MEST2G-050-80

Pin Diode Switch Element

Rev. V1

Features

- Supports up to 50 W Power
- Low Insertion Loss: 0.1 dB up to 2.5 GHz
- High Isolation: 16 dB @ 1 GHz
- RoHS* Compliant

2615
(Plastic Molded DFN)

Description

A broadband medium power switch element in a 2.6 x 1.5 mm DFN package. This device is electrical series with thermal to ground (EST2G). This device is designed for wireless infrastructure applications and test instruments. It is well suited for other applications from 45 MHz up to 1.5 GHz

Electrical Specifications: T_C = +25°C (unless otherwise specified)

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Breakdown Voltage (V_{BR})	I_R = 10 µA	V	500	—	—
Lifetime (t)	I_F = 10 mA, I_R = 6 mA, 10% / 90%	ns	—	2200	—
I-Region (w)	I-Layer	µm	—	80	—
Series Resistance (R_S)	I_F = 100 mA	Ω	—	0.5	0.7
Junction Capacitance (C_J)	V_R = 50 V, 1 MHz	pF	—	0.28	0.35
Insertion Loss (I_L)	I_F = 100 mA, 1.5 GHz	dB	—	0.1	0.2
Input Return Loss (IR_L)	I_F = 100 mA, 1.5 GHz	dB	20	25	—
Isolation (I_{SO})	V_R = -10 V, 0.5 GHz V_R = -10 V, <1.5 GHz	dB	17 9	19 11	—

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

Absolute Maximum Ratings[1,2]

Parameter	Absolute Maximum
Breakdown Voltage (V_R)	500 V
Forward Current (I_{FDC})	300 mA
Thermal Resistance (θ_{JC})	6°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

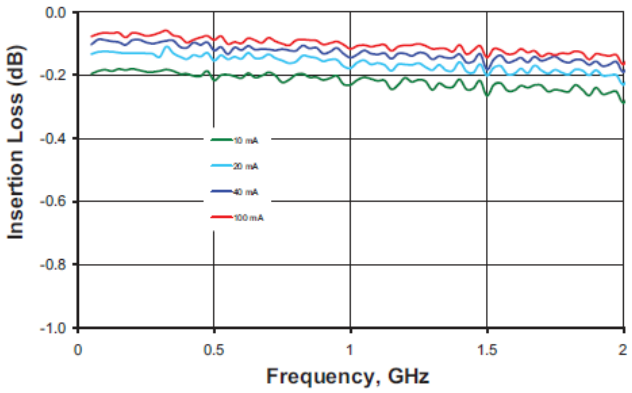
Please observe the following precautions to avoid damage:

Static Sensitivity

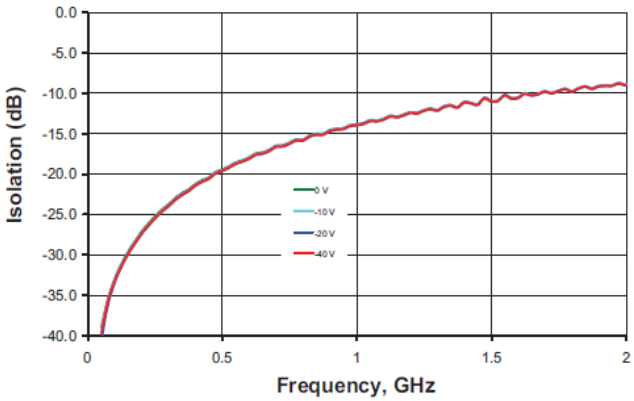
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these Class 0 (HBM) devices.

