MSWSE-044-10

Silicon PIN Diode Switch Element

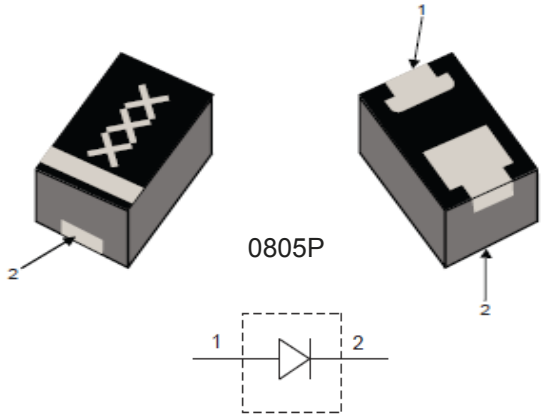
Rev. V1

Features

- Supports up to 40 W Power
- Broadband Performance up to 2 GHz
- Low Insertion Loss
- Medium Isolation
- RoHS* Compliant

Description

The MSWSE-044-010 is a PIN diode SPST switch element designed for medium incident power applications, up to 40W C.W. It has low insertion loss and medium isolation below 2.0 GHz.



Electrical Specifications: T_A = +25°C

Parameter	Test Conditions	Min.	Typ.	Max.	Units
Breakdown Voltage	I_R = 10 µA	300	—	—	V
Forward Voltage	I_F = 50 mA	—	900	1000	mV
Total Capacitance	V_R = 10 V, 1 MHz	—	0.3	0.4	pF
Series Resistance	I_F = 100 mA, 500 MHz	—	0.5	0.7	Ω
Lifetime	I_F = 10 mA, I_R = 6 mA , 50%	—	1200	—	ns
I-Region	I-Layer	—	40	—	µs
Insertion Loss	I_F = 10 mA, <1 GHz I_F = 10 mA, <2 GHz	—	0.20 0.25	0.30 0.35	dB
Isolation	V_R = 50 V, <1 GHz V_R = 50 V, <2 GHz	11 —	14 10	—	dB

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

Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
https://www.macom.com/support

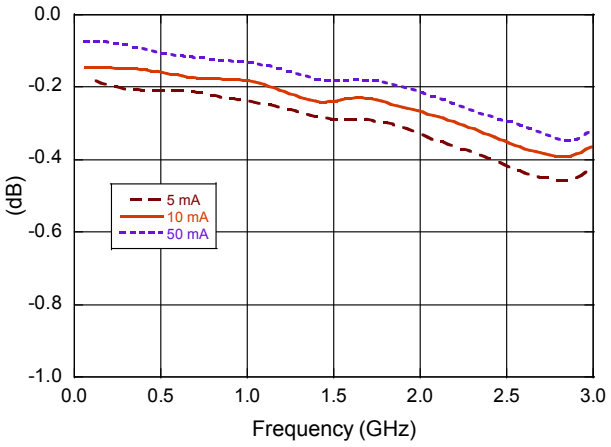
Absolute Maximum Ratings[1,2]

Parameter	Absolute Maximum
Breakdown Voltage	300 V
Forward Current	200 mA
Thermal Resistance	20°CW
Junction Temperature	+175°C
Storage Temperature	-55°C to +150°C
Solder Temperature	+260°C, per JEDEC STD-J-20C

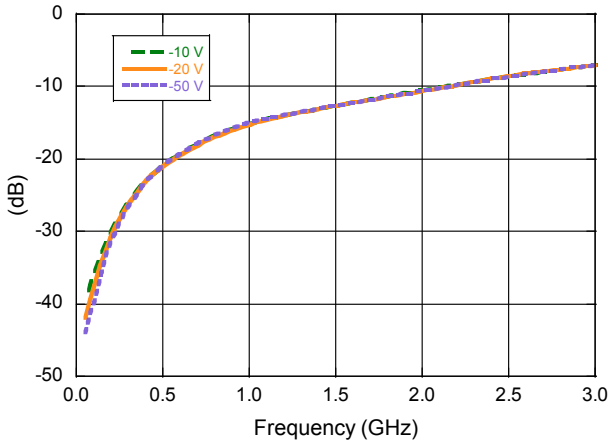
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Typical RF Performance Curves @ +25°C

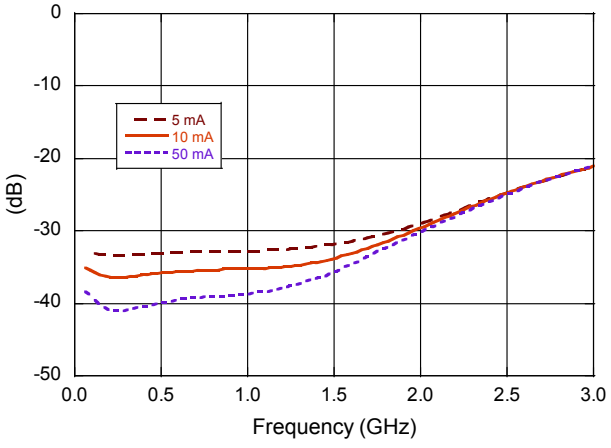
Insertion Loss



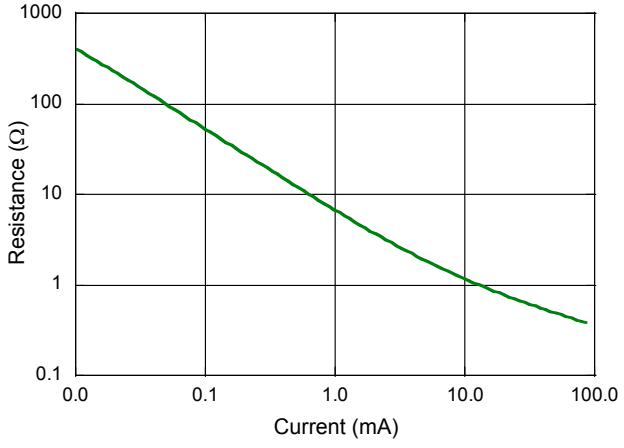
Isolation



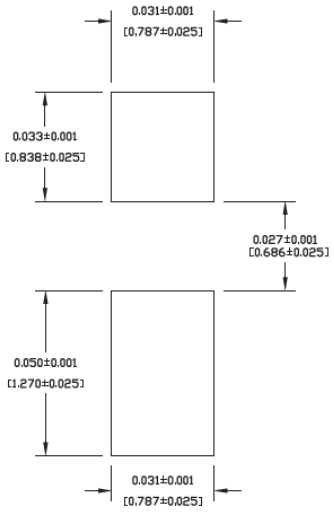
Input Return Loss



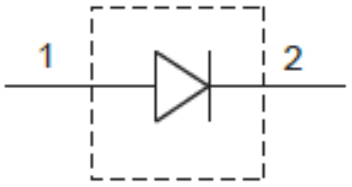
Series Resistance vs. Current



PCB Layout



Schematic



Outline (0805P)