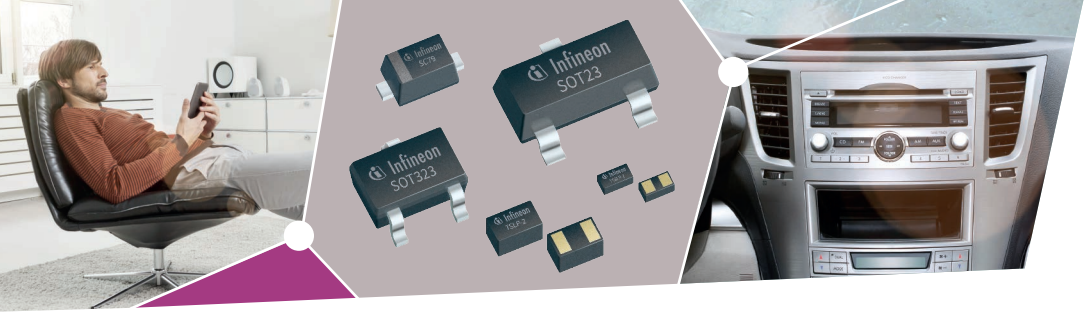


Product Brief

RF PIN diodes

Maximized RF performance at reduced form factor

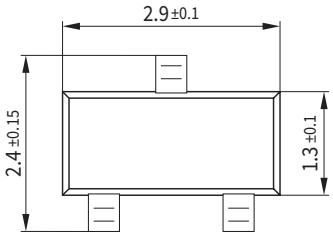
Operating up to 6 GHz with high-voltage handling capabilities, Infineon PIN diodes come with low loss and low distortion level ensuring high quality and performance in a wide range of mobile communications and RF applications.

Thanks to their low forward resistance, diode capacitance and series inductance, this broad and compelling portfolio simplifies and shortens design-in cycles allowing engineers to meet with stringent time to market (TTM) requirements.

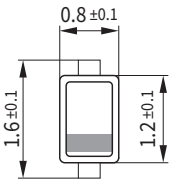
Infineon PIN diodes are supplied in a wide range of highly compact package options including miniaturized TSSLP (SMD size 0201). They provide with significant board space savings and support designers to create smaller, lighter and more compact end-products.

All RF PIN diodes are qualified according to AEC-Q101 and recommended to be designed in automotive applications.

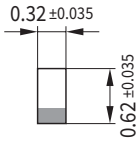
Customer benefits – space saving



SOT23



SC79



TSSLP-2-1, -2

- Small form factor: 70% of package profile increases design flexibility
- 90% reduction of parasitics
- Improved RF performance

Target applications

- In TDD wireless systems e.g. mobile communication, cordless phones, walkie-talkie and Bluetooth™ and WiFi access points as transmit/receive switching
- In car radios and base stations as RF attenuator

Key features

- Low insertion loss (low r_f)
- High isolation (low capacitance C_t)
- Low power consumption (low I_F)
- Low level of high-frequency distortion
- Broad product portfolio
- Package miniaturization

Technical benefits

- Single and dual configuration
- High linearity
- Fast switching time for Tx/Rx antenna switches
- Low insertion loss and low dissipated power in Tx/Rx antenna switches
- Enhanced overall RF performance

Customer benefits

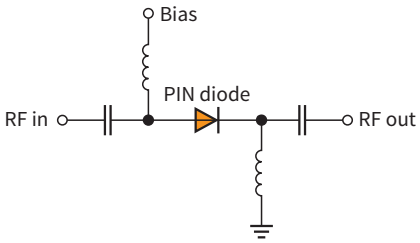
- Flexibility in circuit design with focus on required parameters
- Easy adjustable to different applications and frequencies

www.infineon.com/rfdiodes

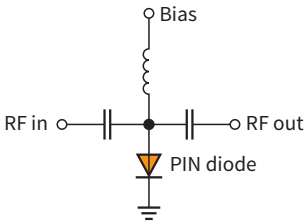
RF PIN diodes

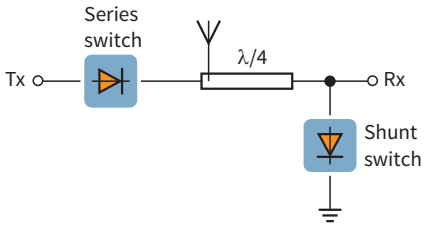
Application examples: Tx/Rx antenna switching using PIN diodes

Series switch (SPST)



Shunt switch (SPST)





PIN diodes – product portfolio

C_T series [pF]	Product type		C_T at 1 V [pF]	R_f at 10 mA [Ω]	τ_{rr}	Package
> 50 pF	BA592		0.92	0.36	120.00 ns	SOD323
< 50 pF	BAR14-1/15-1/16-1	D	0.50	7.00	1.00 µs	SOT23
	BAR61		0.50	7.00	1.00 µs	SOT143
	BAR64-03W, -02V		0.45	2.10	1.55 µs	SOD323, SC79
	BAR64-02EL		0.45	2.10	1.55 µs	TSLP-2
	BAR64-04/05/06/*07	D	0.45	2.20	1.55 µs	SOT23, *SOT143
	BAR64-04W/05W/06W	D	0.45	2.30	1.55 µs	SOT323
	BAR65-03W, -02V		0.45	0.60	80.00 ns	SOD323, SC79
	BAR66		0.45	1.00	700.00 ns	SOT23
	BAR67-02V		0.40	1.00	700.00 ns	SC79
	BAR67-04	D	0.40	1.00	700.00 ns	SOT23
	BA885, BA595		0.35	4.50	1.60 µs	SOT23, SOD323
	BA895-02V		0.35	4.50	1.60 µs	SC79
	BAR88-02V		0.30	0.60	0.50 µs	SC79
	BAR88-02LRH[1)]		0.30	0.60	0.50 ms	TSLP-2-RH
≤ 25 pF	BAR89-02LRH[1)]		0.25	0.80	0.80 µs	TSLP-2-RH
	BAR90-02EL, -02ELS		0.25	0.80	0.75 µs	TSLP-2, TSSLP-2
	BAR90-02LRH[1)]		0.25	0.80	0.75 µs	TSLP-2-RH
	BAR90-081LS	Q	0.25	0.80	0.75 µs	TSSLP-8
	BAT18-04,-05	D	0.75	0.40	120.00 ns	SOT23
	BAR50-03W, -02V		0.24	3.00	1.10 µs	SOD323, SC79
	BAR50-02L		0.24	3.00	1.10 µs	TSLP-2
	BAR63-03W, -02V		0.23	1.00	75.00 ns	SOD323, SC79
	BAR63-02L		0.23	1.00	75.00 ns	TSLP-2
	BAR63-04/05/06	D	0.23	1.00	75.00 ns	SOT23
	BAR63-04W/05W/06W	D	0.23	1.00	75.00 ns	SOT323

1) Not recommended for new designs D = Double configuration Q = Quad configuration

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