MSWSHC-040-40

PIN Diode Shunt Switch Element

Rev. V1

Features

- Supports up to 40 W Power
- Low Insertion Loss:
  0.2 dB @ 2.7 GHz
  0.4 dB @ 8.0 GHz
- High Isolation:
  55 dB to 2.7 GHz
- RoHS* Compliant

(2615)
Molded Plastic DFN

Description

A broadband, high linearity, medium power shunt switch element in a 2.6 x 1.5 mm DFN package.

This PIN diode switch element is designed for wireless telecommunications infrastructure and test instrument applications. It is also suited for other applications in 0.05 ~ 10 GHz.

Electrical Specifications: T_A = +25°C

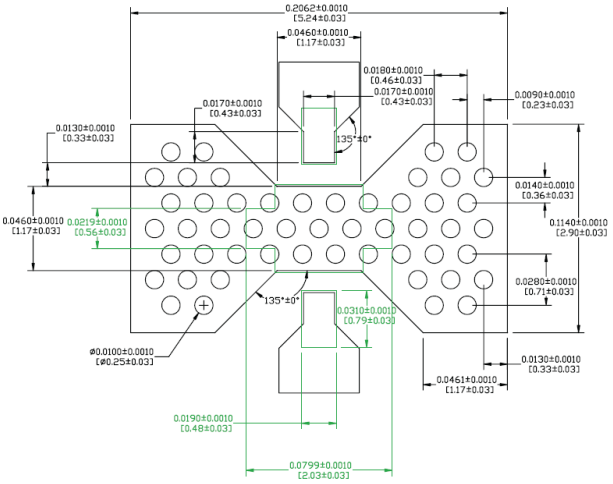
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Breakdown Voltage (V_B)	I_R = 10 µA	V	300	—	—
Insertion Loss (I_L)	V_R = 50 V 2.3 - 2.7 GHz <6.0 GHz	dB	—	0.20 0.40	0.30 0.50
Isolation (I_{SO})	V_R = -10 V 2.3 - 2.7 GHz <6.0 GHz	dB	50 35	55 40	—
Input / Output Return Loss (R_L)	I_F = 100 mA 2.3 - 2.7 GHz <6.0 GHz	dB	20 14	25 16	—
Minority Carrier Lifetime (T_L)	I_F = 10 mA, I_R = 6 mA, @ 50%	ns	—	3000	—

Absolute Maximum Ratings

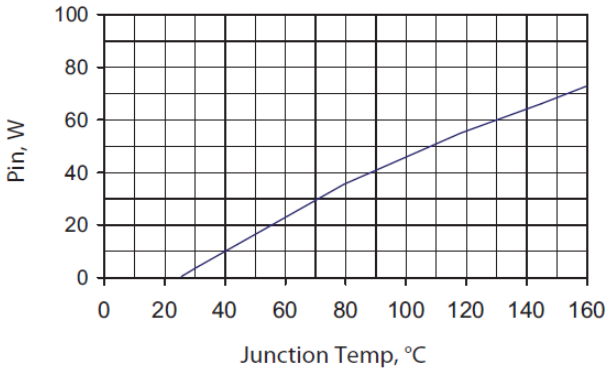
Parameter	Absolute Maximum
Breakdown Voltage	300 V
Forward Current	200 mA
Thermal Resistance	9°C/W
Junction Temperature	+175°C
Storage Temperature	-65°C to +150°C
Assembly Temperature	+260°C, Per JEDEC STD-J-20C

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

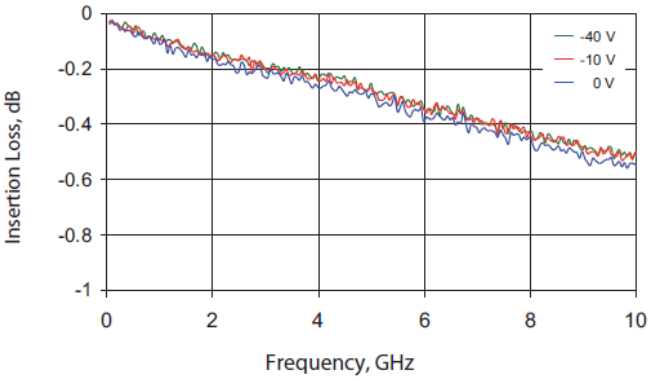
Printed Circuit Board Layout



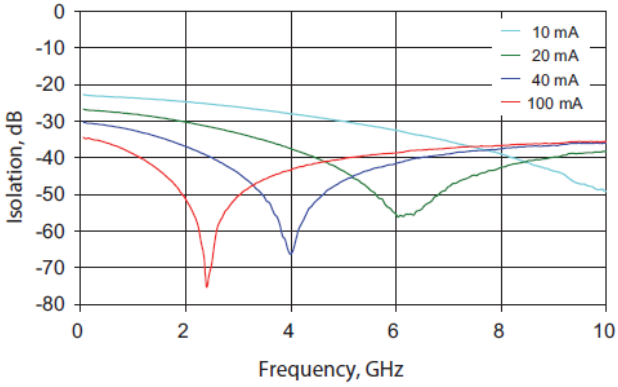
Junction Temperature vs. Power Mounted on Heatsink, +25°C, 1.3 GHz



