



## Product Brief

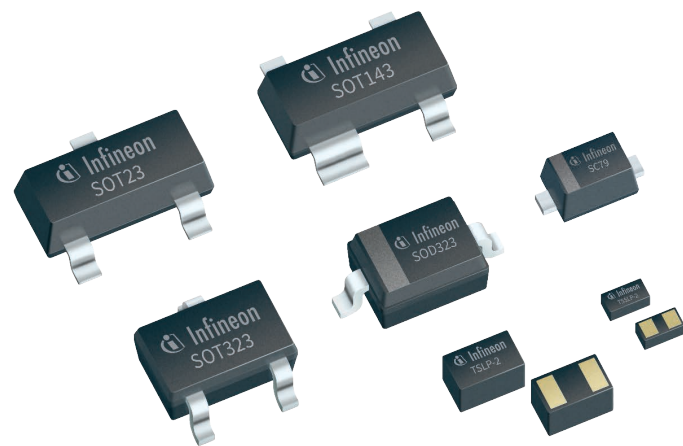
# RF Schottky diodes

As high frequency detectors, mixer and power detector

Infineon RF Schottky diodes are silicon low barrier N-type devices and, unlike other solutions available in the market, they come with various junction diode configurations (e. g. common anode, common cathode) and can be used in sensitive power detectors, in sampling or in mixer circuits.

Their low barrier height and very small forward voltage, along with low junction capacitance, make this series of devices an excellent choice for power detection and mixer functions at frequencies as high as 24 GHz.

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



### Target applications

- > Power detection in wireless LAN and WiFi routers
- > Power detection in mobile devices
- > Power detection in wireless applications in ISM bands
- > Mixer in 24GHz passive radar system
- > Mixer in C- and Ku- band LNB receiver

### Key features

- > Low leakage current (low forward resistance)
- > Low signal distortion level
- > High efficiency/low loss
- > Low power consumption
- > Guard-ring protection on chip

### Technical benefits

- > Fast switching
- > Tailored for low/medium power detection circuits
- > Higher linearity and power handling capability compared to integrated mixers

### Customer benefits

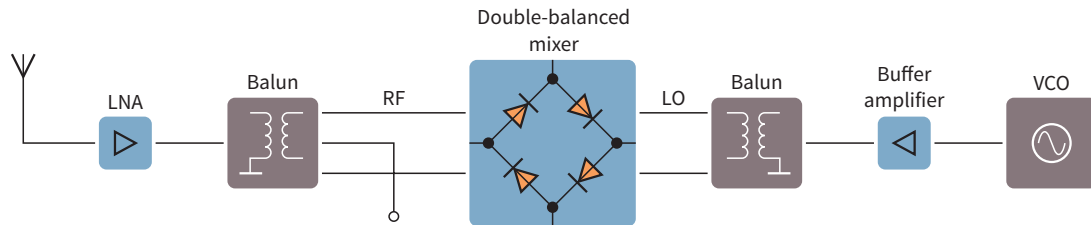
- > Flexibility in circuit design with focus on required parameters
- > Easy adaptability to different applications and frequencies
- > Easy detector/mixer design due to wide linear dynamic range



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Application example: Schottky diode as double-balanced mixer for 24GHz passive radar



## Schottky diodes – product portfolio

Product type	$V_R$ (max) [V]	$I_F$ (max) [mA]	$C_T$ [pF]	$V_F$ at 1 mA [mV]	Package
BAT15-02EL/-02ELS	4	110	0.26	230	TSLP-2/TSSLP-2
BAT15-03W	4	110	0.26	230	SOD323
BAT15-04W	D 4	110	0.26	230	SOT323
BAT15-05W	D 4	110	0.26	230	SOT323
BAT15-04R	D 4	110	0.26	230	SOT23
BAT15-099/-099LRH <sup>1)</sup>	D 4	110	0.26	230	SOT143/TSLP-4
BAT15-099R	Q 4	110	0.38	230	SOT143
BAT17	4	130	0.55	340	SOT23
BAT17-04/W	D 4	130	0.55	340	SOT23/SOT323
BAT17-05	D 4	130	0.55	340	SOT23
BAT17-05W	D 4	130	0.55	340	SOT323
BAT17-06W	D 4	130	0.55	340	SOT323
BAT17-07	D 4	130	0.75	340	SOT143
BAT24-02LS	4	110	0.21	230	TSSLP-2ww
BAT62	40	20	0.35	440	SOT143
BAT62-02L/-02LS	40	120	0.35	440	TSLP-2/TSSLP-2
BAT62-02V/-03W	40	20	0.35	440	SC79/SOD323
BAT62-07L4	D 40	20	0.35	440	TSLP-4
BAT62-07W	D 40	20	0.35	440	SOT343
BAT63-02V	3	100	0.65	190	SC79
BAT63-07W	D 3	100	0.65	190	SOT343
BAT68	8	130	0.75	318	SOT23
BAT68-04/W	D 8	130	0.75	318	SOT23/SOT323
BAT68-06/W	D 8	130	0.75	318	SOT23/SOT323

1) Not recommended for new designs

D = Double configuration

Q = Quad configuration

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