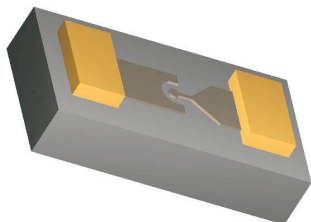


MEST²GFC-010-25

PIN DIODE SWITCH ELEMENT



(MESTEG)



Description

A broadband medium power series switch element in chip form (26X12 mils). This is an Electrical Series device with a direct Thermal path to Ground (EST²G). It can be used in place of Beam Lead devices for medium power (up to 10 Watts) series switching. It is also suited for other applications from 100 MHz up to 40 GHz.

Features

- Supports up to 10 watts power
- Low insertion loss typical 0.4 dB up to 40 GHz
- High Isolation typical 12 dB typical at 10 GHz

Maximum Ratings

RATING	LIMITS	UNITS
V_R	100	V
I_{FDC}	100	mA
θ_{JC}	60	°C/W
T_J	+175	°C
T_{STG}	-65 to +250	°C
T_{MTG}	+320 °C per 5 sec maximum	

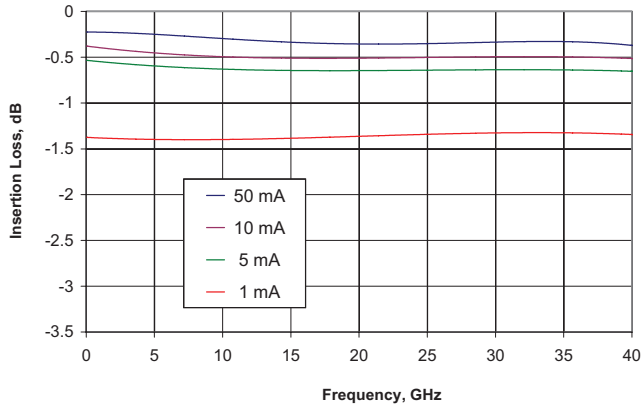
Electrical Characteristics, $T_c = +25\text{ °C}$

SYMBOL	TEST CONDITIONS			MINIMUM	TYPICAL	MAXIMUM	UNITS
V_{BR}	$I_R = 10\ \mu\text{A}$			100	–	–	V
τ	$I_F = 10\ \text{mA}$	$I_R = 6\ \text{mA}$	10% / 50%	–	85	–	ns
W	I-Layer			–	8	–	μm
R_S	$I_F = 100\ \text{mA}$		500 MHz		2.0	–	ohms
C_J	$V_R = -10\ \text{Volts}$		1 MHz	–	0.04	–	pF
I_L	$I_F = 50\ \text{mA}$		F = 10.0 GHz	–	0.3	0.4	dB
			F < 40.0 GHz	–	-0.4	–	dB
IRL	$I_F = 50\ \text{mA}$		F = 10.0 GHz	25	28	–	dB
			F < 40.0 GHz	–	15	–	dB
I_{So}	$V_R = -10\ \text{Volts}$		F = 10.0 GHz	10	12	–	dB
			F < 6.0 GHz	15	18	–	dB

