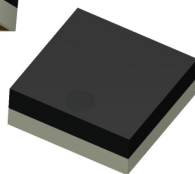


MEST²G-100-20-CM33

PIN DIODE SWITCH ELEMENT



(CM33)
non-hermetic



Description

The MEST2G-100-20-CM33 is a Thermal To Ground Series diode Switch Element in an Aluminum Nitride package. This part is designed for reliable high power switch applications up to 100 watts and with a frequency range to 2.6 GHz.

Features

- Low Insertion Loss < 0.10 dB at 1.0 GHz
- Low Insertion Loss < 0.15 dB at 2.6 GHz
- Medium Isolation > 16 dB at 1.0 GHz
- High Power Handling up to 100 watts

Maximum Ratings

RATING	LIMITS	UNITS
V_R	500	V
I_{FDC}	500	mA
θ_{JC}	18	°C/W
T_J	-40 to +175	°C
T_{STG}	-55 to +150	°C
T_{SOLDER}	+260 °C per JEDEC STD-J-20C	

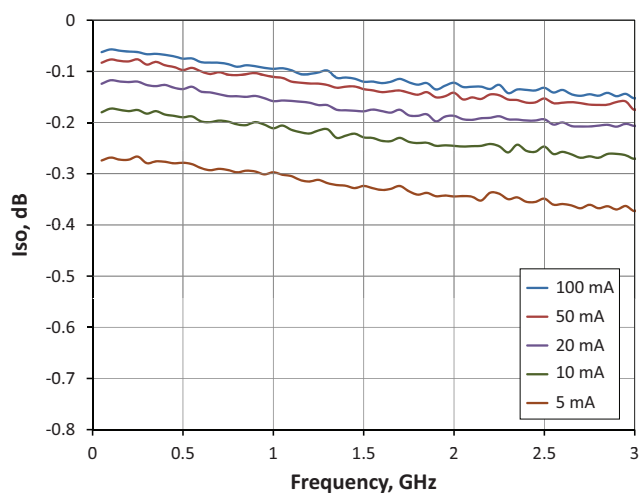
Electrical Characteristics, $T_c = +25\text{ °C}$

SYMBOL	TEST CONDITIONS		MIN	TYPICAL	MAX	UNITS
V_{BR}	$I_R = 10\text{ }\mu\text{A}$		500	—	—	V
I_R	$V_R = 100\text{ V}$		—	—	100	nA
V_F	$I_F = 50\text{ mA}$		—	900	950	mV
τ	$I_F = 10\text{ mA}$	$I_R = 6\text{ mA}$ measured at 50%	—	2000	—	ns
IRL / ORL	$I_F = 100\text{ mA}$	F < 1.0 GHz	25	38	—	dB
		F < 2.6 GHz	21	34	—	dB
I_L	$I_F = 100\text{ mA}$	F < 1.0 GHz	—	0.15	0.20	dB
		F < 2.6 GHz	—	0.20	0.25	dB
I_{SO}	$V_R = 10\text{ V}$	F < 1.0 GHz	14	16.5	—	dB
		F < 2.6 GHz	—	10	—	dB

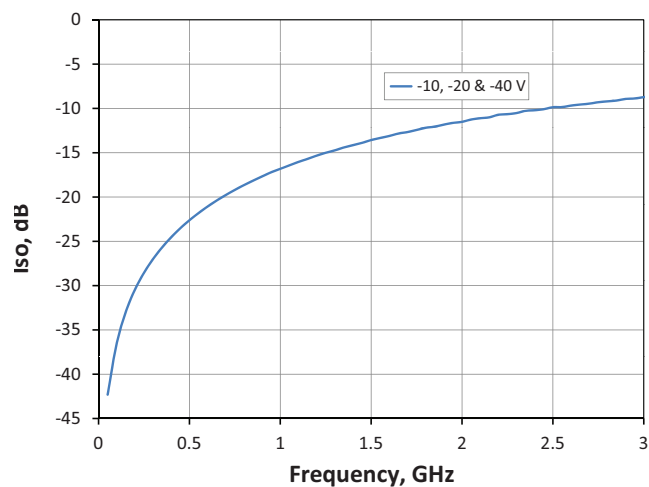


Typical RF Performance at 25° C Ambient, -10 dBm Small Signal (Unless Otherwise Specified)

