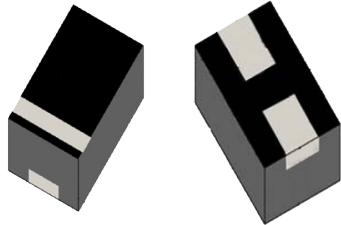


MSWSE-010-15

Silicon PIN Diode Switch Element



(0503)
Molded Plastic DFN Package



Description

The MSWSE-010-15 is a PIN diode SPST switch element designed for medium incident power applications, up to 10W C.W. It has low insertion loss and medium isolation below 3.0 GHz.

Features

- SMALL SIZE (50 mils X 30 mils)
- Broadband performance up to 3.0 GHz
- Supports up to 10 watts power when cold switched
- Low insertion loss 0.25 dB typical up to 3.0 GHz
- Cost effective choice for switch applications

Maximum Ratings

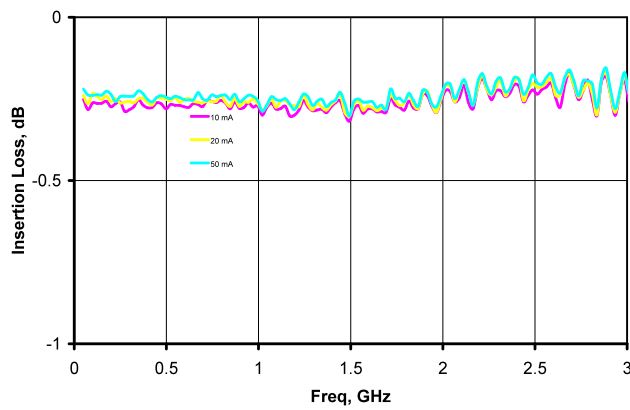
RATING	LIMITS	UNITS
V_R	200	V
I_F	200	mA
θ_{JC}	35	°C / W
T_J	+175	°C
T_{STG}	-55 to +150	°C
T_{SOLDER}	+260 °C per JEDEC STD-J-20C	

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

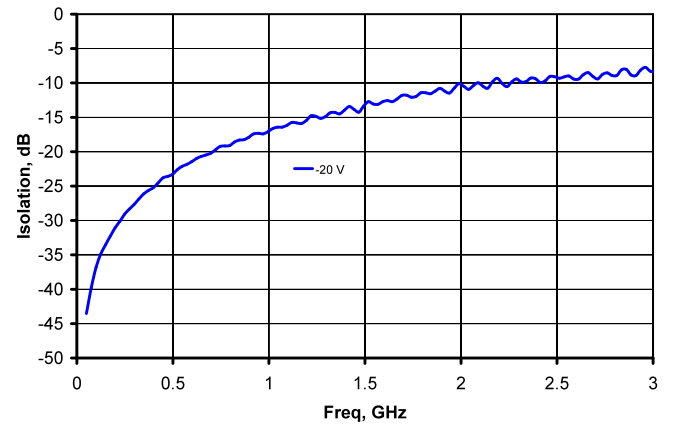
SYMBOL	TEST CONDITIONS			MIN	TYPICAL	MAX	UNITS
V_{BR}	$I_R = 10\text{ }\mu\text{A}$			200	–	–	V
V_F	$I_F = 50\text{ mA}$			–	870	950	mV
Cj	$V_R = -50\text{ V}$	F = 1 MHz		–	0.14		pF
C_T	$V_R = -50\text{ V}$	F = 1 MHz		–	0.21	0.25	pF
R_s	$I_F = 30\text{ mA}$	F = 500 MHz		–	0.8	1.0	Ω
	$I_F = 100\text{ mA}$	F = 500 MHz		–	0.6	0.8	
τ	$I_F = 10\text{ mA}$	$I_R = 6\text{ mA}$	measured at 50%	–	500	900	nsec
W	I-Layer			–	15	–	μm
I_L	$I_F = 50\text{ mA}$	F < 1.0 GHz		–	0.25	–	dB
		F < 2.0 GHz		–		0.30	dB
I_{50}	$V_R = 50\text{ V}$	F < 1.0 GHz		13	17		dB
		F < 2.0 GHz		–	11		dB