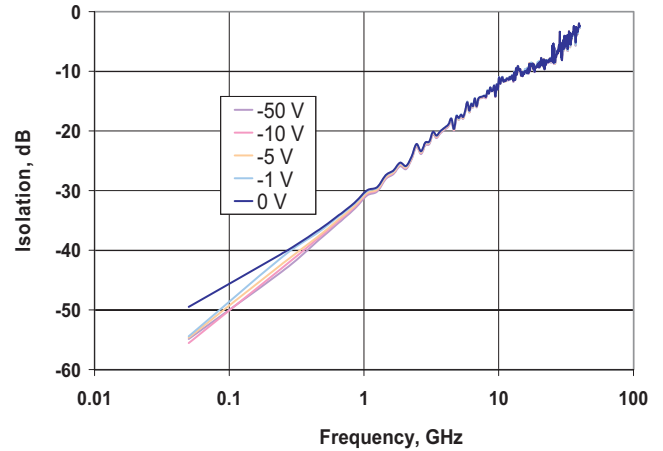


Typical RF Performance at TA = 25 °C, Zo = 50 Ω, Small Signal

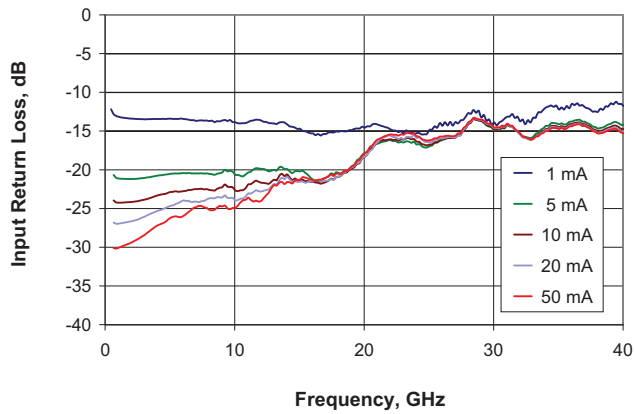
Insertion Loss



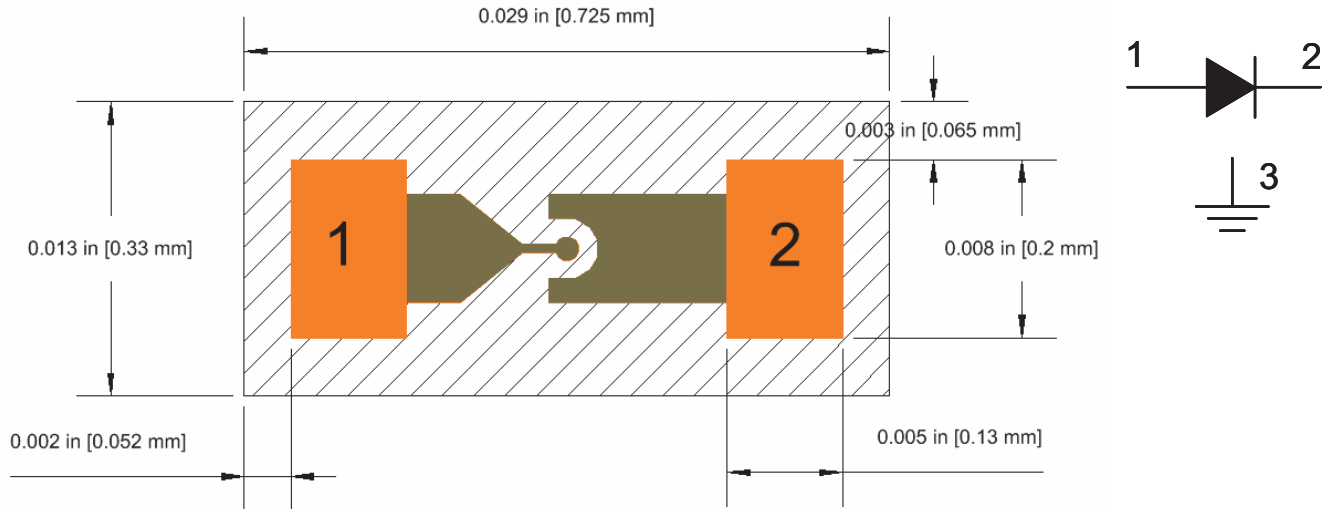
Isolation



Input Return Loss

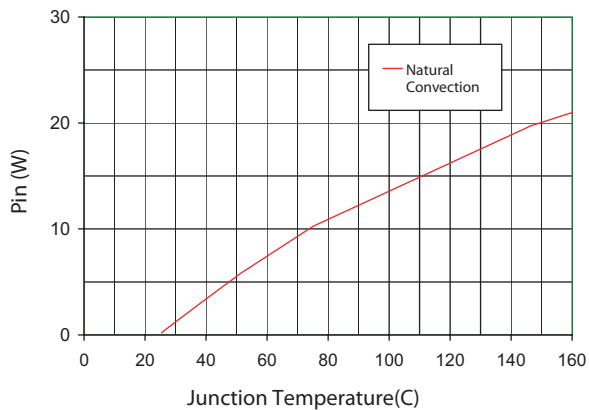


Package Outline

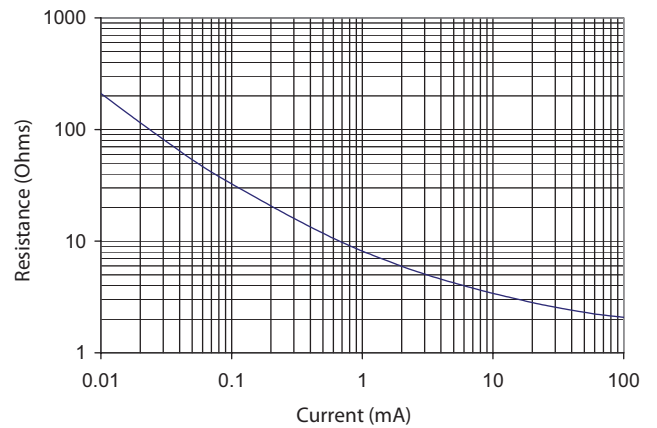


DIMENSIONS: INCHES [mm]
 CHIP THICKNESS: 5.5 MILS
 CHIP BACKSIDE: PLATED GOLD AND THERMAL GROUND
 BOND PADS: GOLD

Junction Temperature vs Input Power Mounted on Heat Sink 25°C Ambient, 1.3 GHz



Resistance vs Current 500 MHz



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