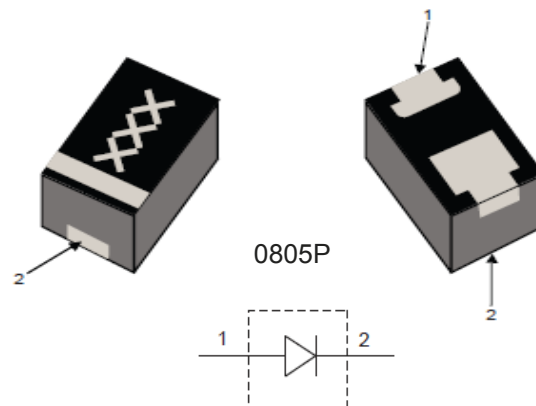


Features

- Supports up to 50 W Power
- 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 50 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	$V_R = 50 \text{ V}, 1 \text{ MHz}$	—	0.53	0.65	pF
Series Resistance	$I_F = 100 \text{ mA}, 500 \text{ MHz}$	—	0.4	0.6	Ω
Lifetime	$I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, 50\%$	—	3200	—	ns
I-Region	I-Layer	—	80	—	μs
Insertion Loss	$I_F = 50 \text{ mA}, <0.5 \text{ GHz}$	—	0.1	0.2	dB
	$I_F = 50 \text{ mA}, <1.0 \text{ GHz}$	—	0.1	0.2	
Isolation	$V_R = 50 \text{ V}, <0.5 \text{ GHz}$	12	15	—	dB
	$V_R = 50 \text{ V}, <1.0 \text{ GHz}$	—	10		

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

Silicon PIN Diode Switch Element

Rev. V1

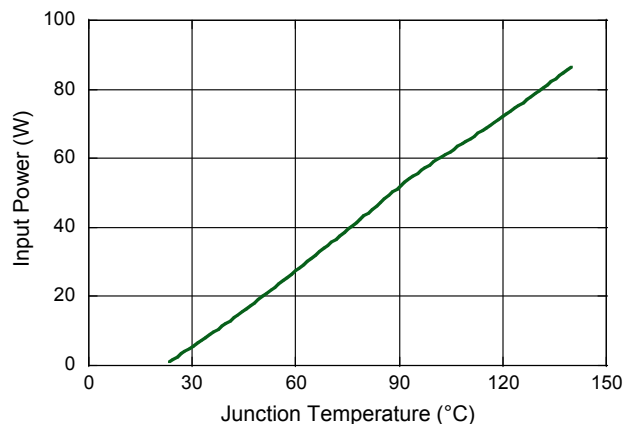
Absolute Maximum Ratings^{1,2}

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.

