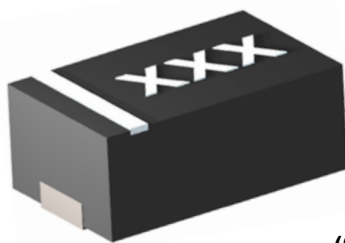


MSWSE-050-17

Silicon PIN Diode Switch Element



(0805P)
non-hermetic



Description

The MSWSE-050-17 is a PIN diode SPST switch element designed for medium incident power applications, up to 40W C.W. It has low insertion loss.

Features

- Broadband performance up to 3.0 GHz
- Low Insertion Loss
- Cost effective choice for switch applications

Maximum Ratings

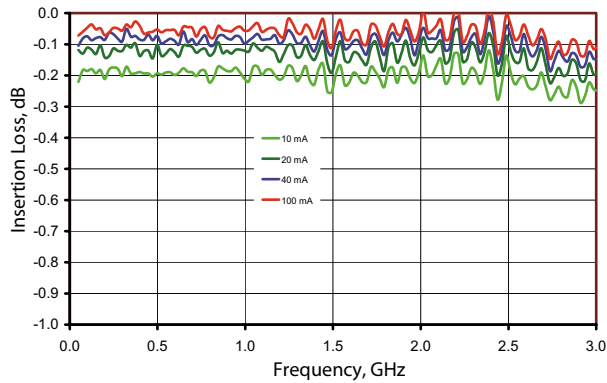
RATING	LIMITS	UNITS
V_R	500	V
I_F	500	mA
θ_{JC}	10	°C / W
T_J	+175	°C
T_{STG}	-55 to +150	°C
T_{SOLDER}	+260 °C per JEDEC STD-J-20C	

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

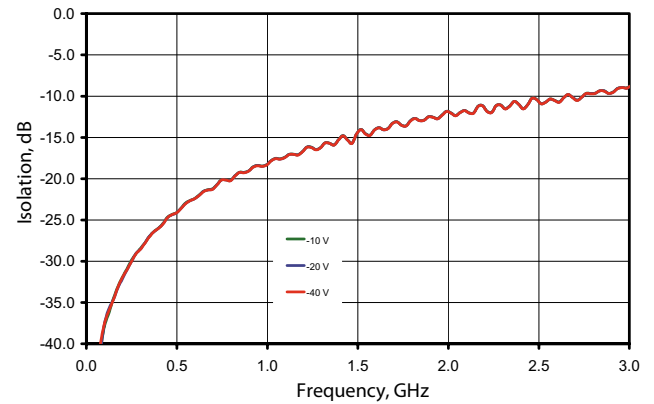
SYMBOL	TEST CONDITIONS			MIN	TYP	MAX	UNITS
V_{BR}	$I_R = 10\text{ }\mu\text{A}$			500	—	—	V
V_F	$I_F = 50\text{ mA}$			—	850	950	mV
C_T	$V_R = 50\text{ V}$	$F = 1\text{ MHz}$		—	0.20	0.25	pF
R_S	$I_F = 100\text{ mA}$	$F = 100\text{ MHz}$		—	0.70	—	Ω
τ	$I_F = 10\text{ mA}$	$I_R = 6\text{ mA}$	measured at 50%	—	2000	—	ns
W	I-Layer			—	80	—	μm
I_L	$I_F = 50\text{ mA}$	$F < 0.5\text{ GHz}$		—	0.06	0.2	dB
		$F < 2.0\text{ GHz}$		—	0.1	0.2	dB
IRL / ORL	$I_F = 50\text{ mA}$	$F < 0.5\text{ GHz}$		25	33	—	dB
		$F < 2.0\text{ GHz}$		20	25	—	dB
I_{so}	$V_R = 50\text{ V}$	$F < 0.5\text{ GHz}$		22	24	—	dB
		$F < 2.0\text{ GHz}$		20	12	—	dB



