

## Pin Diode Switch Element

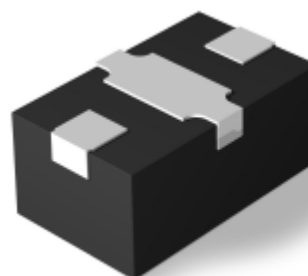
Rev. V1

### Features

- Supports up to 20 W Power
- Low Insertion Loss: 0.2 dB up to 2.7 GHz
- High Isolation: 18 dB up to 2.7 GHz
- RoHS\* Compliant

### Description

A broadband medium power switch element in a 1.9 x 1.1 mm DFN package. This device is electrical series and thermal direct to ground (EST2G). This device is designed for wireless infrastructure applications and test instruments. It is also suited for other applications from 100 MHz up to 6 GHz.



(2012)  
Plastic Molded DFN

### Electrical Specifications: $T_C = +25^\circ\text{C}$ (unless otherwise specified)

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Breakdown Voltage ( $V_{BR}$ )	$I_R = 10 \mu\text{A}$	V	100	—	—
Lifetime (t)	$I_F = 10 \text{ mA}$ , $I_R = 6 \text{ mA}$ , 10% / 90%	ns	—	50	—
Series Resistance ( $R_S$ )	$I_F = 100 \text{ mA}$ , 50 MHz	$\Omega$	—	1.2	—
Junction Capacitance ( $C_J$ )	$V_R = -10 \text{ V}$ , 1 MHz	pF	—	0.08	—
Insertion Loss ( $I_L$ )	$I_F = 50 \text{ mA}$ , 2.3 ~ 2.7 GHz $I_F = 50 \text{ mA}$ , <6 GHz	dB	—	0.2 0.3	0.3 —
Input Return Loss ( $IR_L$ )	$I_F = 50 \text{ mA}$ , 2.3 ~ 2.7 GHz $I_F = 50 \text{ mA}$ , <6 GHz	dB	23 18	27 22	—
Isolation ( $I_{SO}$ )	$V_R = -10 \text{ mA}$ , 2.3 ~ 2.7 GHz $V_R = -10 \text{ mA}$ , <6 GHz	dB	15 10	18 12	—

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

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### Absolute Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
Breakdown Voltage ( $V_R$ )	100 V
Forward Current ( $I_F$ )	100 mA
Theta ( $\theta_{JC}$ )	65°C/W
Junction Temperature ( $T_J$ )	175°C
Storage Temperature ( $T_{STG}$ )	-65°C to +150°C
Mounting Temperature ( $T_{MTG}$ )	+260°C per JEDEC STD-J-20C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

### Handling Procedures

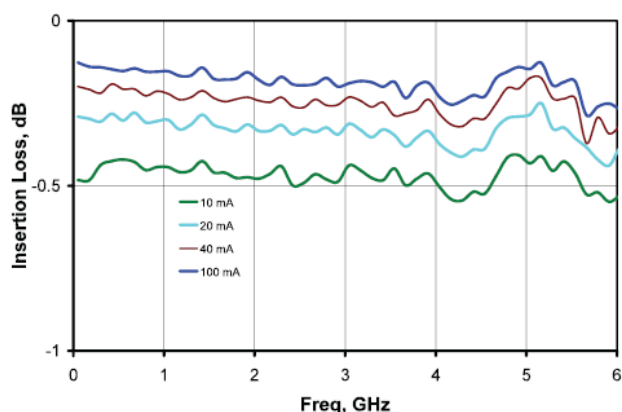
Please observe the following precautions to avoid damage:

### Static Sensitivity

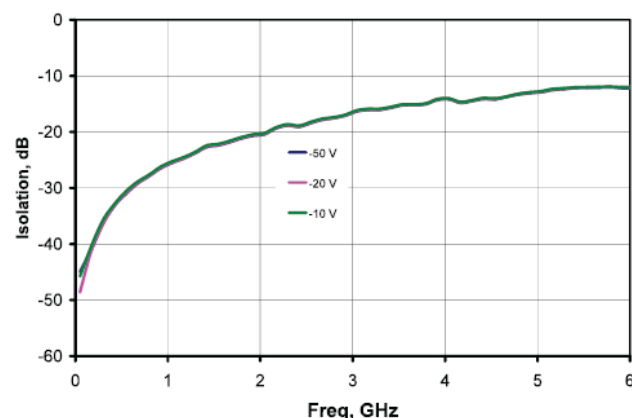
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these Class 0 (HBM) devices.