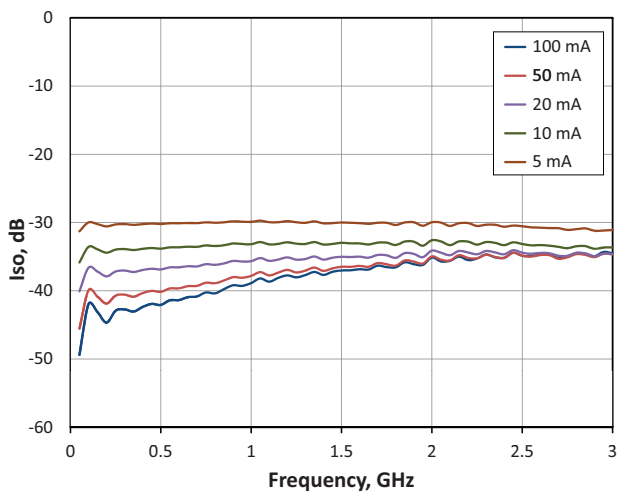
Insertion Loss



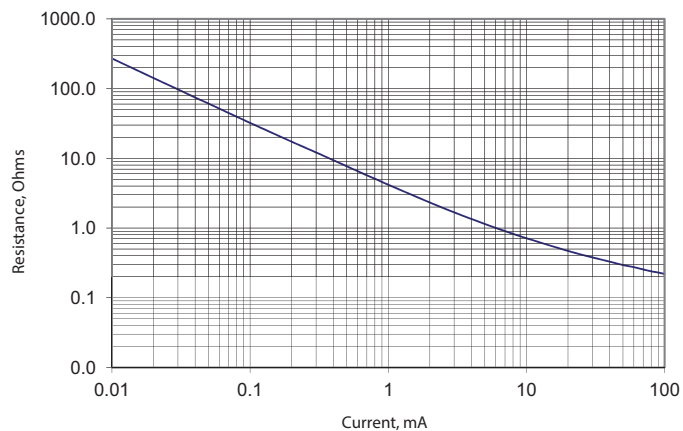
Isolation



Input and Output Return Loss



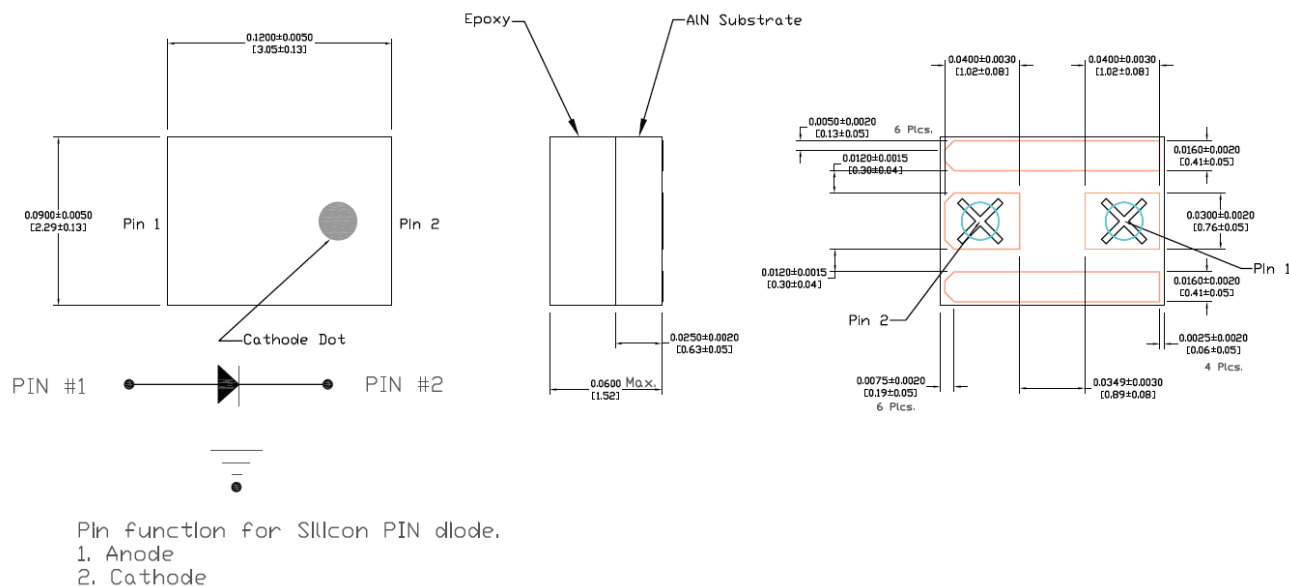
Resistance vs Bias Current 100 MHz



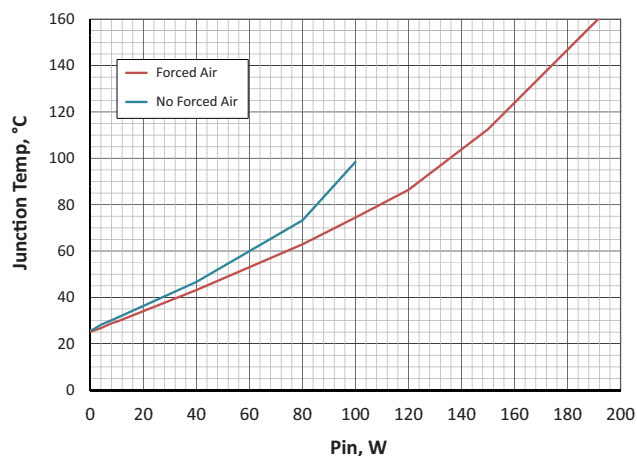
MEST²G-100-20-CM33



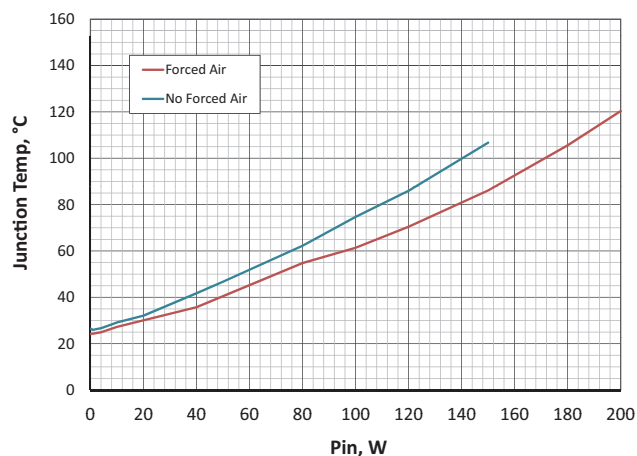
Package Outline (CM33)



Junction Temperature vs Input Power
PCB^[1] Mounted on Heat Sink
25°C Ambient, 1.3 GHz and 50 mA Bias



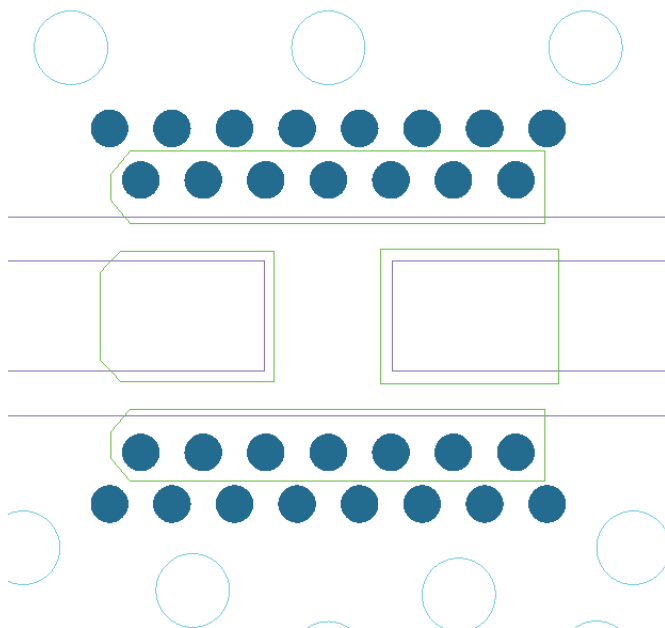
Junction Temperature vs Input Power
PCB^[1] Mounted on Heat Sink
25°C Ambient, 1.3 GHz and 100 mA Bias



Notes:

1. 16.6 mils Rogers RO4350B with ½ oz. copper clad and copper filled and plated over 10 mil diameter vias under package thermal ground.

PCB Layout



Copper filled and plated over 10 mil diameter vias on 17 mil centers.

Solder mask (in green) should provide 60 um clearance between copper pad and solder mask. Rounded pkg pads should have matching rounded solder mask openings. On the outer edges of package, use 100 um clearance.

For the solder paste stencil design, use circles or squares such that only get 60 to 80% solder paste coverage.

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.