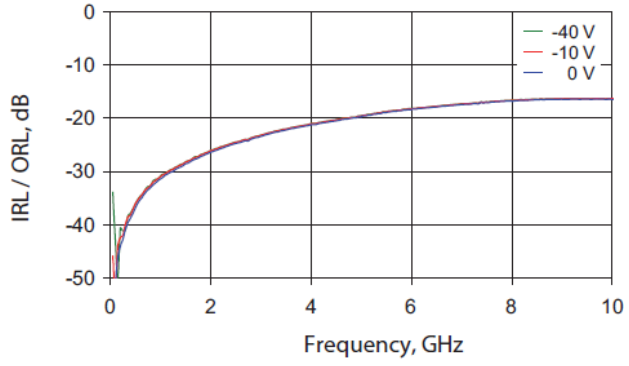
Insertion Loss



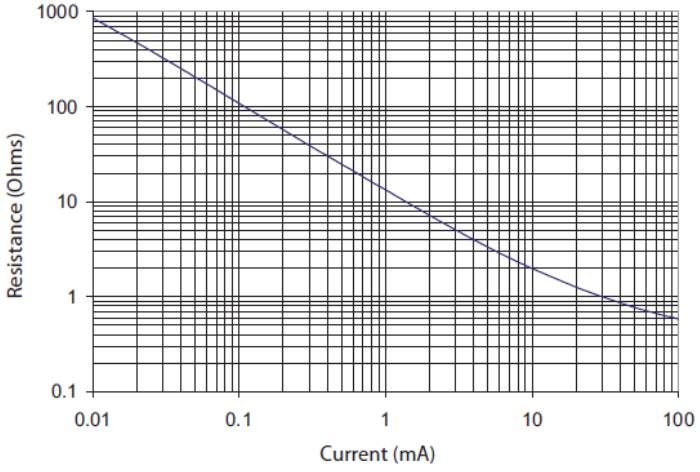
Isolation[1]



Input Return Loss

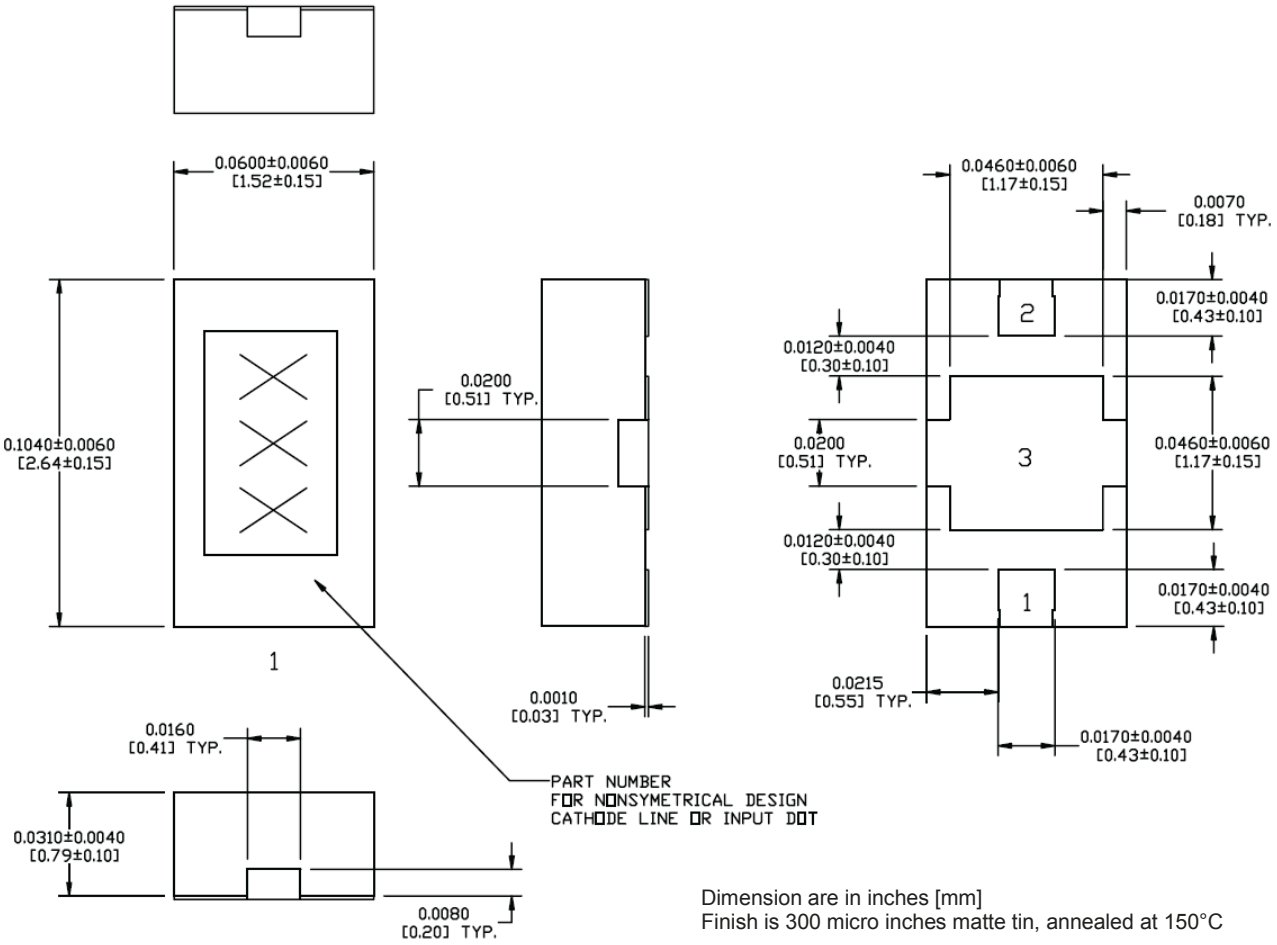


Series Resistance vs. Bias, 500 MHz



1. Resonant frequencies vary with PCB layout. This performance measured on 20 mils Rogers RO3006 and with the printed circuit board layout shown above.

Outline (2615)



Dimension are in inches [mm]
Finish is 300 micro inches matte tin, annealed at 150°C