Typical Performance Curves: T_A = 25°C, Z_O = 50 Ω, -10 dBm Small Signal

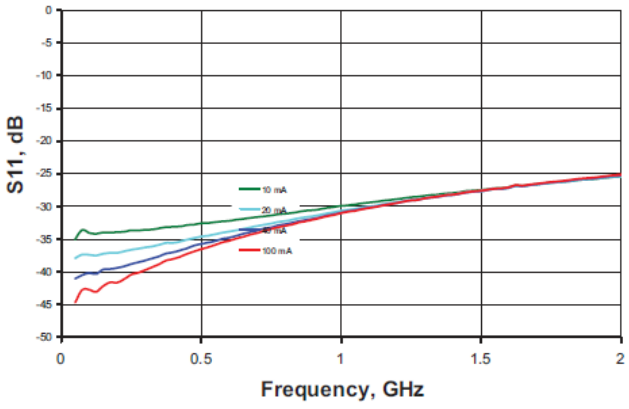
Insertion Loss



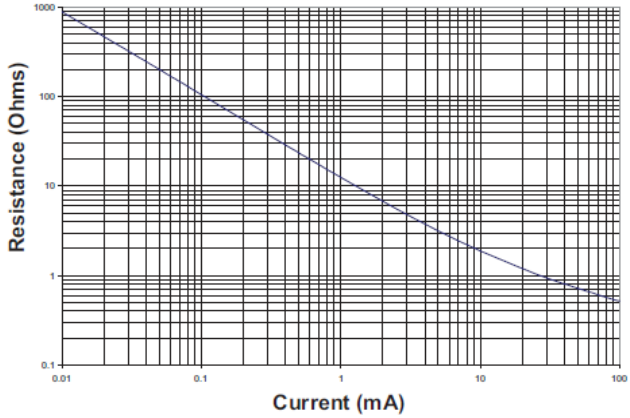
Isolation



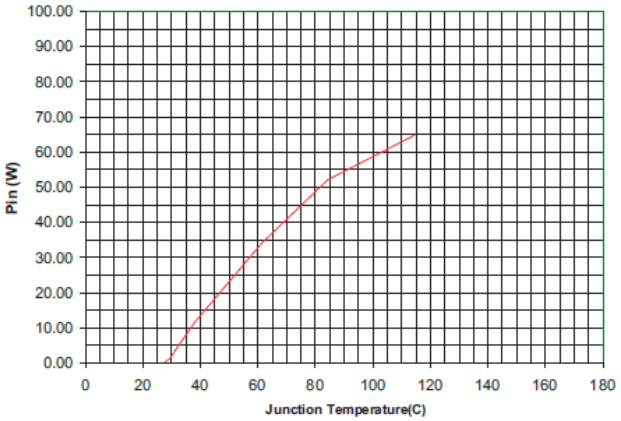
Input / Output Return Loss



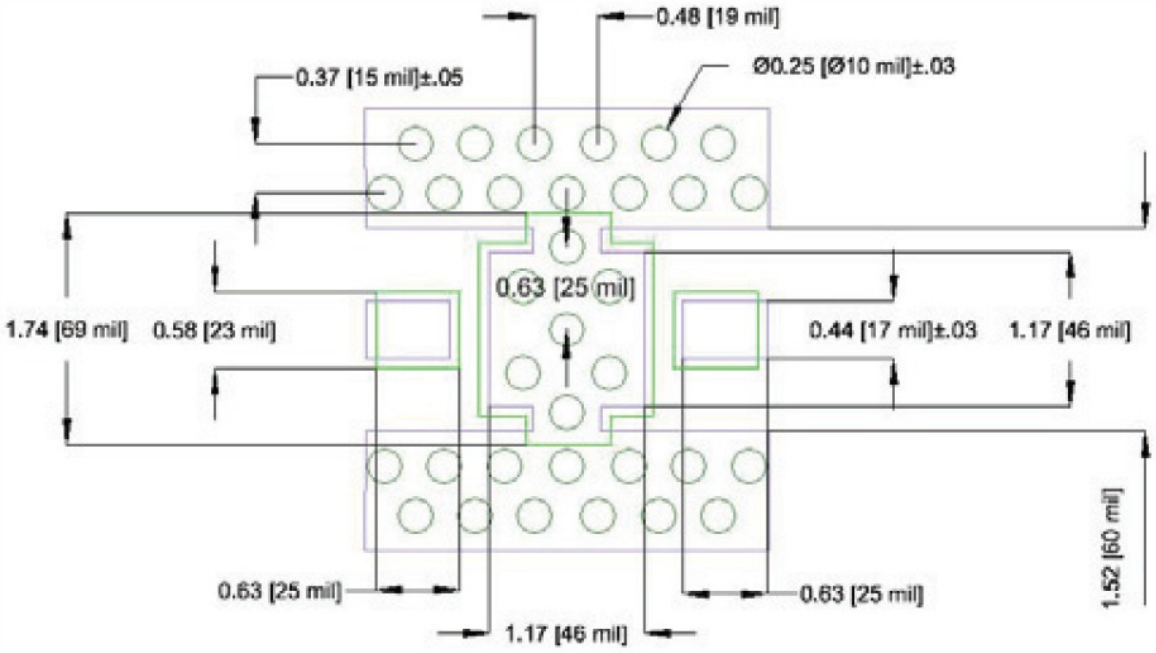
Series Resistance vs. Current , 500 MHz



Junction Temperature vs. P_{IN}
(20 mil Board Mounted on Heat Sink @ +25°C, 1.3 GHz)