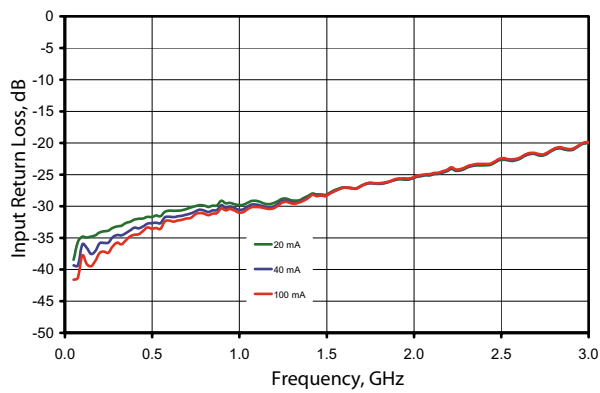
Insertion Loss



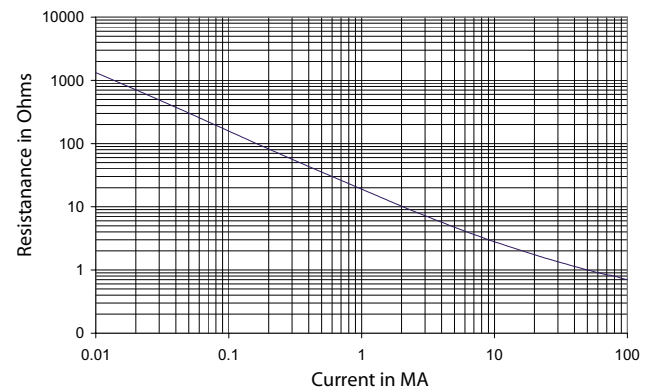
Isolation



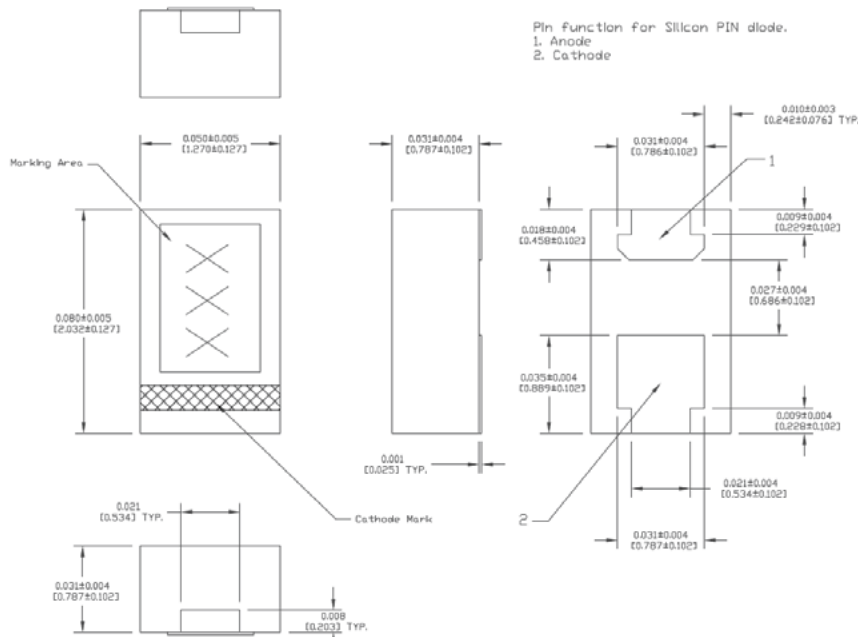
Input Return Loss



Series Resistance vs. Current



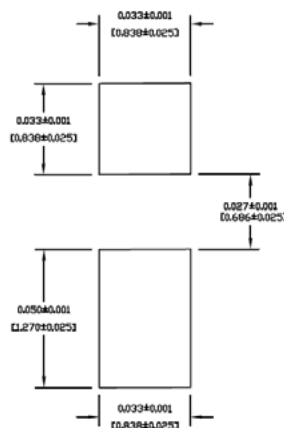
Package Outline



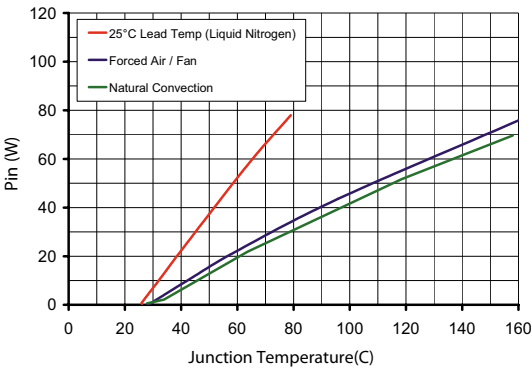
Dimensions: inches [mm]

Finish: 300 micro inches matte Tin, annealed 1 hour 150° C

Printed Circuit Board Layout



Junction Temperature vs Power Mounted on Heat Sink 25°C Ambient 1.3 GHz



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