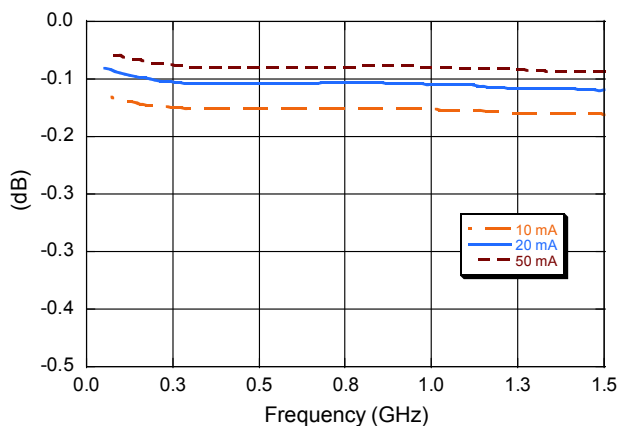
Junction Temperature vs. Input Power

Backside of Board $T_A = 25^\circ\text{C}$, Board Thickness 62 mils

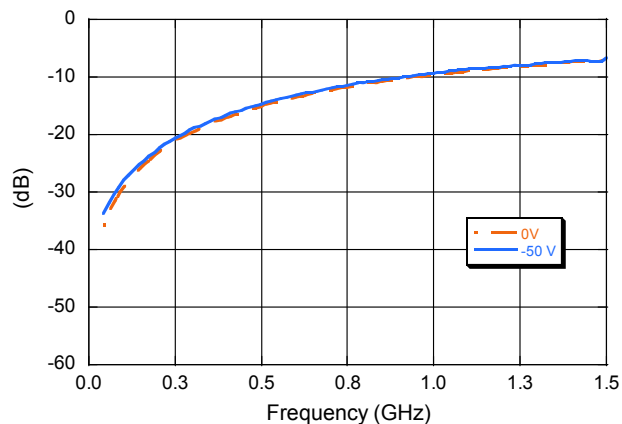


Typical RF Performance Curves @ +25°C

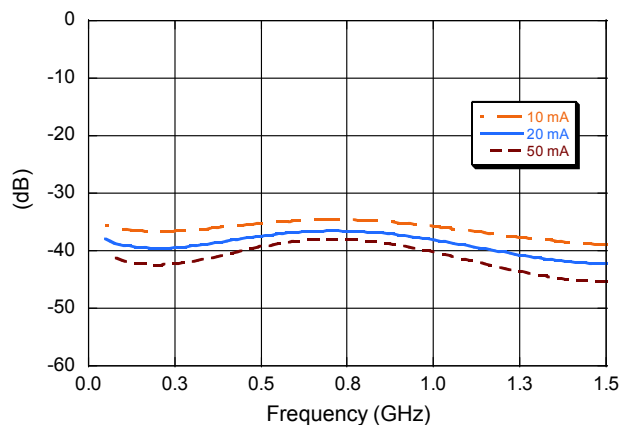
Insertion Loss



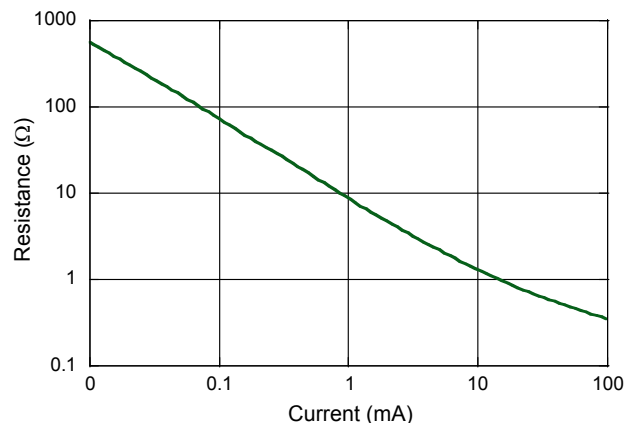
