

## 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:  $T_A = +25^\circ\text{C}$ 

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

## Absolute Maximum Ratings

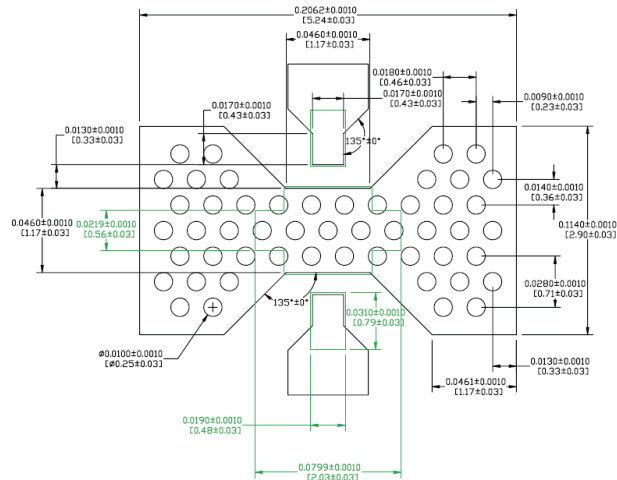
Parameter	Absolute Maximum
Breakdown Voltage	300 V
Forward Current	200 mA
Thermal Resistance	$9^\circ\text{C/W}$
Junction Temperature	$+175^\circ\text{C}$
Storage Temperature	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Assembly Temperature	$+260^\circ\text{C}$ , Per JEDEC STD-J-20C

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

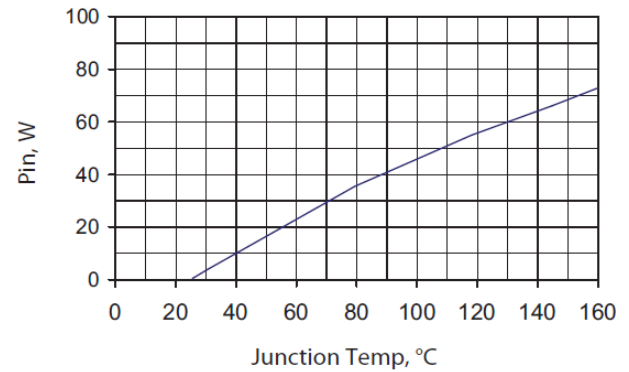
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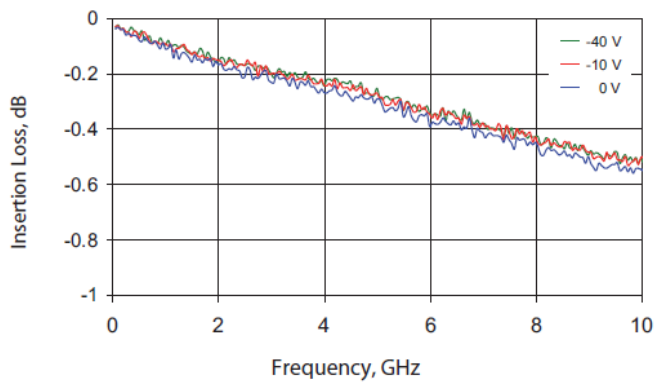
### Printed Circuit Board Layout



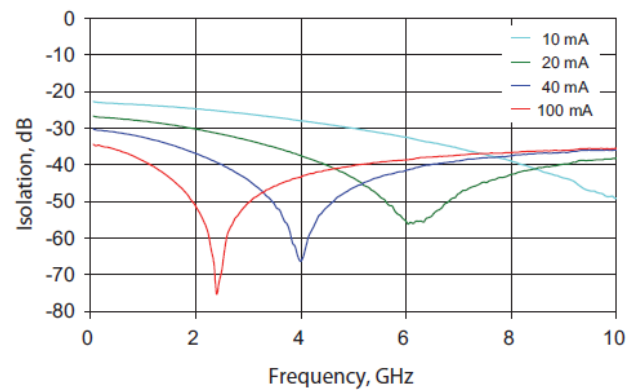
**Junction Temperature vs. Power  
Mounted on Heatsink, +25°C, 1.3 GHz**



