

SURFACE MOUNT PACKAGE PIN DIODE
400 V 2.5 WATT
 Commercial Two-Way Radio
 Antenna Switch Diode

UPP1001
UPP1002
UPP1004

FEATURES

- . High Power Surface Mount Package
- . Low Bias Current Requirements
- . High Zero Bias Impedance
- . Compatible with Automatic Insertion Equipment
- . Very Low Inductance and Capacitance
- . Full Metallic Bottom Eliminates Flux Entrapment
- . Integral Heat Sink/Locking Tabs

DESCRIPTION

With high isolation, low loss, and low distortion characteristics, this Microsemi Powermite PIN diode is perfect for two-way radio antenna switch applications where size and power handling capability are critical.

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.

The Powermite package's full metallic bottom eliminates the possibility of solder flux entrapment during assembly, and its unique locking tab acts as an integral heat sink. Its innovative design makes this device ideal for use with automatic insertion equipment.

ABSOLUTE MAXIMUM RATINGS

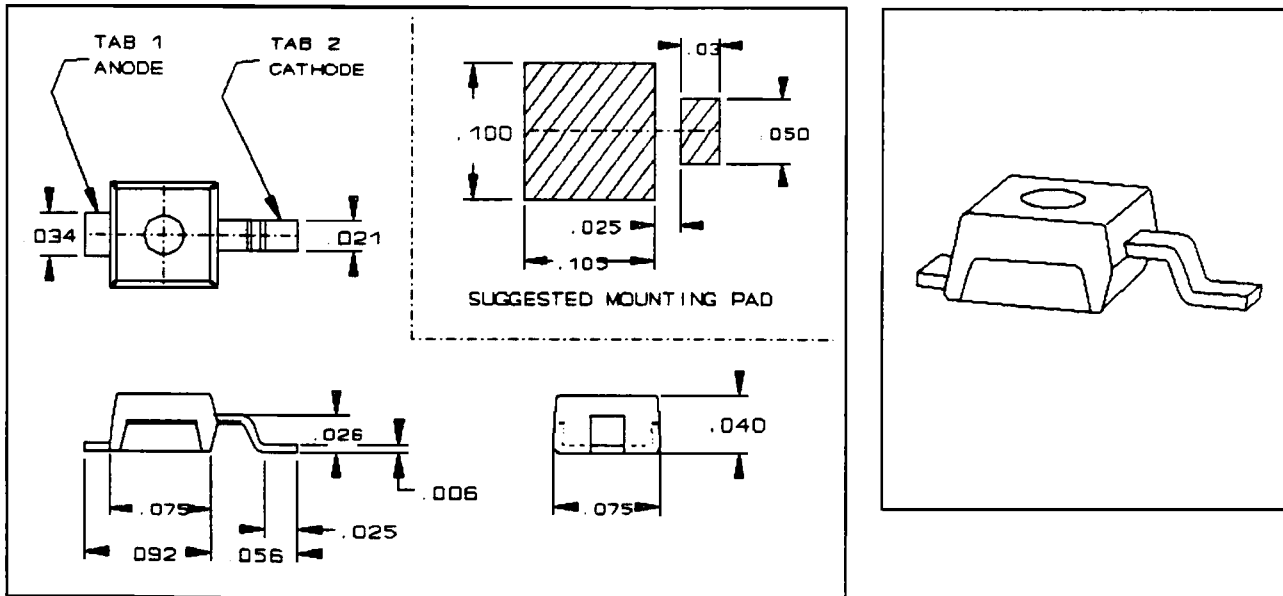
| | |
|--|-----------------|
| Maximum Reverse Voltage..... | 100/200/400V |
| Average Power Dissipation @ T _{TAB 1} = 75°C..... | 2.5W* |
| Thermal Resistance Junction to Tab..... | 30°C/W |
| Thermal Resistance Junction to Bottom..... | 10°C/W |
| Operating and Storage Temperature..... | -55°C to +150°C |

*WHEN MOUNTED ON A PC BOARD WITH 2 OZ. COPPER.

