



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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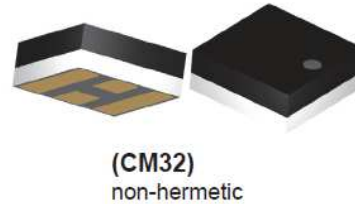
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Features

- High Power Handling 150 W @ 1.5 GHz or less
- Low Insertion Loss:
 - 0.15 dB @ 1.0 GHz
 - 0.20 dB @ 2.0 GHz
- Medium Isolation: 10 dB @ 1.0 GHz
- RoHS* Compliant



Description

The MEST2G-150-10-CM32 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 2.0 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	—	—
Leakage Current (I_R)	$V_R = 100 \text{ V}$	nA	—	80	250
Forward Voltage (V_F)	$I_F = 100 \text{ mA}$	V	—	900	—
Series Resistance (R_S)	$I_F = 100 \text{ mA}$, 100 MHz	Ω	—	0.22	—
Resistance (R_{LIM})	Spice Model	Ω	—	0.20	—
Total Capacitance (C_T)	$V_R = 50 \text{ V}$, 1 MHz	pF	—	0.50	—
Junction Capacitance (C_J)	Spice Model	pF	—	0.41	—
Lifetime (t)	$I_F = 10 \text{ mA}$, $I_R = 6 \text{ mA}$, 50%	ns	—	3000	—
I-Region (w)	I-Layer	μm	—	80	—
Input / Output Return Loss (I/OR _L)	$I_F = 100 \text{ mA}$, 1.0 GHz $I_F = 100 \text{ mA}$, 2.0 GHz	dB	15 25	20 30	—
Insertion Loss (I_L)	$I_F = 100 \text{ mA}$, 1.0 GHz $I_F = 100 \text{ mA}$, 2.0 GHz	dB	—	0.12 0.14	0.20 0.20
Isolation (I_{SO})	$V_R = 10 \text{ V}$, 1.0 GHz $V_R = 10 \text{ V}$, 2.0 GHz	dB	10 —	12 7	—

* 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})	500 mA
Thermal Resistance (θ_{JC})	25°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

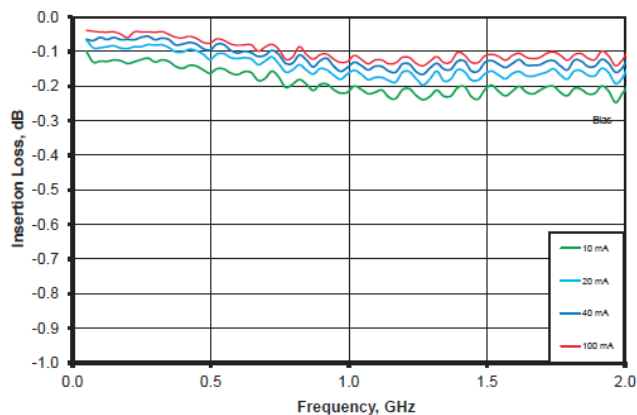
Please observe the following precautions to avoid damage:

Static Sensitivity

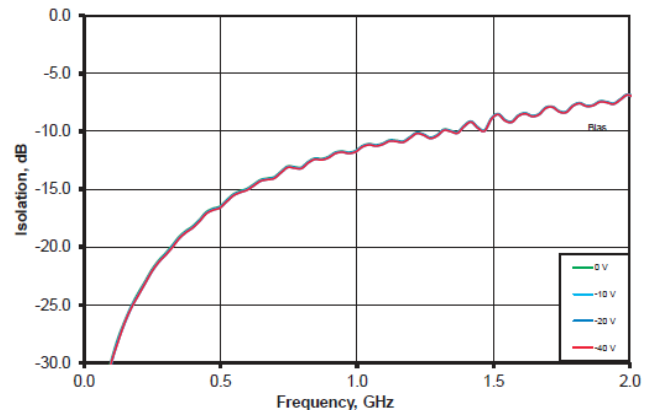
These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these Class 0 (HBM) devices.

