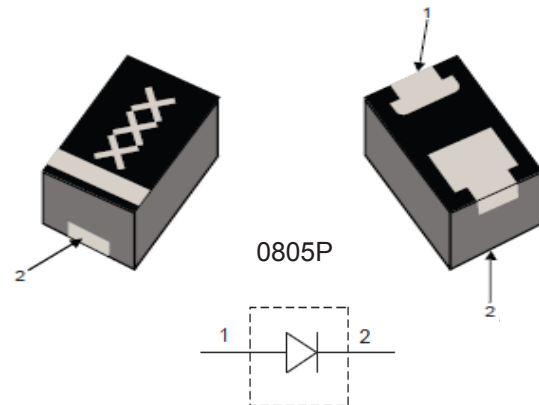


### Features

- Supports up to 60 W Power
- Broadband Performance up to 3 GHz
- Low Insertion Loss
- Medium Isolation
- RoHS\* Compliant

### Description

A broadband, high linearity, medium power series switch element in a 2.0 x 1.3 mm QFN package. This device is designed for WiMax, Wibro, WLAN, TD-SCDMA and other wireless infrastructure applications. It is also suited for 0.1 ~ 3 GHz applications with up to 60 watts of power.



### Electrical Specifications: $T_A = +25^\circ\text{C}$

Parameter	Test Conditions	Min.	Typ.	Max.	Units
Breakdown Voltage	$I_R = 10 \mu\text{A}$	500	—	—	V
Forward Voltage	$I_F = 50 \text{ mA}$	—	850	950	mV
Total Capacitance	$V_R = 50 \text{ V}, 1 \text{ MHz}$	—	0.20	0.25	pF
Series Resistance	$I_F = 100 \text{ mA}, 100 \text{ MHz}$	—	0.7	0.9	$\Omega$
Lifetime	$I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, 50\%$	—	1600	—	ns
I-Region	I-Layer	—	80	—	$\mu\text{m}$
Insertion Loss	$I_F = 50 \text{ mA}, <0.5 \text{ GHz}$ $I_F = 50 \text{ mA}, <2.0 \text{ GHz}$	—	0.1 0.1	0.2 0.2	dB
Return Loss	$I_F = 50 \text{ mA}, <0.5 \text{ GHz}$ $I_F = 50 \text{ mA}, <2.0 \text{ GHz}$	25 20	33 25	—	dB
Isolation	$V_R = 50 \text{ V}, <0.5 \text{ GHz}$ $V_R = 50 \text{ V}, <2.0 \text{ GHz}$	22 10	24 12	—	dB

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

## Silicon SPST PIN Diode Switch Element

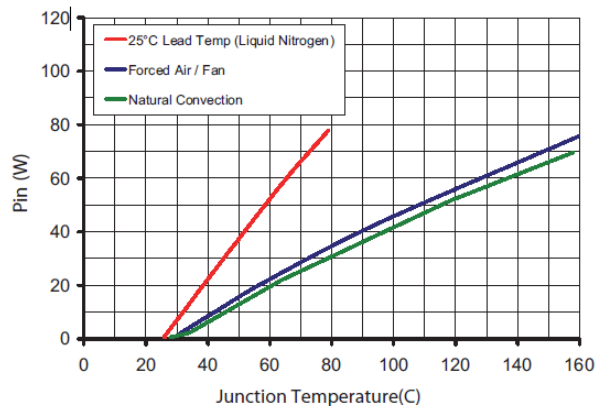
Rev. V2

### Absolute Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
Breakdown Voltage	500 V
Forward Current	500 mA
Thermal Resistance	10°C/W
Junction Temperature	+175°C
Storage Temperature	-55°C to +150°C
Solder Temperature	+260°C per JEDEC STD-J-20C

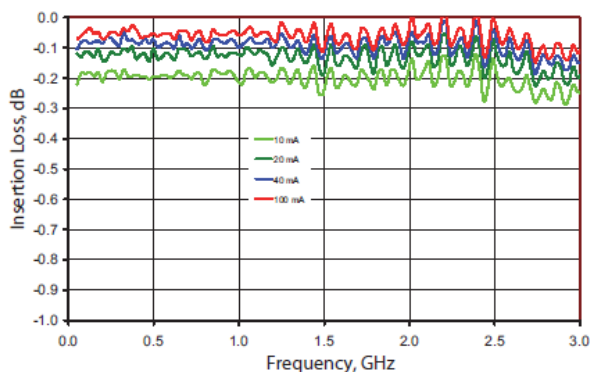
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