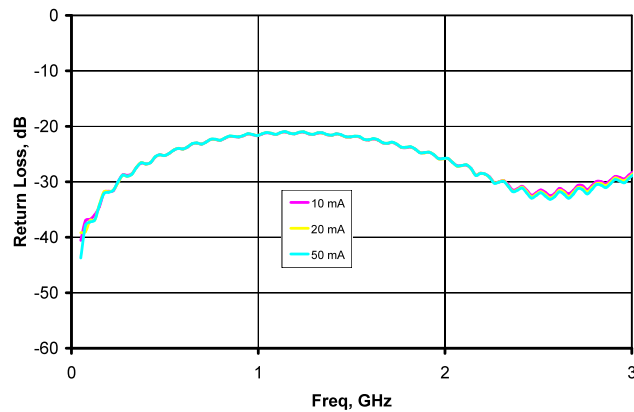
Insertion Loss



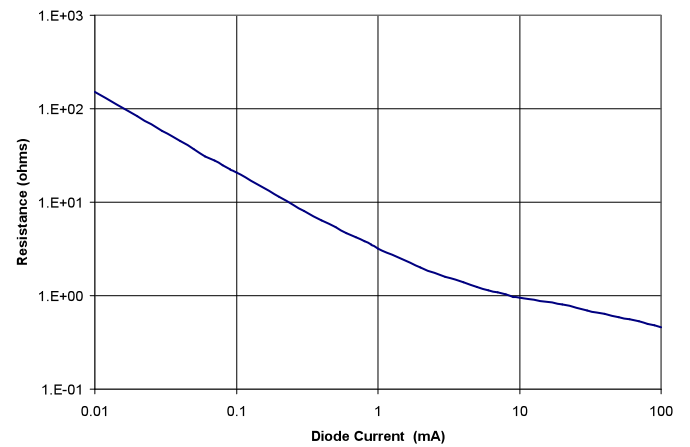
Isolation



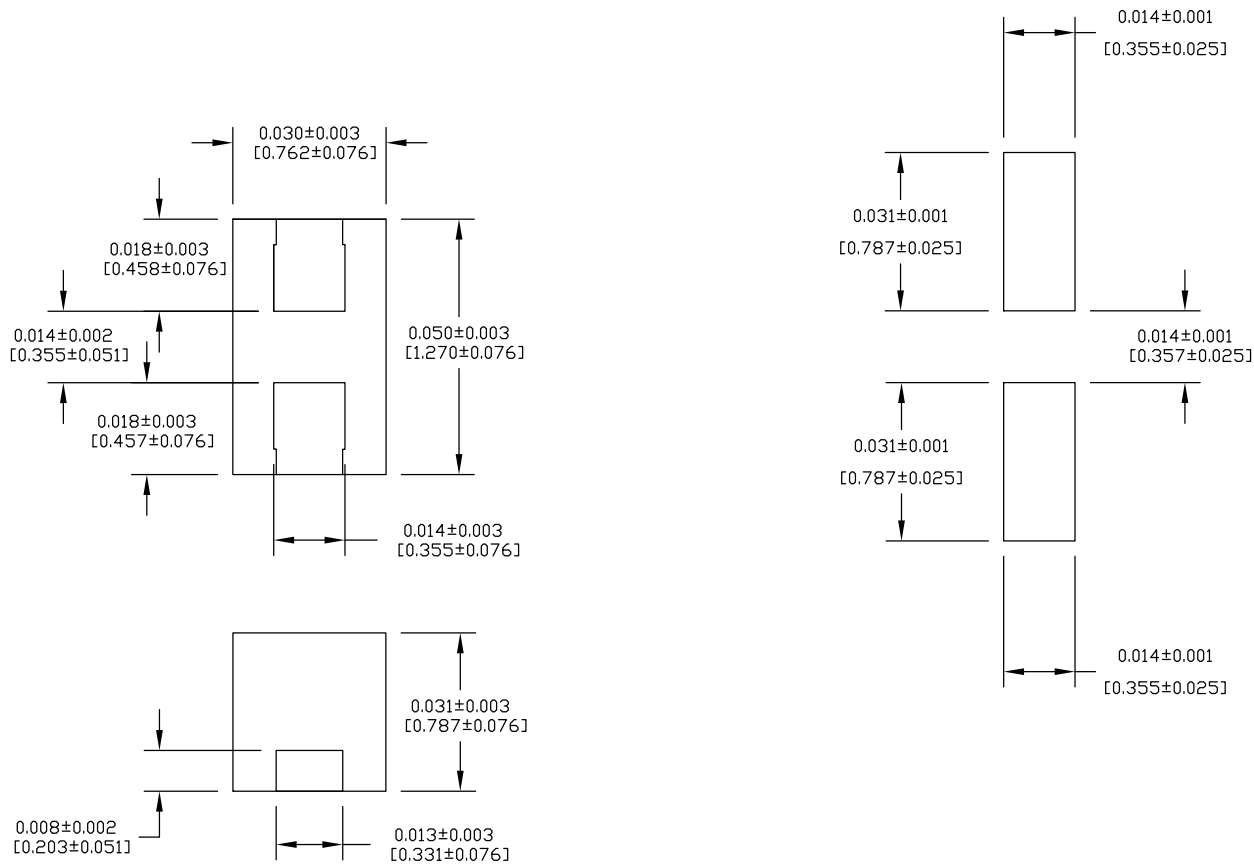
Input Return Loss



Series Resistance vs. Current



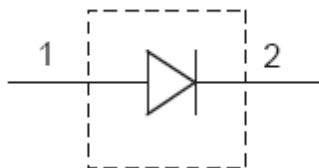
Package Outline and PCB Layout



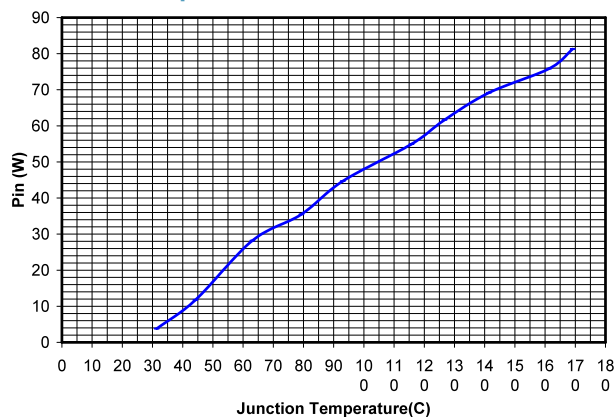
0503 PACKAGE

SOLDERING FOOTPRINT

Schematic



Junction Temperature vs Power Lead temperature maintained at 25°C



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