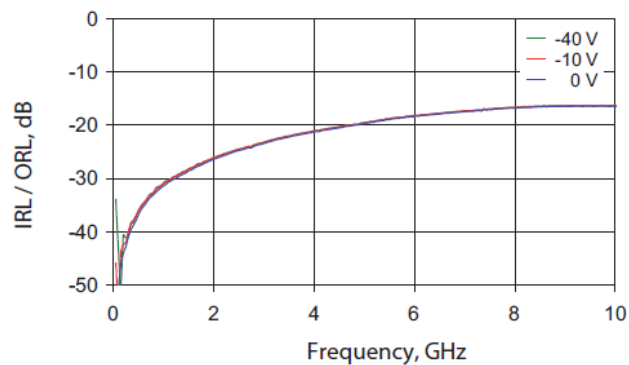
### Insertion Loss



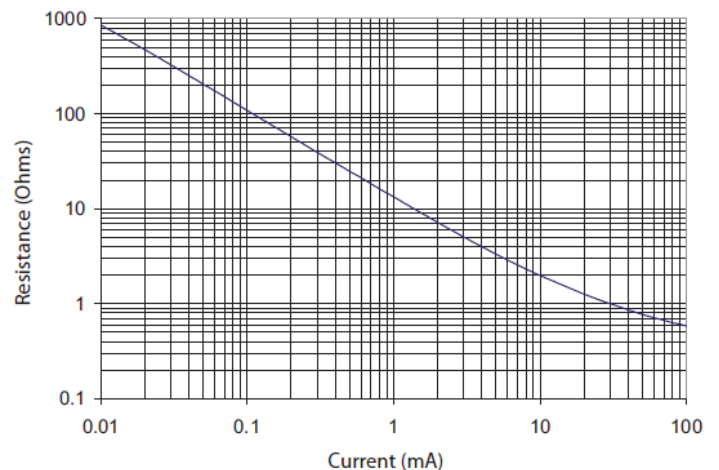
### Isolation<sup>1</sup>



### Input Return Loss

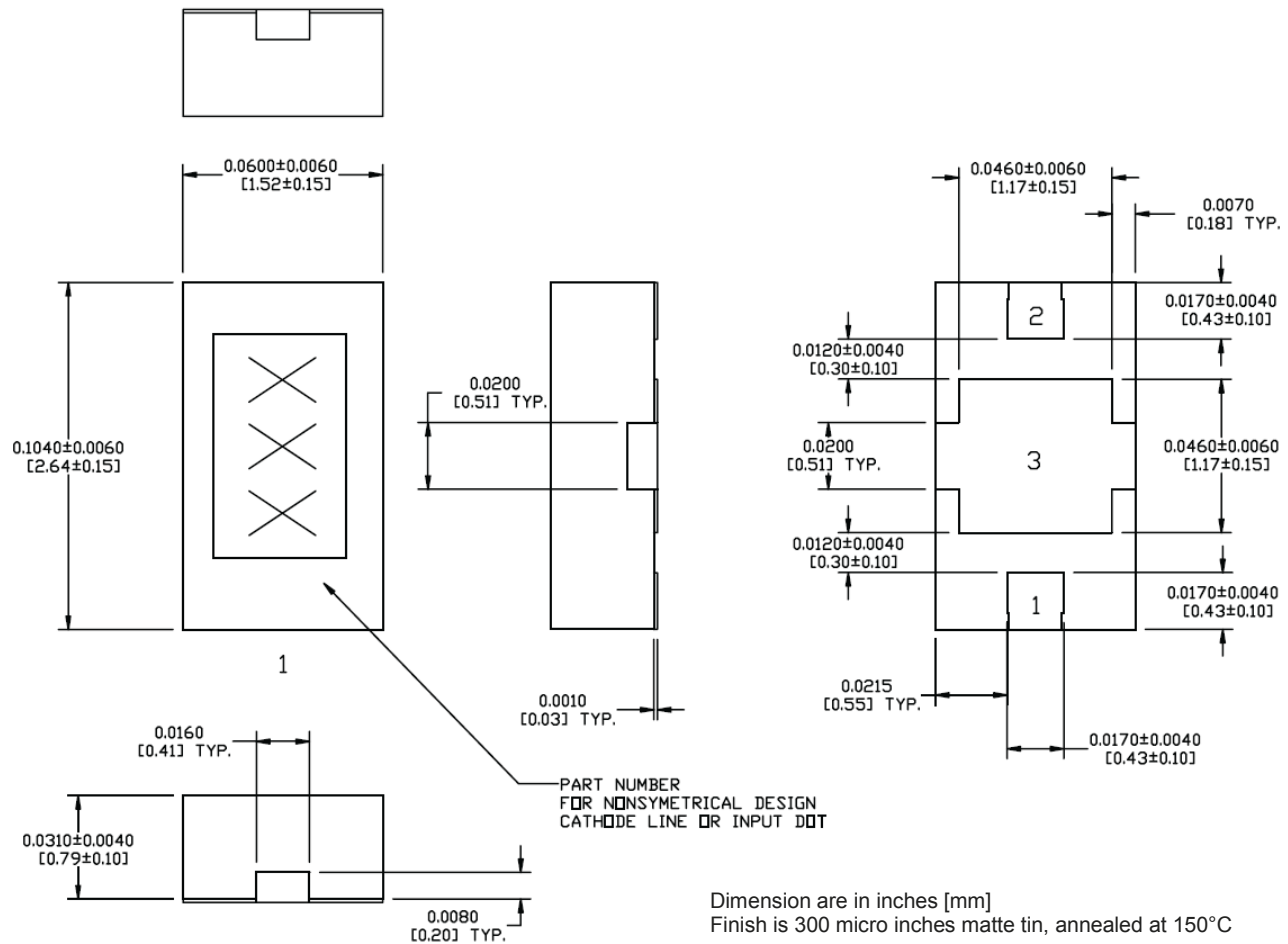


### Series Resistance vs. Bias, 500 MHz



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)



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