### Junction Temperature vs. Input Power Backside of Board $T_A = 25^\circ\text{C}$ , Board Thickness 20 mil PCB Mounted on Heat Sink @ 1.3 GHz

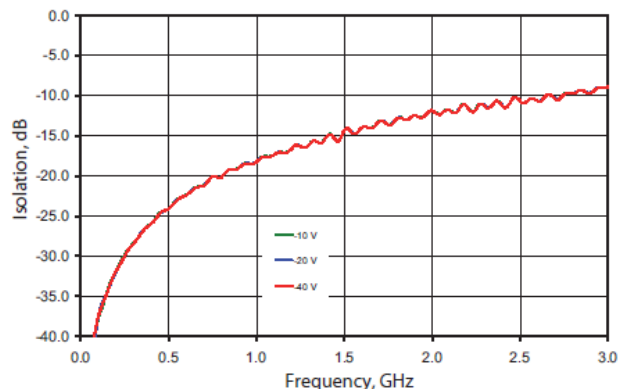


### Typical RF Performance Curves @ +25°C

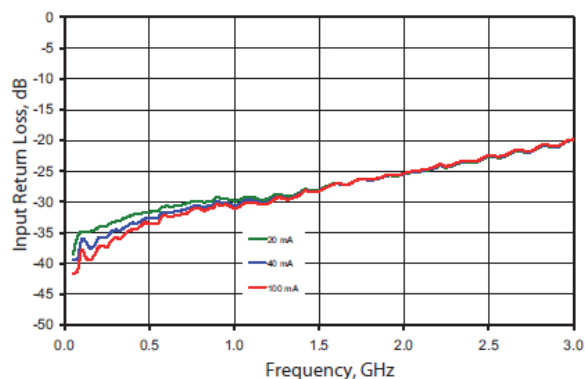
#### Insertion Loss



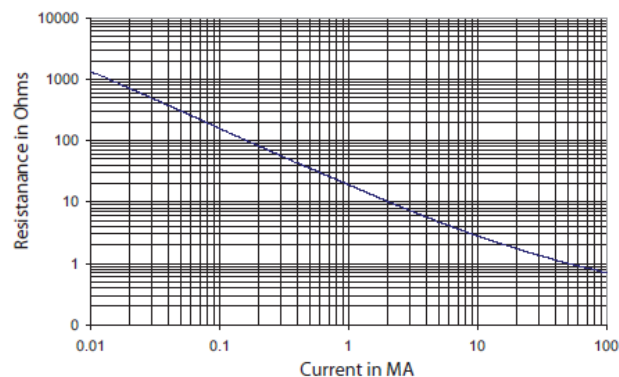
#### Isolation



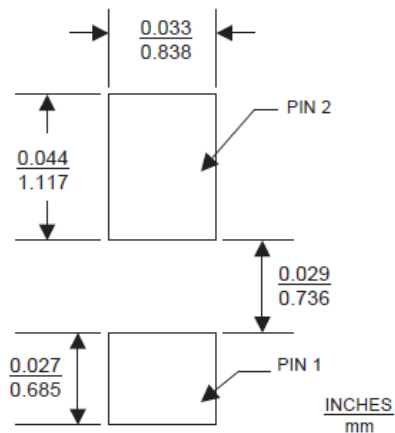
#### Input Return Loss



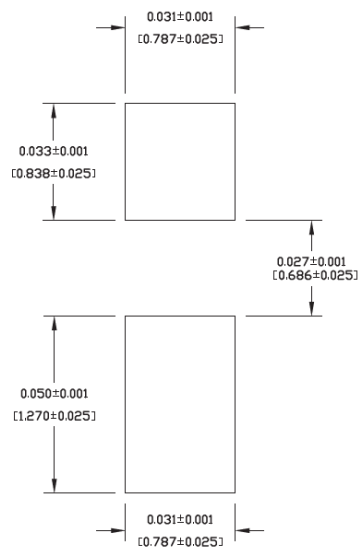
#### Series Resistance vs. Current, 500 MHz



