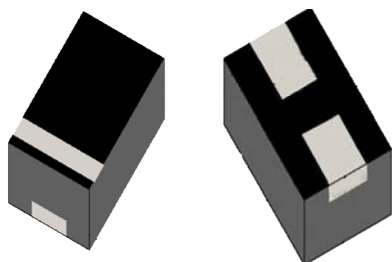


MSWSE-005-10S

Silicon PIN Diode Switch Element



(0402)
Molded Plastic DFN Package



Description

The MSWSE-005-10S is a PIN diode SPST switch element designed for medium incident power applications up to 5 W C.W. It has low insertion loss and medium isolation below 6.0 GHz.

Features

- Small Size (40 mils X 25 mils)
- Broadband performance up to 6.0 GHz
- Supports up to 5 watts power
- Low insertion loss 0.3 dB typical up to 6.0 GHz
- Cost effective choice for switch applications

Maximum Ratings

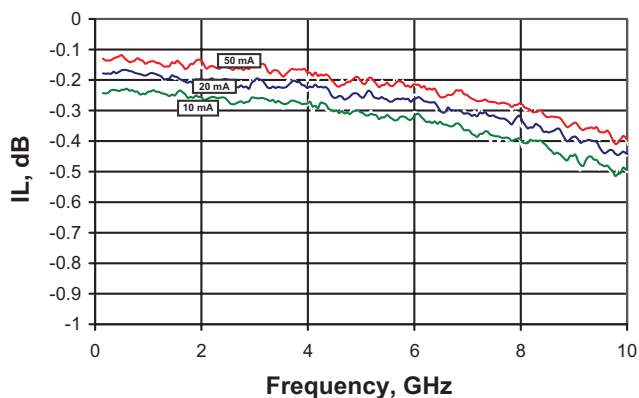
RATING	LIMITS	UNITS
V_R	200	V
I_F	200	mA
θ_{JC}	50	°C / W
T_J	+175	°C
T_{STG}	-55 to +150	°C
T_{SOLDER}	+260 °C per JEDEC STD-J-20C	

Electrical Characteristics, $T_C = +25\text{ °C}$

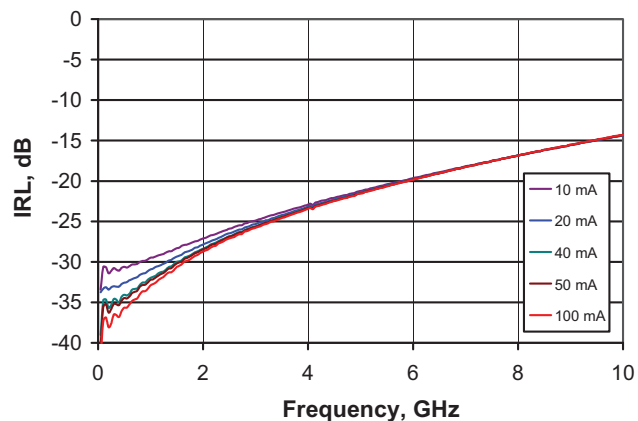
SYMBOL	TEST CONDITIONS			MIN	TYPICAL	MAX	UNITS
V_{BR}	$I_R = 10\text{ }\mu\text{A}$			200	–	–	V
V_F	$I_F = 50\text{ mA}$			–	980	1050	mV
C_j	$V_R = -50\text{ V}$	$F = 1\text{ MHz}$		–	0.035	.05	pF
C_T	$V_R = -50\text{ V}$	$F = 1\text{ MHz}$		–	0.08	0.12	pF
R_s	$I_F = 30\text{ mA}$	$F = 500\text{ MHz}$		–	2.0	2.5	Ω
	$I_F = 100\text{ mA}$	$F = 500\text{ MHz}$		–	1.4	1.8	
τ	$I_F = 10\text{ mA}$	$I_R = 6\text{ mA}$	measured at 50%	–	180	300	nsec
I_L	$I_F = 50\text{ mA}$	$F < 2.7\text{ GHz}$		–	0.25	0.4	dB
		$F < 6.0\text{ GHz}$		–	0.5	–	dB
I_{so}	$V_R = 50\text{ V}$	$F < 2.7\text{ GHz}$		13	16	–	dB
		$F < 6.0\text{ GHz}$		–	10	–	dB
IRL	$I_F = 50\text{ mA}$	$F < 6.0\text{ GHz}$		16	20	–	dB



