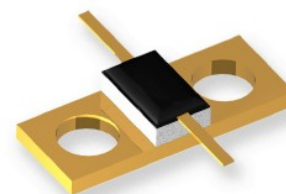


Features

- High Power Handling 150 W
- Low Insertion Loss:
 - 0.25 dB @ 2 GHz
 - 0.40 dB @ 6 GHz
- Medium Isolation:
 - 21 dB @ 2 GHz
 - 12 dB @ 6 GHz
- RoHS* Compliant



(CM26)
non-hermetic
Bolt Down Package

Description

The MEST2G-150-20-CM26 is a thermal to ground series diode switch element (EST2G) in an Aluminum Nitride package. This part is designed for a reliable high power switch application up to 150 watts. Usable up to 10 GHz.

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 | 500 | — | — |
| Forward Voltage (V_F) | $I_F = 50 \text{ mA}$ | V | — | 1850 | — |
| Series Resistance (R_S) | $I_F = 100 \text{ mA}$, 500 MHz, 2 Diodes | Ω | — | 1.8 | — |
| Junction Capacitance (C_J) | $V_R = 50 \text{ V}$, 1 MHz, 1 Diodes | pF | — | 0.19 | — |
| Lifetime (t) | $I_F = 10 \text{ mA}$, $I_R = 6 \text{ mA}$, 50% | ns | — | 1800 | — |
| I-Region (w) | I-Layer | μm | — | 80 | — |
| Input / Output Return Loss (I/OR _L) | $I_F = 100 \text{ mA}$, 2 GHz $I_F = 100 \text{ mA}$, 6 GHz | dB | 25 13 | 30 15 | — |
| Insertion Loss (I_L) | $I_F = 100 \text{ mA}$, 2 GHz $I_F = 100 \text{ mA}$, 6 GHz | dB | — | 0.25 0.40 | 0.40 0.60 |
| Isolation (I_{SO}) | $V_R = 10 \text{ V}$, 2 GHz $V_R = 10 \text{ V}$, 6 GHz | dB | 18 10 | 21 12 | — |

* 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}) | 250 mA |
| Thermal Resistance (θ_{JC}) | 8°C/W |
| Junction Temperature (T_J) | -40°C to 175°C |
| Storage Temperature (T_{STG}) | -55°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

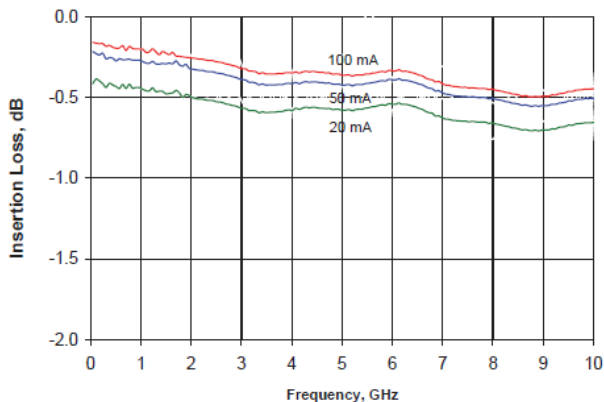
Please observe the following precautions to avoid damage:

Static Sensitivity

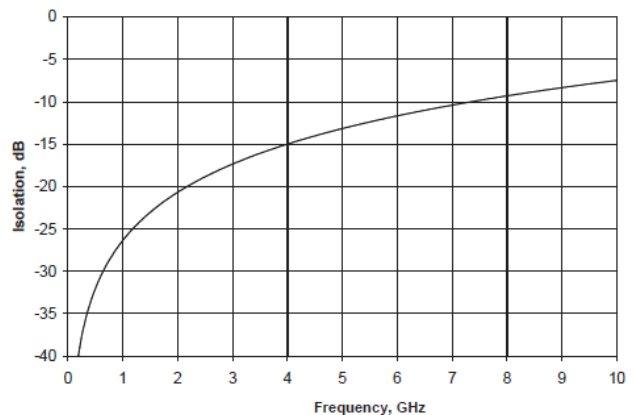
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these Class 0 (HBM) devices.

Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_O = 50 \Omega$, -10 dBm Small Signal

