

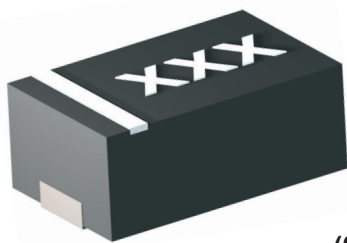


**THE DATASHEET OF  
MSWSE-050-17**



# 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

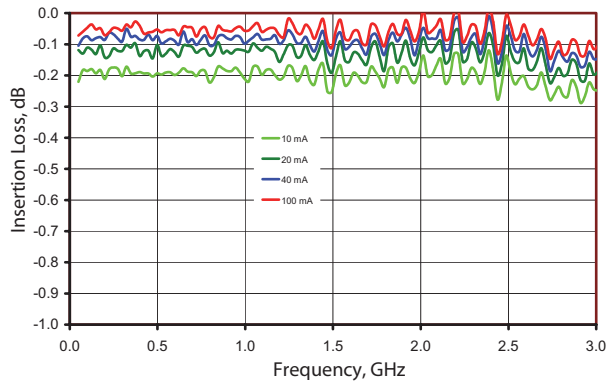
RATING	LIMITS	UNITS
$V_R$	500	V
$I_F$	500	mA
$\theta_{JC}$	10	°C / W
$T_J$	+175	°C
$T_{STG}$	-55 to +150	°C
$T_{SOLDER}$	+260 °C per JEDEC STD-J-20C	

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

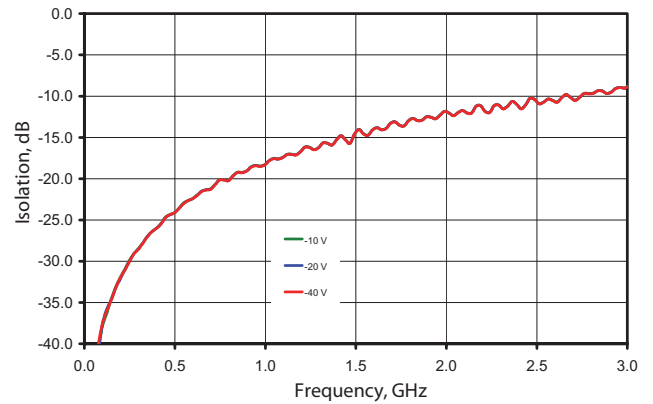
SYMBOL	TEST CONDITIONS			MIN	TYPICAL	MAX	UNITS
$V_{BR}$	$I_R = 10\ \mu\text{A}$			500	–	–	V
$V_F$	$I_F = 50\ \text{mA}$			–	850	950	mV
$C_T$	$V_R = 50\ \text{V}$	F = 1 MHz		–	0.20	0.25	pF
$R_S$	$I_F = 100\ \text{mA}$	F = 100 MHz		–	0.75	–	$\Omega$
$\tau$	$I_F = 10\ \text{mA}$	$I_R = 6\ \text{mA}$	measured at 50%	–	1600	–	ns
W	I-Layer			–	80	–	$\mu\text{m}$
$I_L$	$I_F = 50\ \text{mA}$	F < 0.5 GHz		–	0.06	0.2	dB
		F < 2.0 GHz		–	0.1	0.2	dB
IRL / ORL	$I_F = 50\ \text{mA}$	F < 0.5 GHz		25	33	–	dB
		F < 2.0 GHz		20	25	–	dB
$I_{SO}$	$V_R = 50\ \text{V}$	F < 0.5 GHz		22	24	–	dB
		F < 2.0 GHz		20	12	–	dB