VOLTAGE RATINGS (25°C)

| Reverse Voltage (V _R) - Volts I _R = 10µA | Part type |
|---|-----------|
| 100V | UPP1001 |
| 200V | UPP1002 |
| 400V | UPP1004 |

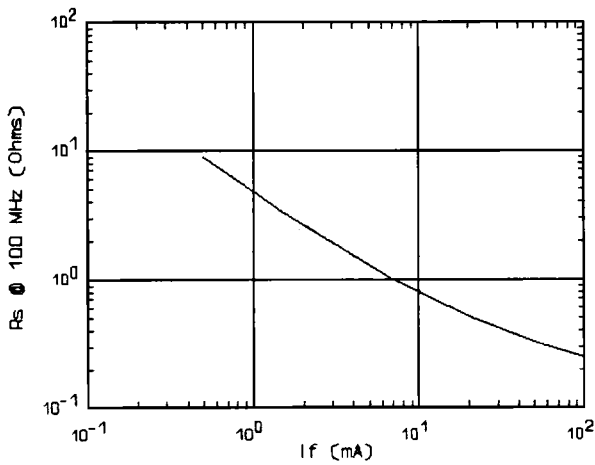
MECHANICAL SPECIFICATIONS



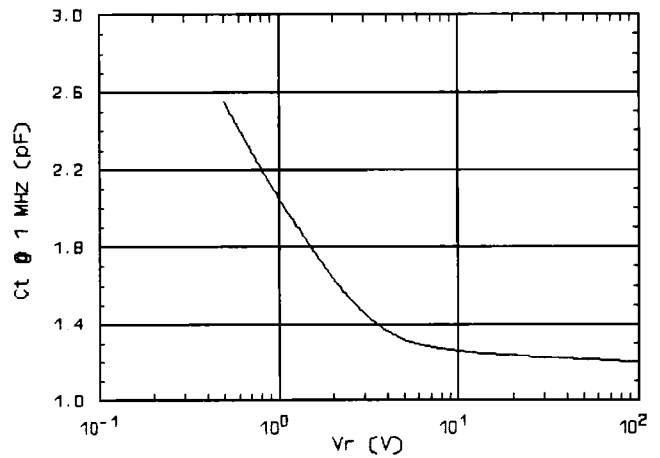
ELECTRICAL SPECIFICATIONS (25°C)

| Test | Min. | Typ. | Max. | Units | Conditions |
|---------------------------|------|------|------|------------|-----------------|
| Diode Resistance R_s | | 0.75 | 1.0 | Ω | 100MHz, 10mA |
| Diode Resistance R_s | | 0.35 | 0.45 | Ω | 100MHz, 50mA |
| Capacitance C_T | | 1.2 | 1.6 | pF | 1MHz, 100V |
| Reverse Current I_R | | 0.1 | 10 | μA | @ Rated Voltage |
| Carrier Lifetime t | 2 | 3.5 | | μs | 10mA |
| Parallel Resistance R_p | 5 | 8 | | K Ω | 100MHz, 0V |
| Forward Voltage V_f | | 0.75 | 1.0 | V | 50mA |

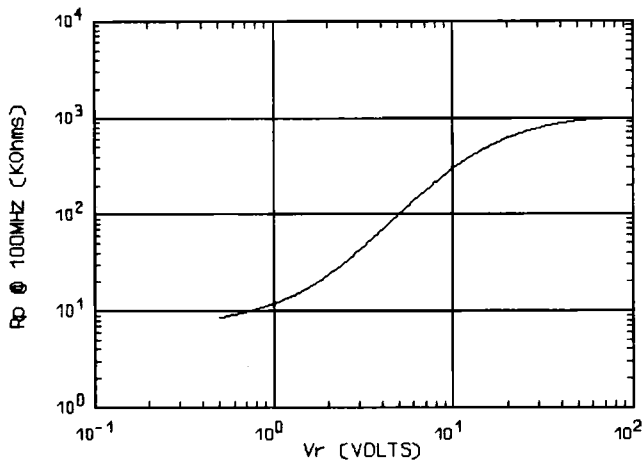
UPP1001, 2, 4
TYPICAL



UPP1001, 2, 4
TYPICAL



UPP1001, 2, 4
TYPICAL



UPP1001, 2, 4
TYPICAL