Isolation



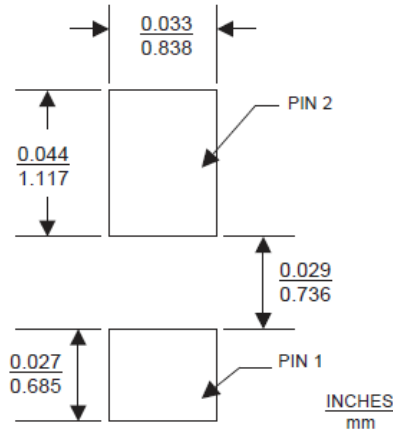
Input Return Loss



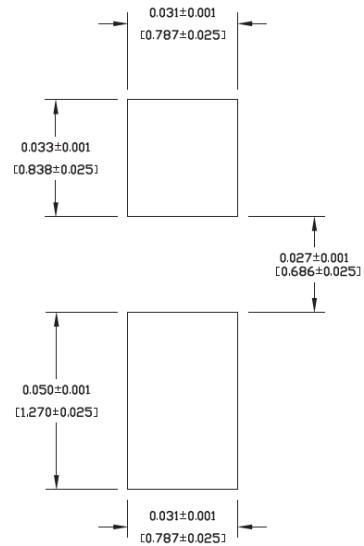
Series Resistance vs. Current, 500 MHz



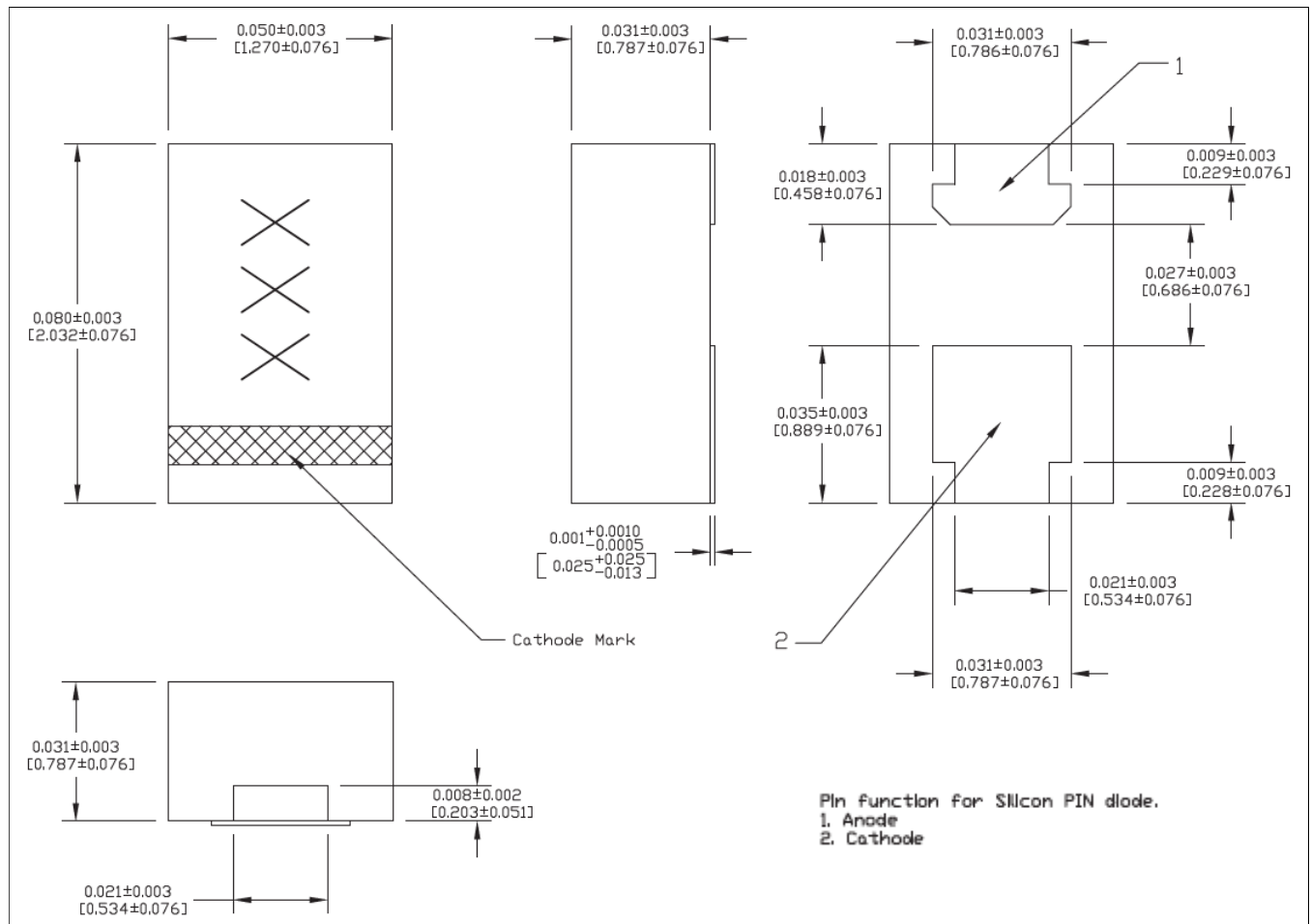
PCB Layout



Soldering Footprint



Outline (0805P)



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