### Typical Performance Curves: $T_A = 25^\circ\text{C}$ , $Z_O = 50\ \Omega$ , Small Signal

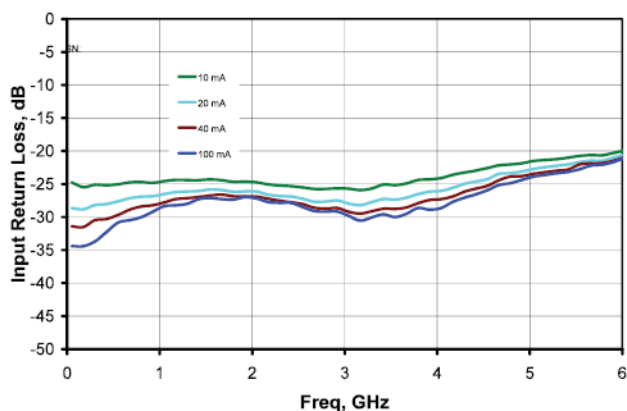
#### Insertion Loss



#### Isolation



#### Input Return Loss

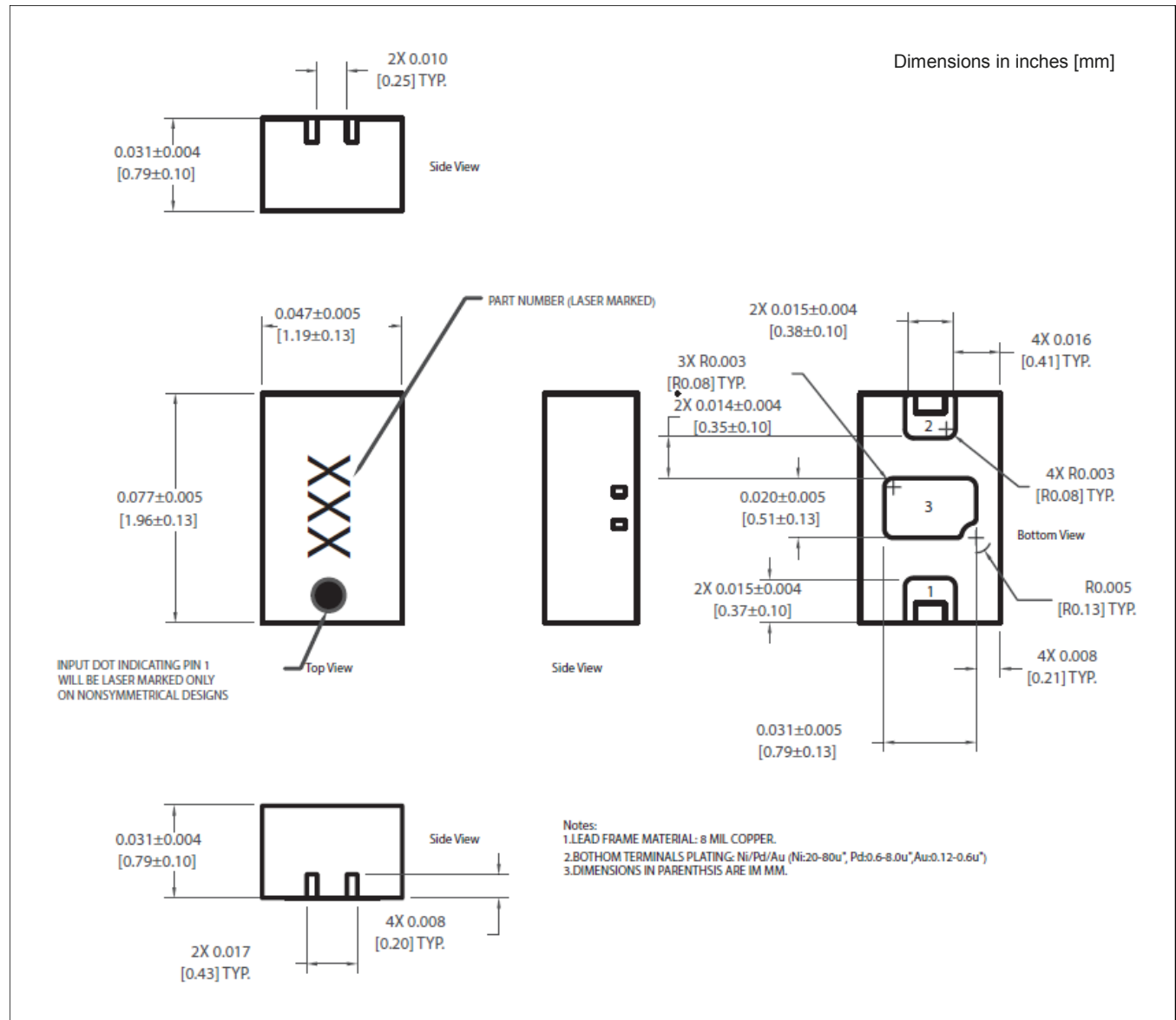




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### Package Outline



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