

Silicon Schottky Diode

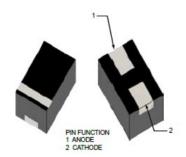
Rev. V1

Features

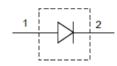
- Small Footprint, only 50 x 30 mils.
- Simplest Broadband Detector as no DC bias Required
- Very Low Barrier Height, Good Sensitivity,
 -54 dBm. also Low Flick Noise
- Very Low Parasitic Package Inductance and Low Package Capacitance
- RoHS* Compliant



The SMS202 is a silicon Schottky diode in a molded plastic DFN package. It is designed for a broadband zero bias detector. It has a high cutoff frequency and can be used up to 18 GHz and power detection up to 10 dBm.



Case 0503 - Molded Plastic DFN Package



Electrical Specifications: $T_A = +25$ °C

Parameter	Test Conditions	Units	Min.	Тур.	Max.
Breakdown Voltage (V _B)	I _R = 100 μA	V	1	_	1
Forward Voltage (V _F)	I _F = 100 μA	mV	60	80	120
Total Capacitance (C _T)	V _R = 0 V, 1 MHz	pF	_	0.17	0.20
Video Resistance (R _V)	Zero Bias	Ω	2000	4000	8000
Tangential Signal Sensitivity (T _{SS})	NF -3 dB, 10 GHz	dBm	_	-54	_
Voltage Sensitivity (y)	P _{IN} = -30 dBm, Video BW = 500 KHz, 10 GHz	mV/mW	_	8000	

Absolute Maximum Ratings

Parameter	Absolute Maximum		
Reverse DC Voltage	1 V		
Forward Current	20 mA		
Dissipated Power	100 mW (de-rated to 0 @ +150°C)		
Junction Temperature	+175°C		
Storage Temperature	-65°C to +150°C		
Solder Temperature	+260°C per JEDEC J-STD-20C		

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these (HBM) Class 0 devices.

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^{*} Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

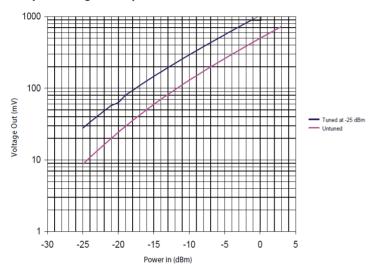


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Typical Dynamic Transfer Characteristics: $R_L = 10 \text{ m}\Omega$, $F_O = 10 \text{ GHz}$

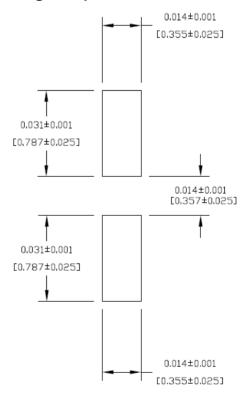
Output Voltage vs. Input Power



Lead-Free 0503 Plastic DFN Package

0.030±0.003 [0.762±0.076] 0.018±0.003 [0,458±0,076] 0.014±0.002 0.050±0.003 [1.270±0.076] [0.355±0.051] 0.018±0.003 [0.457±0.076] 0.014±0.003 [0.355±0.076] 0.031±0.003 [0.787±0.076] 0.008±0.002 0.013±0.003 [0.203±0.051] [0,331±0,076]

Soldering Footprint



2

SMS202



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