

PNP General Purpose Transistors

BC856AL/BL

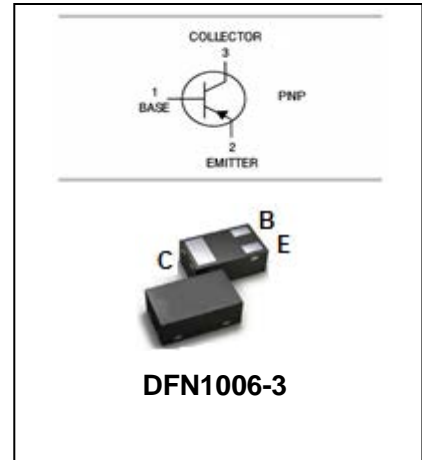
FEATURES

- Low current.
- Low voltage.



APPLICATIONS

- General purpose switching and amplification.



ORDERING INFORMATION

Type No.	Marking	Package Code
BC856AL/BL	3A/3B	DFN1006-3

Note for □: none is for Lead-free package

“G” is for Halogen-free package

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-65	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-100	mA
P_C (Note 1)	Collector Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	500	°C/W
T_J, T_{STG}	Junction and Storage Temperature	-65 to +150	°C

Note: 1. Device mounted on an FR4 PCB with 60 μ m copper strip line, standard footprint..

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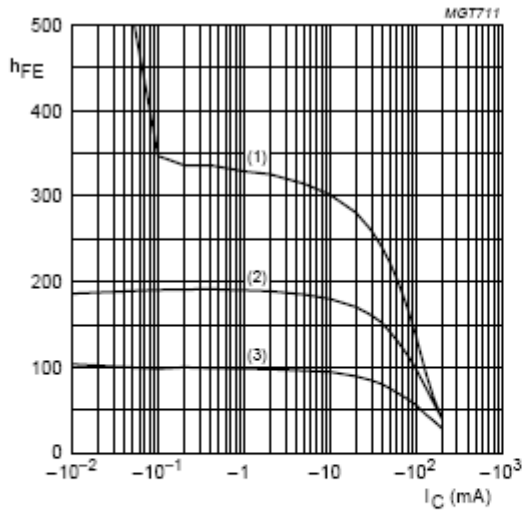
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-80	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-65	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1\mu A, I_C = 0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -30V, I_E = 0$	-	-	-15	nA
emitter-base cut-off current	I_{EBO}	$V_{EB} = -5V; I_C = 0A$	-	-	-100	nA
DC current gain	BC856AL BC856BL h_{FE}	$V_{CE} = -5V, I_C = -2mA$	125 220	-	250 475	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5mA$	-	-	-300 -650	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5mA$	-	-0.7 -0.85	-	V
Base-emitter voltage	$V_{BE(on)}$	$I_C = -2mA, V_{CE} = -5V$ $I_C = -10mA, V_{CE} = -5V$	-0.6 -	-0.65 -	-0.75 -0.82	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -10mA$ $f = 100MHz$	100	-	-	MHz
collector capacitance	C_C	$V_{CB} = -10V, I_E = I_C = 0$ $f = 1MHz$	-	4.5	-	pF
Noise figure	NF	$I_C = -200\mu A, V_{CE} = -5V,$ $R_S = 2k\Omega, f = 1kHz,$ $B = 200Hz$	-	2	10	dB

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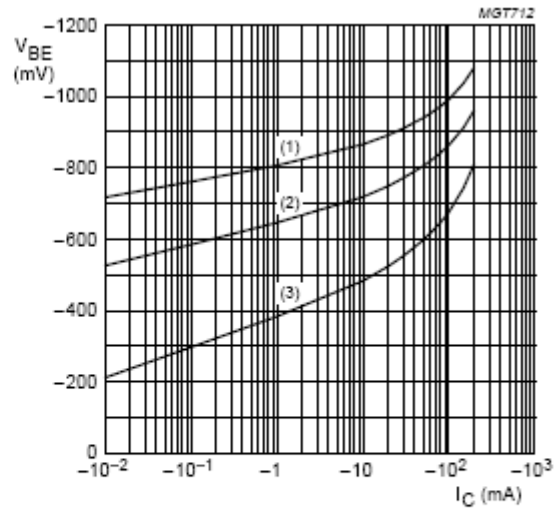
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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



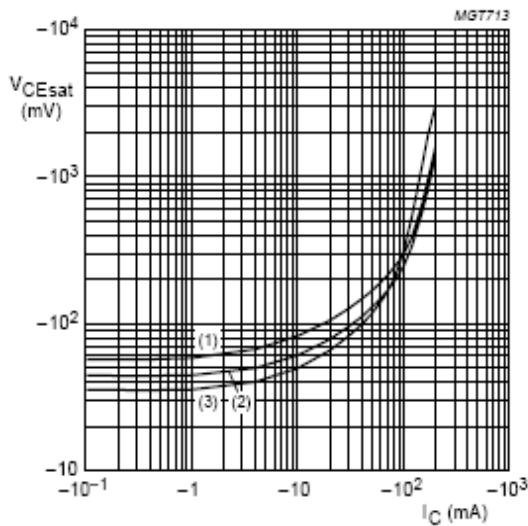
$V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = 150^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = -55^\circ\text{C}$.

Fig.2 DC current gain; typical values.