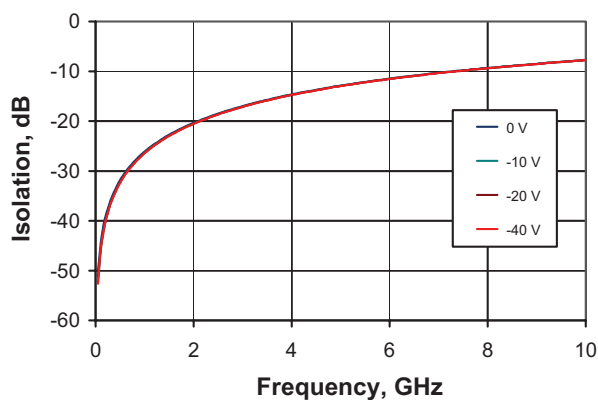
Insertion Loss



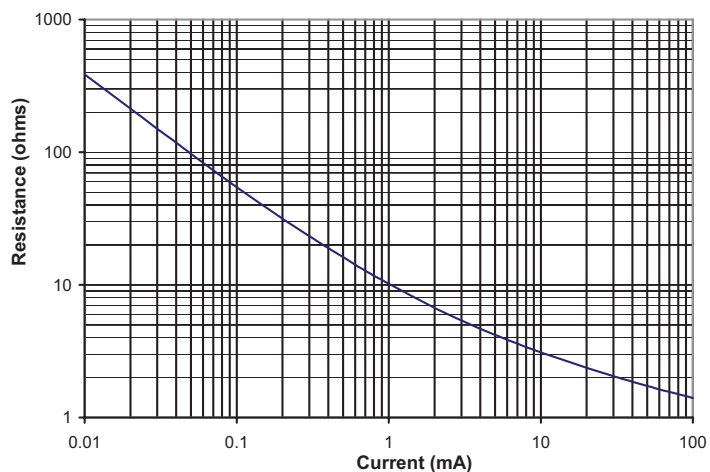
Input Return Loss



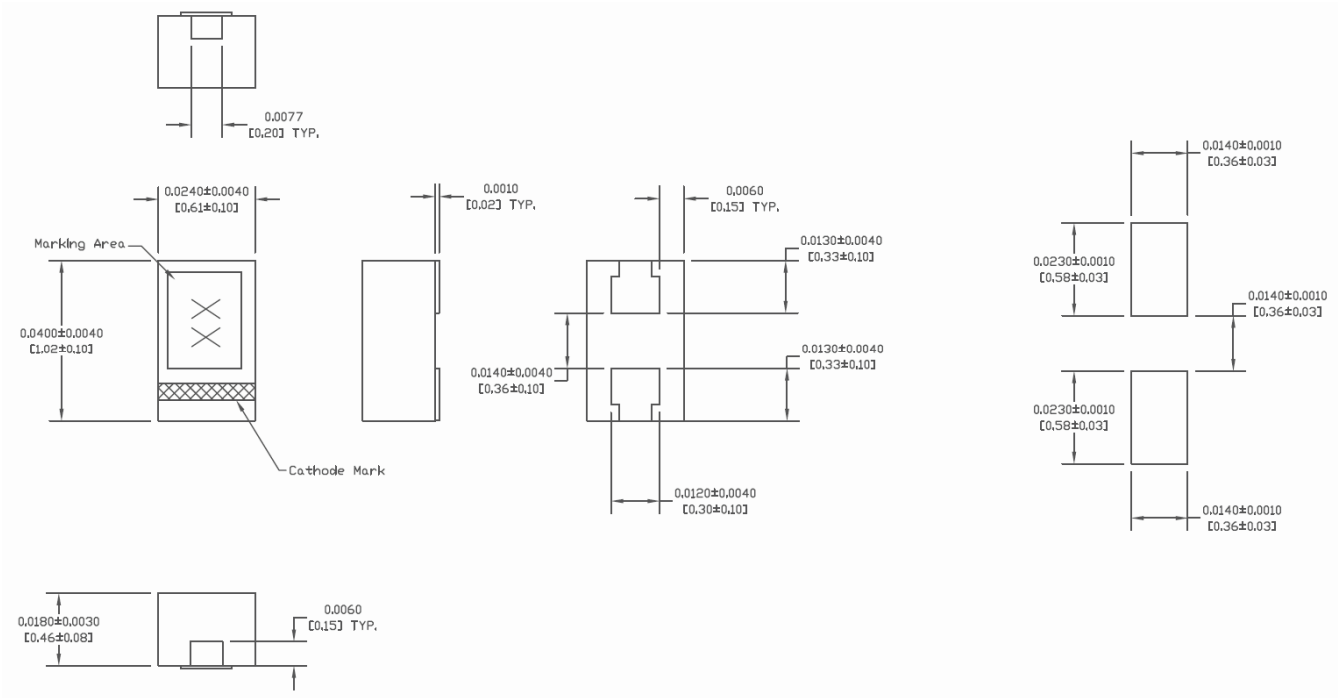
Isolation



Series Resistance vs. Current

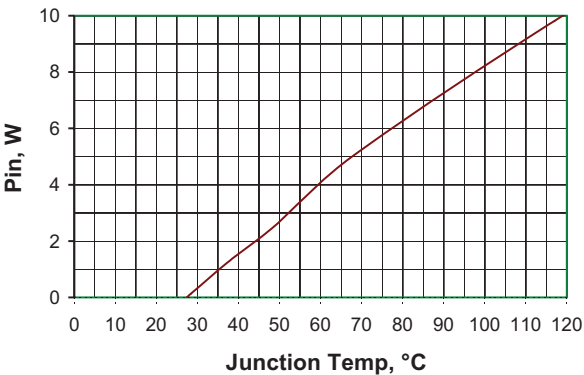
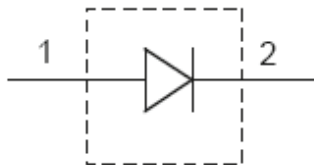


Package Outline and PCB Layout



Junction Temp vs Power, 1.3 GHz 25 °C Ambient, PCB Mounted on Heat Sink

Schematic



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.