UPP9401e3

POWERMITE™ PACKAGE COMMERCIAL TWO-WAY RADIO ANTENNA SWITCH DIODE

Microsemi
SCOTTSDALE DIVISION

www.Microsemi.COM

DESCRIPTION

This Microsemi Powermite PIN diode is perfect for two-way radio antenna switch applications where size and power handling capability are critical with its high isolation, low loss and low distortion characteristics. Its advantages also include the low forward-bias resistance and high zero-bias impedance that are essential for low loss, high isolation and wide bandwidth antenna switch performance. It is an ideal selection for applications requiring low profile and high-density mounting and is also available as RoHS Compliant with an e3 suffix. The Powermite package provides a full-metallic bottom that eliminates the possibility of solder flux entrapment during assembly, and its unique locking tab acts as an efficient heat path to the mounting surface. Its innovative design makes this device ideal for use with automatic insertion equipment.

IMPORTANT: For the most current data, consult *MICROSEMI's* website: **http://www.microsemi.com**

APPEARANCE



FEATURES

- High Power Surface Mount Package with very low thermal resistance
- RoHS compliant with e3 suffix part number
- Specified Low Distortion
- Low Bias Current Requirements
- High Zero Bias Impedance
- Full Metallic Bottom Eliminates Flux Entrapment
- Integral Heat Sink/Locking Tabs

APPLICATIONS / BENEFITS

- Two-way radio antenna switch
- Low forward bias resistance
- High zero bias resistance
- Low loss high isolation for wide bandwidth performance
- Small size DO-216 package
- Compatible with Automatic insertion Equipment
- Very Low Inductance and Capacitance

MAXIMUM RATINGS

- Maximum Reverse Voltage: 50 Volts
- Average Power Dissipation @ T_{TAB1} =75°C: 2.5 Watts (When mounted on a PC board with 2 oz copper.)
- Thermal Resistance Junction to case (bottom): 10°C/W
- Operating and Storage Temperature: -55°C to +150°C
- Solder Temperatures: 260 °C for 10 s (maximum)

MECHANICAL AND PACKAGING

- CASE: Void-free transfer molded thermosetting epoxy compound meeting UL94V-0
- TERMINALS: Annealed matteTin over copper and readily solderable per MIL-STD-750, method 2026
- POLARITY: Cathode designated by TAB 2
- MARKING: P01•
- WEIGHT: 0.016 gram (approximate)
- See package dimension on last page
- Tape & Reel option: 16 mm tape per Standard EIA-481-B, 3000 on 7 inch reel or 12,000 on 13 inch reel

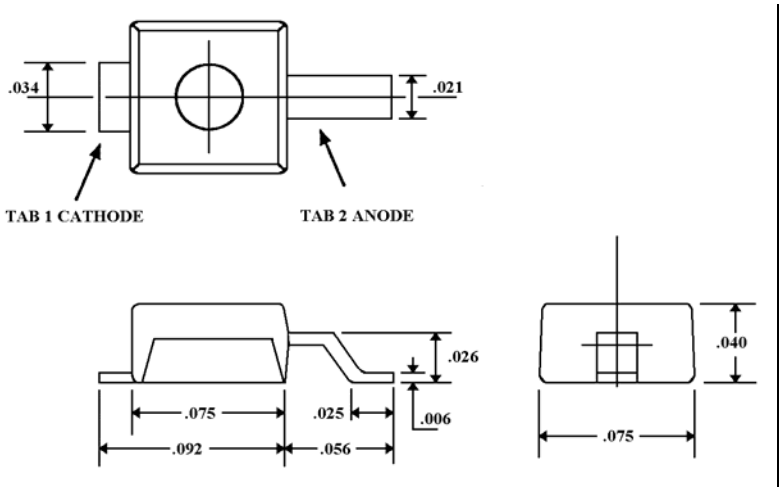
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless noted)

Series Resistance R_S, Ohms f = 100 MHz I_F=50 mA		Capacitance @ f = 100 MHz V_R = 0 V C_T pF		Parallel Resistance @ f = 100 MHz V=0 V R_P Ohms		Carrier Lifetime @ I_F = 10 mA τ µS		Transmit Harmonic Distortion @ Pin = 50 W f = 50 MHz I_F = 50 mA -dB	Receive 3rd Order Harmonic Distortion @ f = 100 MHz V = 0 V f_A = 50 MHz f_B = 51 MHz -dB	Voltage Rating V_R @ I_R = 10 µA Volts	Forward Voltage V_F @ I_F = 50 mA Volts
TYP	MAX	TYP	MAX	MIN	TYP	MIN	TYP	MIN	MIN	MIN	MAX
0.75	1.0	0.75	1.0	5K	10K	1.0	2.0	80	60	50	1.0

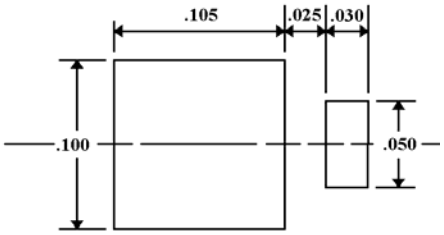
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PACKAGE AND MOUNTING PAD DIMENSIONS



DO-216 Package (All dimensions +/-.005 inches)



MOUNTING PAD (inches)

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