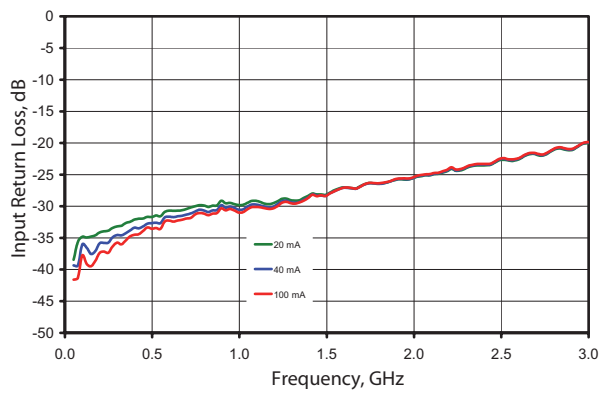
## Insertion Loss



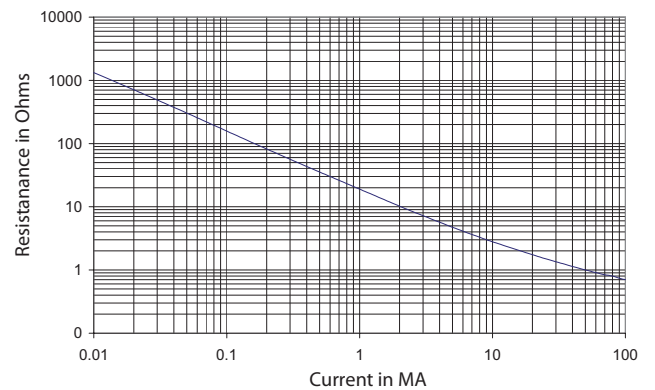
## Isolation



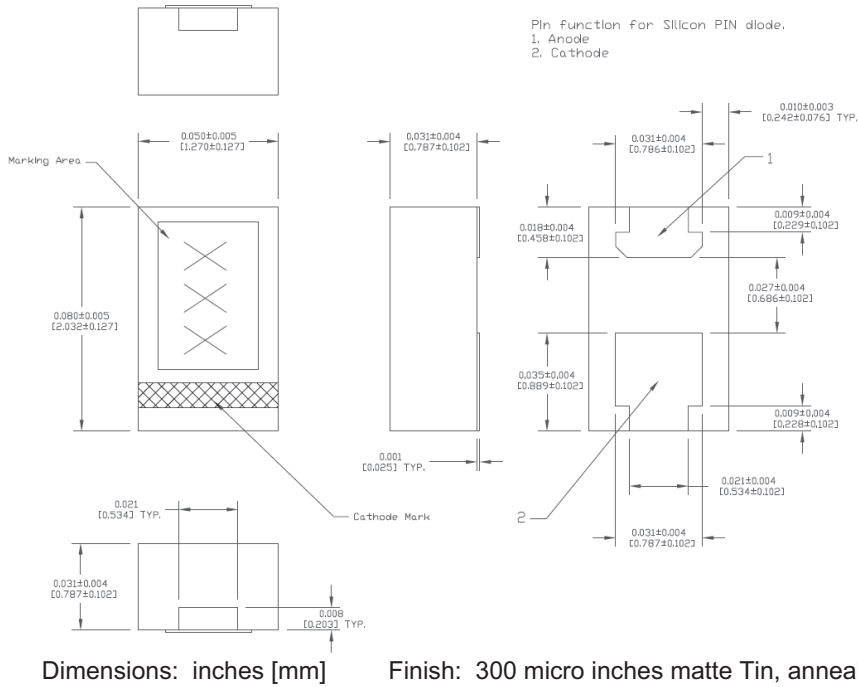
## Input Return Loss



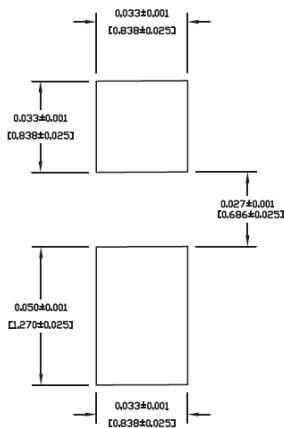
## Series Resistance vs. Current



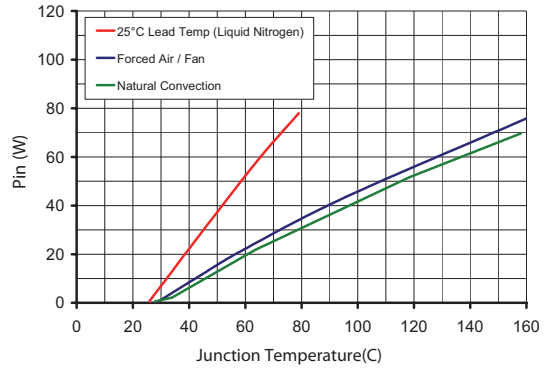
## Package Outline



## Printed Circuit Board Layout



## Junction Temperature vs Power 20 Mil PCB Mounted on Heat Sink 25°C Ambient 1.3 GHz



**Aeroflex / Metelics Inc.**

Aeroflex Microelectronic Solutions  
975 Stewart Drive  
Sunnyvale, CA 94085  
TEL: 408-737-8181

54 Grenier Field Road  
Londonderry, NH 03053  
TEL: 603-641-3800

**ISO 9001: 2008 certified companies**

**Sales**

888-641-SEMI (7364)  
metelics-sales@aeroflex.com

***[www.aeroflex.com/Microwave](http://www.aeroflex.com/Microwave) [www.aeroflex.com/Metelics](http://www.aeroflex.com/Metelics)***



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