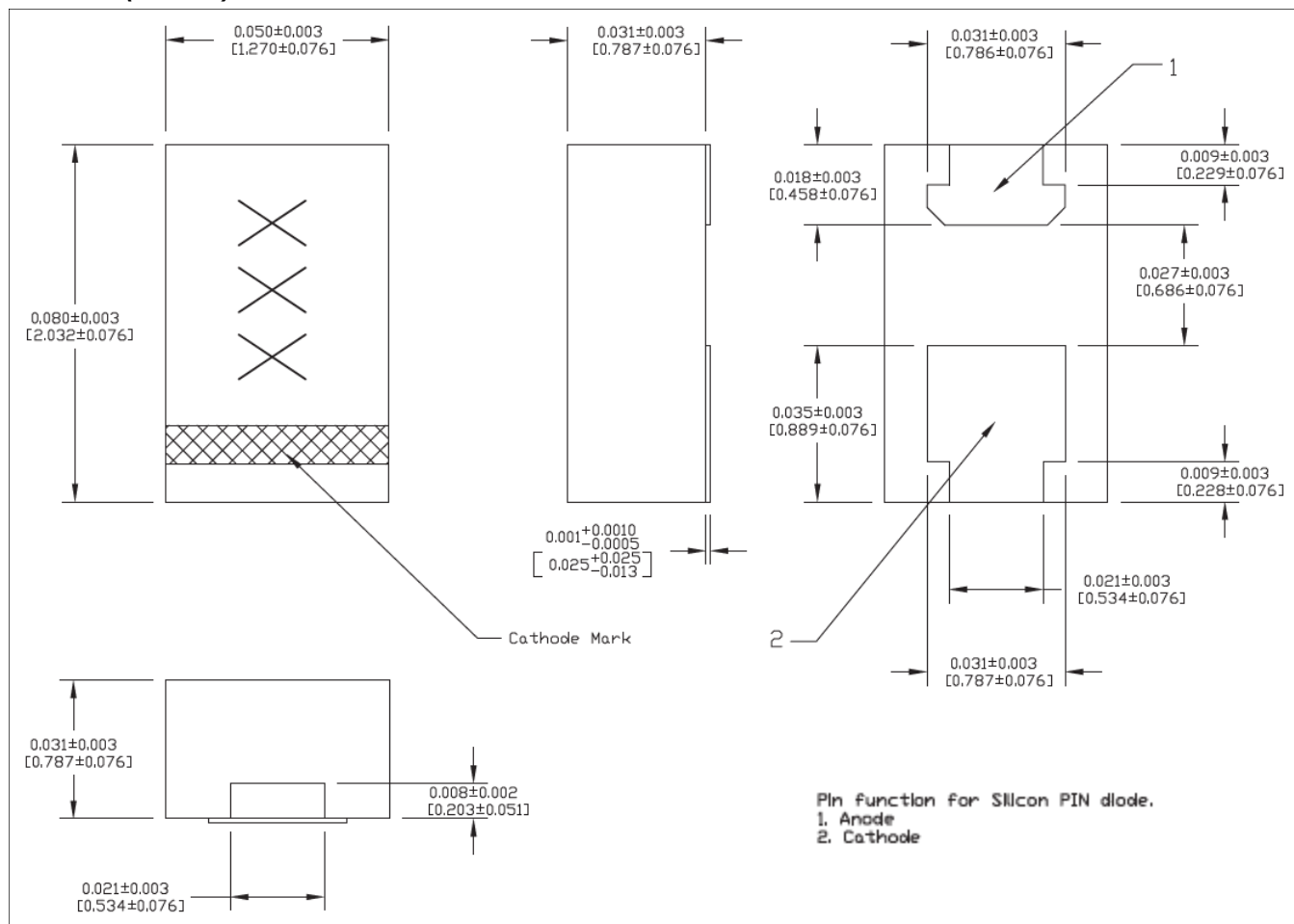
### PCB Layout



### Soldering Footprint



### Outline (0805P)



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