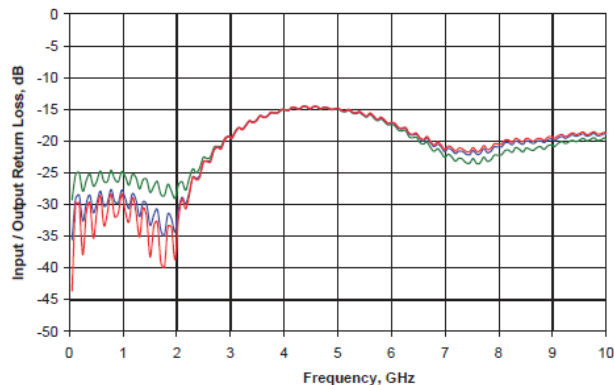
Insertion Loss



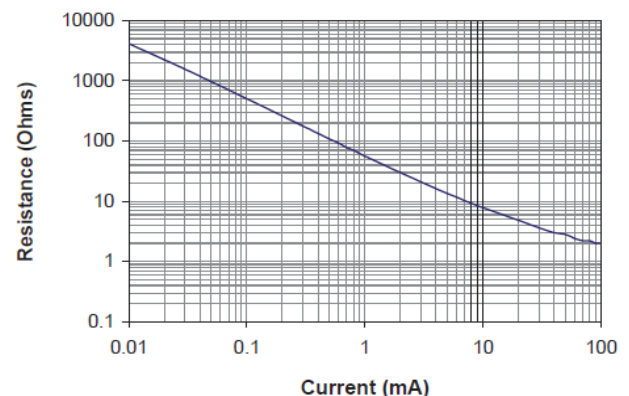
Isolation



Input Return Loss



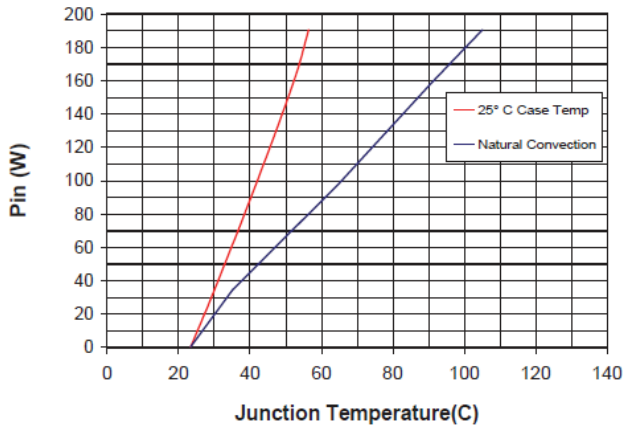
Resistance vs. Bias Current, 500 MHz for 2 diodes in Series



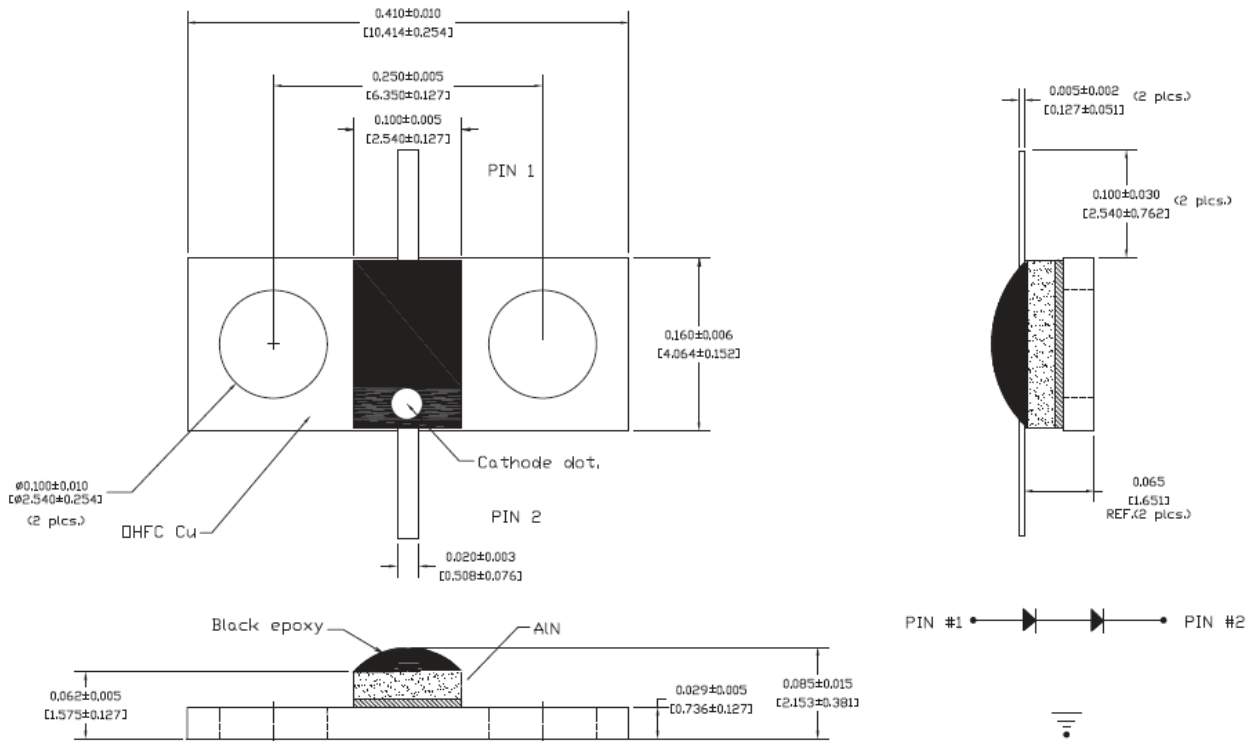
Pin Diode Switch Element

Rev. V1

Junction Temperature vs. Input Power
Mounted on Heat Sink @ TA = 25°C, 1.3 GHz



Outline (CM26)



NOTES:

Finishes:
 1. 50µ" Min. of Gold over 50µ" Min. of Nickel.

Dimensions in mils [mm]

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