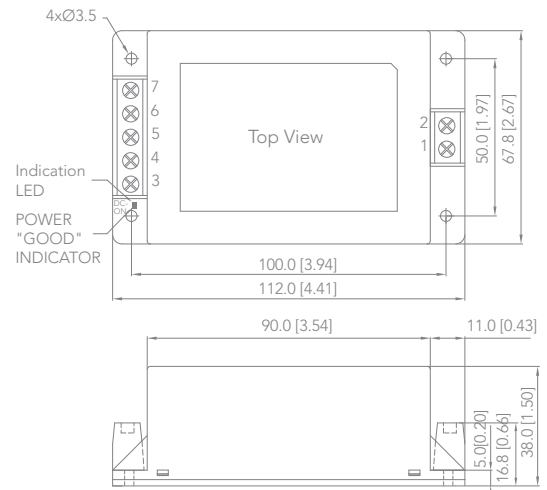
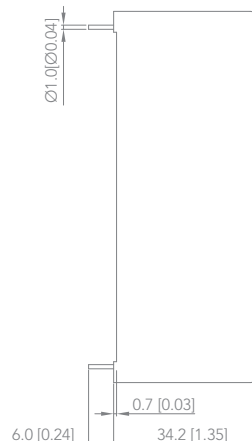
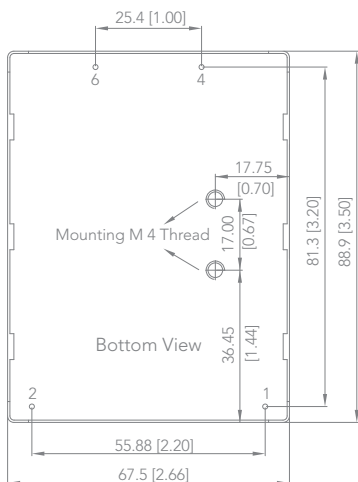


- Fully Encapsulated Plastic Case for PCB, Chassis and DIN-Rail Mounting Version
- Universal Input 85-264VAC, 47-440Hz
- Protection Class II as per IEC/EN 60536
- I/O Isolation 4000VAC with Reinforced Insulation
- Operating Ambient Temp. Range -40°C to +80°C
- Overload/Voltage and Short Circuit Protection
- EMI Emission EN 55011/32 Class B & FCC Level B Approved
- EMC Immunity EN 61000-4-2,3,4,5,6,8,11 Approved
- Medical EMC Standard with 4th Edition of EMI EN 55011 & EMS EN 60601-1-2 Approved
- Medical Safety with 2xMOPP per 3rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES60601-1 Approved
- UL 508 Safety Approval Specifically for Industrial Application
- UL/cUL/IEC/EN 62368-1(60950-1) Safety Approval & CE Marking



Specifications		Model Selection Guide				
Input Voltage Range	85-264VAC (120-370VDC) / 47-440Hz	Model Number	Input Voltage VAC	Output Voltage VDC	Output Current mA max	Efficiency
Output Voltage Accuracy	±1.0% typ.	AYM-60S051	85 – 264	5.1	10000	84%
Line Regulation	±0.2% typ.	AYM-60S12		12	5000	87%
Load Regulation	±0.5% typ.	AYM-60S15		15	4000	87%
Ripple & Noise (20MHz) 5.1V others	2.0%Vp-p of Vo typ. 1.0%Vp-p of Vo typ.	AYM-60S24		24	2500	87%
Efficiency	Up to 88%	AYM-60S48		48	1250	88%
I/O Isolation Voltage	4000VAC min. (Reinforced Insulation)	Pin Connections (PCB & Chassis)				
Operating Ambient Temp. Range	-40°C to +80°C (See Power Derating)	Pin	PCB	Chassis		
Overload Protection	>105% min., Hiccup (Auto. Recovery)	1	AC Neutral	AC Neutral		
Short Circuit Protection	Continuous (Auto. Recovery)	2	AC Line	AC Line		
Case Material	Plastic (UL94V-0 rated)	3	-	NC		
Safety Approval	UL/cUL/IEC/EN 62368-1(60950-1), UL 508, 2xMOPP per 3 rd Edition of IEC/EN 60601-1 & ANSI/AAMI ES 60601-1, CB-Report, CE Marking	4	+Vout	+Vout		
		5	-	NC		
		6	-Vout	-Vout		
		7	-	NC		
*For full series datasheet, please refer to www.minmax.com.tw		NC = No Connection				

Mechanical Dimensions



MINMAX POWER SOLUTIONS 1-150W



GENERAL INDUSTRIAL POWER SOLUTIONS

Our general industrial DC-DC converters are used in every corner of modern equipment & systems about everywhere.

We offer different electrical specifications and create competitive advantage performance to meet your critical design.

DC-DC CONVERTERS

- 1-5W** | SIP Package
- 1-12W** | DIP Package
- 40-50W** | 2"×1" Package
- 0.5-1A** | Switching Regulators
- 1-6W** | SMD Package
- 10-30W** | 1"×1" Package
- 6-60W** | Chassis & DIN-Rail Mounting

AC-DC POWER SUPPLIES

- 3-60W** | Encapsulated Package



ULTRA-HIGH ISOLATION POWER SOLUTIONS

Ultra-high isolation family equipped with very high common mode transient immunity with 15KV/μs qualifies and I/O isolation 4000 to 5000VAC with reinforced insulation, rated for 1000Vrms working voltage.

DC-DC CONVERTERS

- 1-2W** | SIP Package
- 2-10W** | DIP Package
- 15-20W** | 2"×1" Package
- 6-60W** | Chassis & DIN-Rail Mounting



RAILWAY CERTIFIED POWER SOLUTIONS

Our railway certified DC-DC converters are designed for stringent requirements and harsh environment. The products family are I/O isolation 3000 VAC with reinforced insulation. Furthermore, all railway products comply with EN 50155 certified and fire protection EN 45545-2 approval.

DC-DC CONVERTERS

- 3W** | DIP Package
- 10-40W** | 2"×1" Package
- 50-150W** | Quarter Brick



MEDICAL SAFETY POWER SOLUTIONS

The medical grade DC-DC converters & AC-DC Power Supplies for demanding applications in both medical and healthcare instrumentations. All medical products are approved to latest medical safety standards: ANSI/AAMI ES 60601-1, IEC/EN 60601-1 3rd edition with 2xMOPP/2xMOOP.

DC-DC CONVERTERS

- 1W** | SIP Package
- 1-2W** | SMD Package
- 2-10W** | DIP Package
- 15-20W** | 2"×1" Package

AC-DC POWER SUPPLIES

- 24-60W** | Encapsulated Package

for more info., please go to
www.minmax.com.tw



MINMAX TECHNOLOGY CO., LTD.

No.18, Sin Sin Rd., An-Ping Industrial Dist.,
Tainan 702 Taiwan

T: +886-6-2923150

F: +886-6-2923149

sales@minmax.com.tw