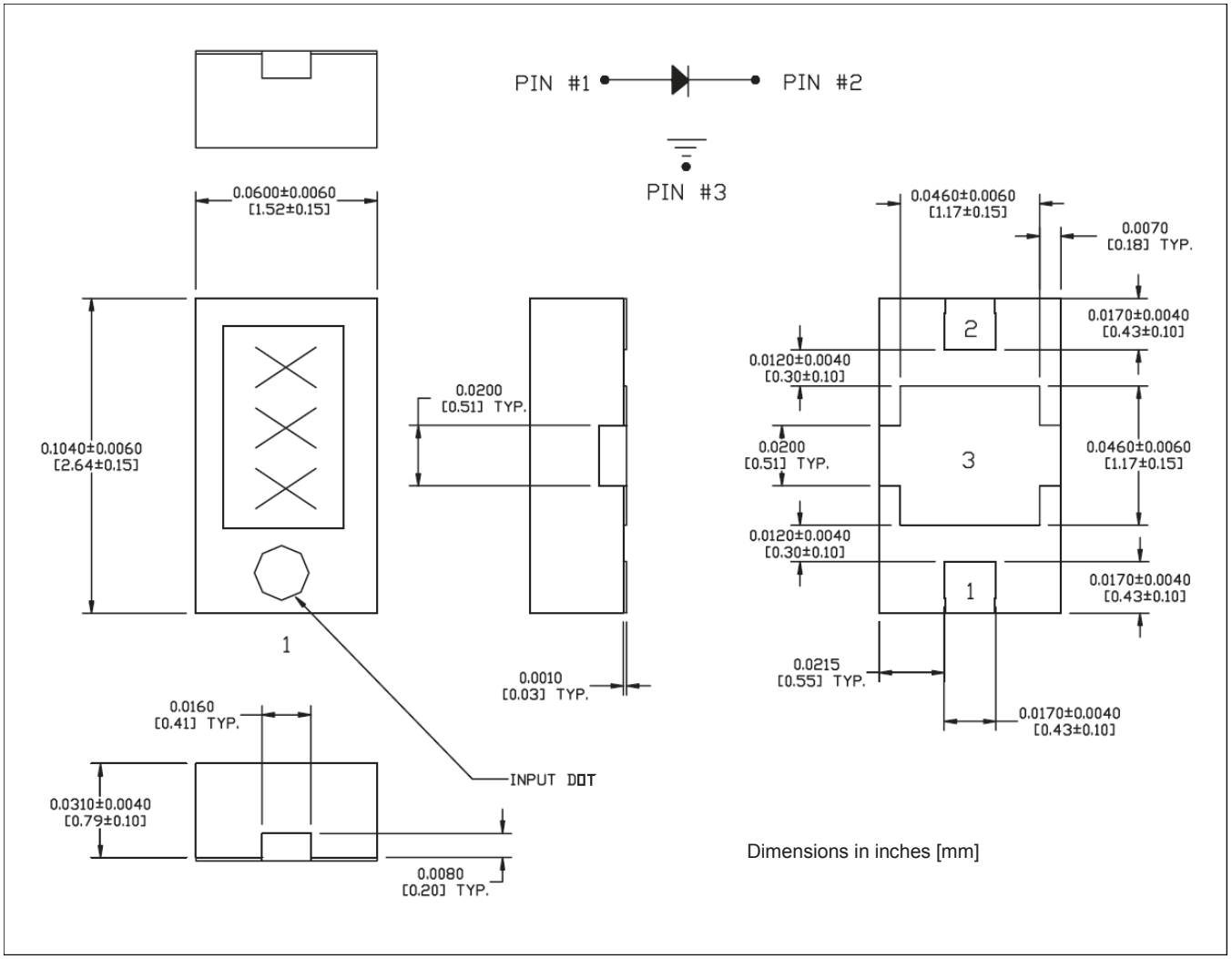


Printed Circuit Board Layout[3,4,5,6]



3. Tolerance ±0.10 mm
4. Soldermask to extend 3 mils beyond metal trace
5. Vias under package filled with copper or soldermask
6. Use circles or squares for thermal land stencil such that there is only 50% to 80% solder paste coverage

Outline



Dimensions in inches [mm]