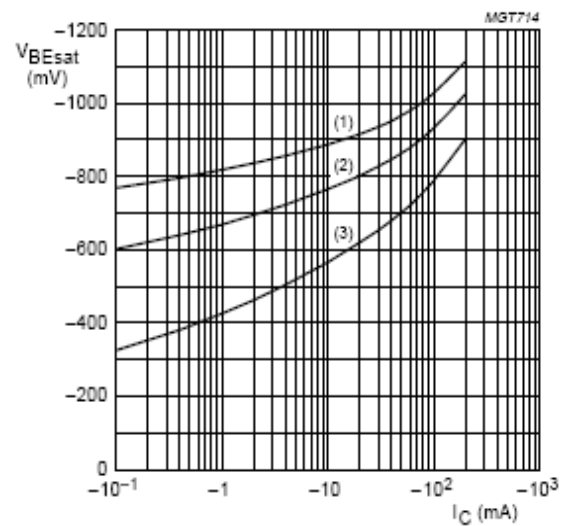
$V_{CE} = -5\text{ V}$.
 (1) $T_{amb} = -55^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = 150^\circ\text{C}$.

Fig.3 Base-emitter voltage as a function of collector current; typical values.



$I_C/I_B = 20$.
 (1) $T_{amb} = 150^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = -55^\circ\text{C}$.

Fig.4 Collector-emitter saturation voltage as a function of collector current; typical values.



$I_C/I_B = 20$.
 (1) $T_{amb} = -55^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = 150^\circ\text{C}$.

Fig.5 Base-emitter saturation voltage as a function of collector current; typical values.

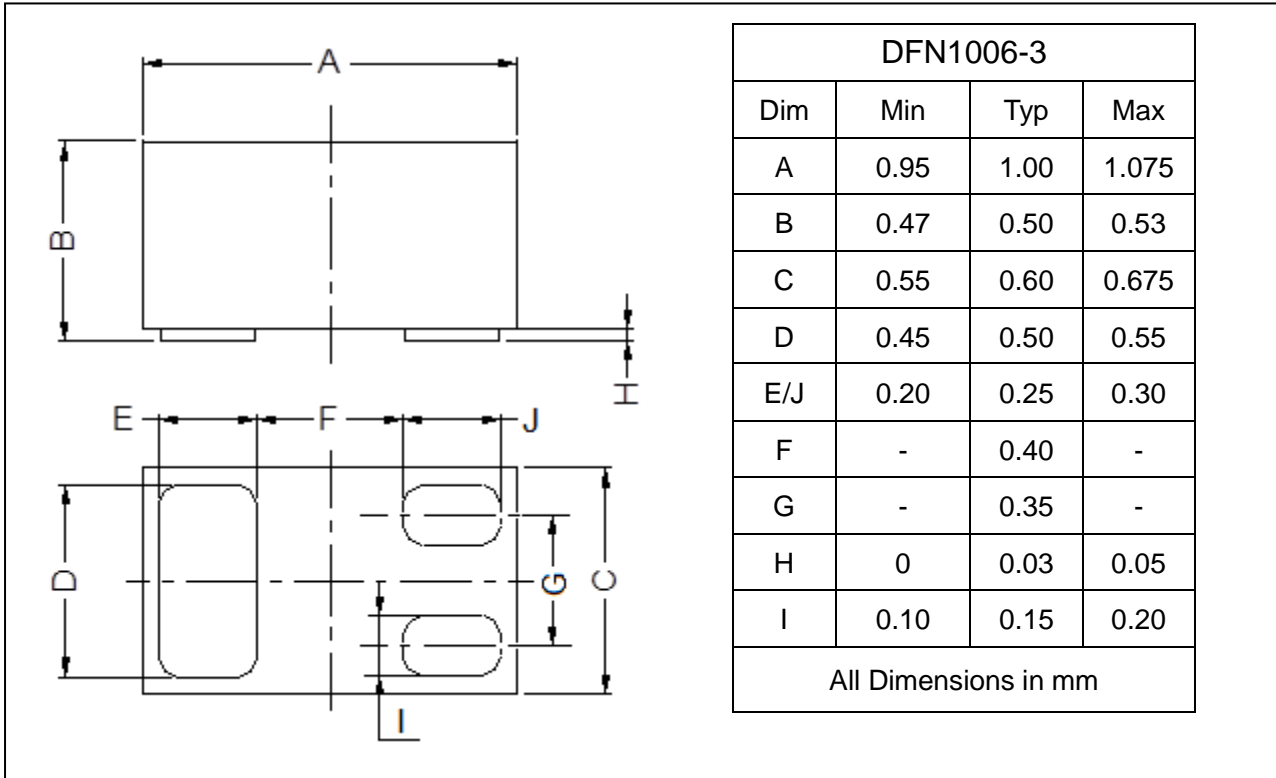
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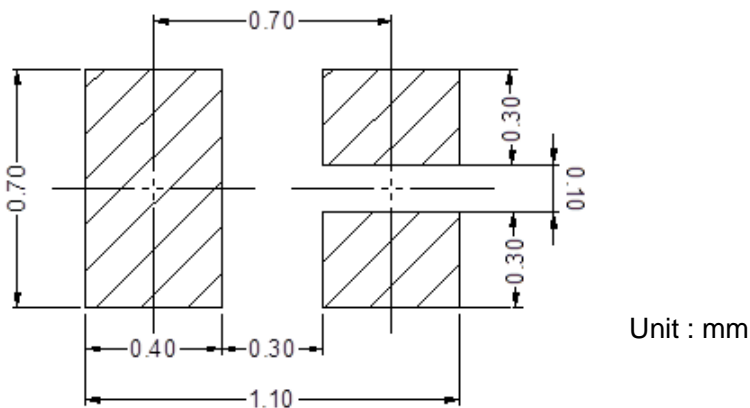
PACKAGE OUTLINE

Plastic surface mounted package

DFN1006-3



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BC856AL/BL	DFN1006-3	10000/Tape&Reel