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

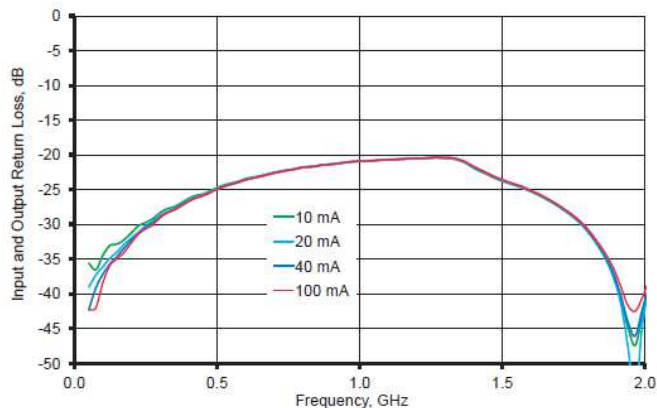
Insertion Loss



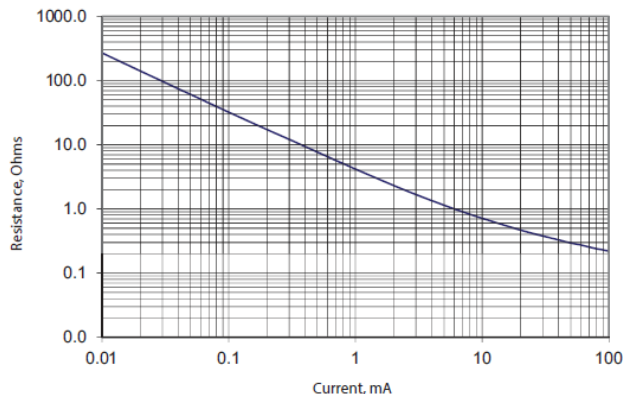
Isolation



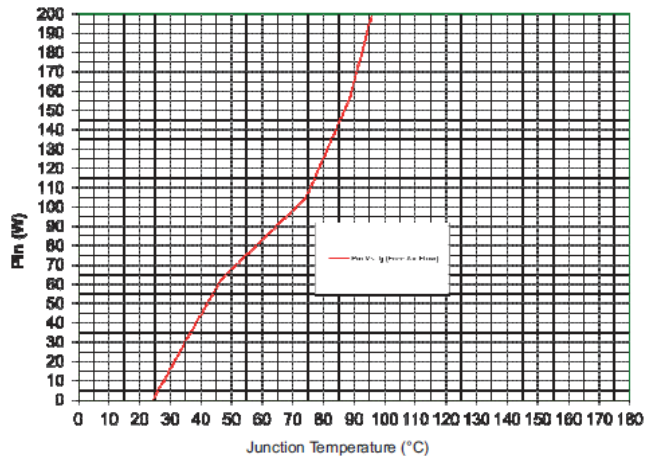
Input Return Loss



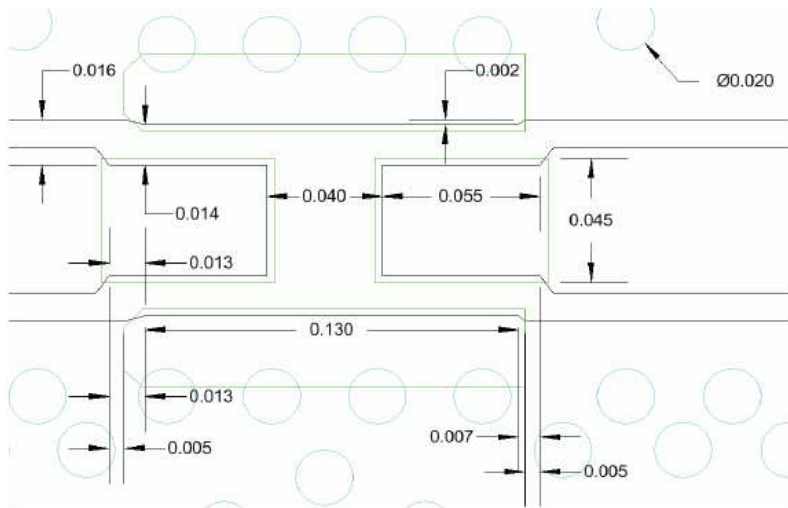
Resistance vs. Bias Current, 100 MHz



Junction Temperature vs. Input Power Mounted on Heat Sink @ $T_A = 25^\circ\text{C}$, 1.3 GHz



PCB Layout

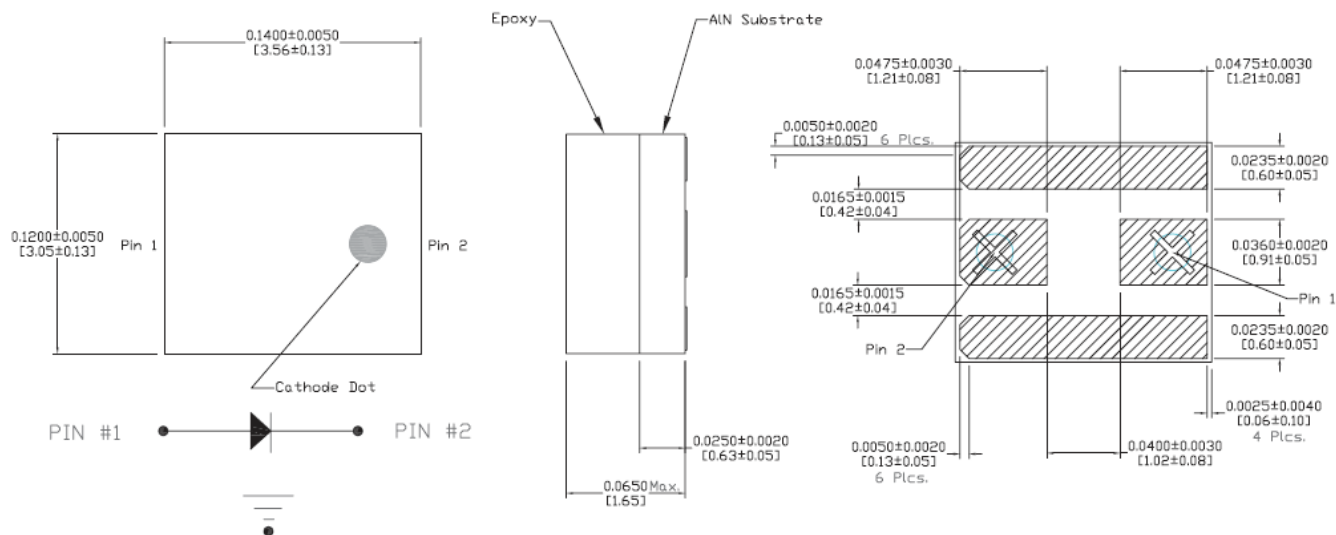


Plated through, filled and plated over vias

Solder mask should provide 60um clearance between copper pad and solder mask. Rounded pkg pads should have matching rounded solder mask openings.

Use circles or squares for the thermal land stencil design such that only get 60 to 80% solder paste coverage.

Outline (CM32)



Pin function for Silicon PIN diode.

1. Anode
2. Cathode

Notes:

1. Metallization: 250-350 μ " Cu / 60-100 μ " Ni / 15-45 μ " Au
2. Dimensions in mils [mm]

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