

SURFACE MOUNT 1A SCHOTTKY RECTIFIER

UPS5817
UPS5819

POWERMITE™ Package

FEATURES

- High Power Surface Mount Package
- Guard Ring Protection
- Low Forward Voltage
- Integral Heat Sink/Locking Tabs
- Compatible with Automatic Insertion Equipment
- Full Metallic Bottom Eliminates Flux Entrapment

DESCRIPTION

In Microsemi's new Powermite SMT Package, these high efficiency Schottky rectifiers offer the power handling capabilities previously found only in much larger packages. They are ideal for SMD applications that operate at high frequencies.

In addition to its size advantages, Powermite package features include a full metallic bottom that eliminates the possibility of solder flux entrapment during assembly, and a 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 UPS5817 | 20V |
| Maximum Reverse Voltage UPS5819 | 40V |
| Maximum Average Output Current $T_{TAB1} = 100^{\circ}\text{C}$ | 1.0A |
| Thermal Resistance, Junction to TAB_1 | 30°C/W |
| Thermal Resistance, Junction to Bottom | 10°C/W |
| Non-Repetitive Sinusoidal Surge Current (8.3ms) | 50A |
| Operating and Storage Temperature | -55°C to +150°C |

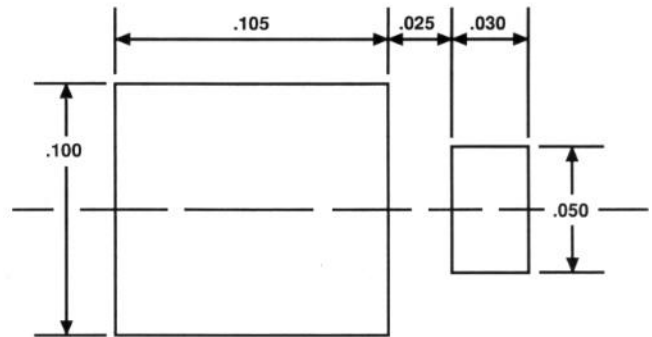
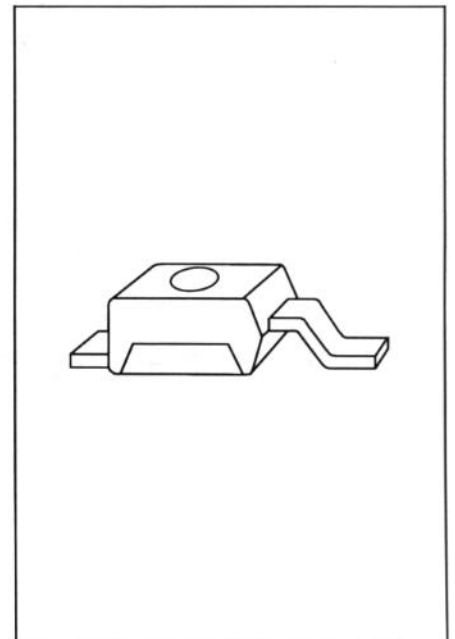
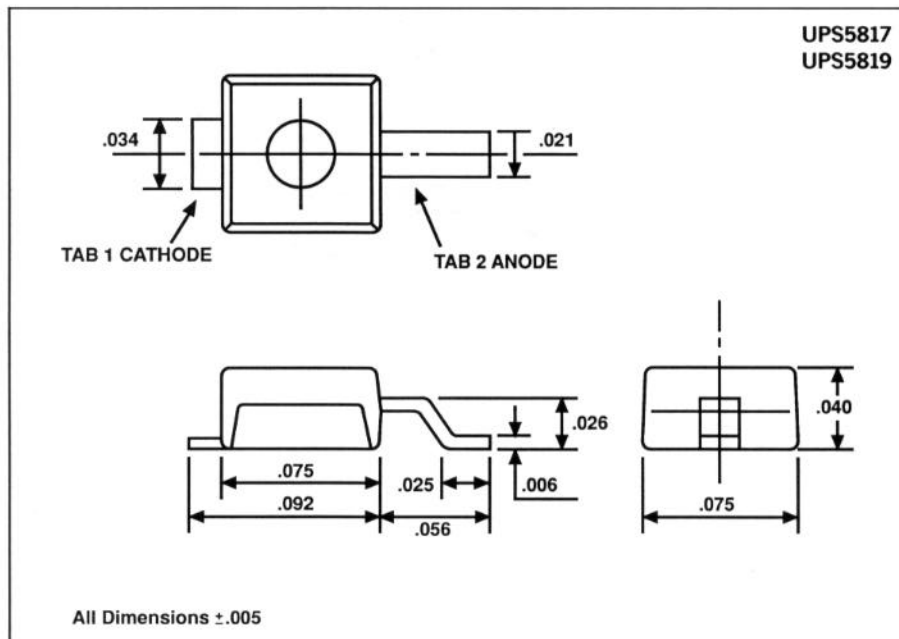


Figure 1. Suggested Mounting Pad Dimensions

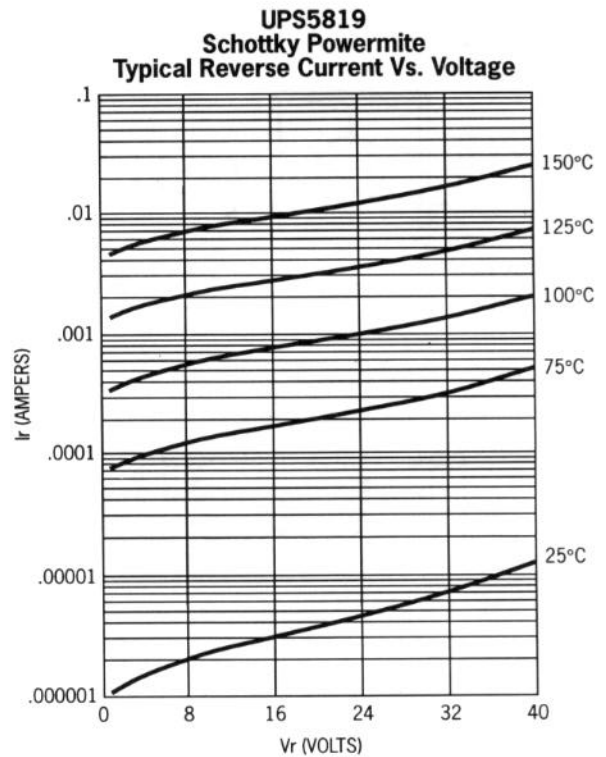
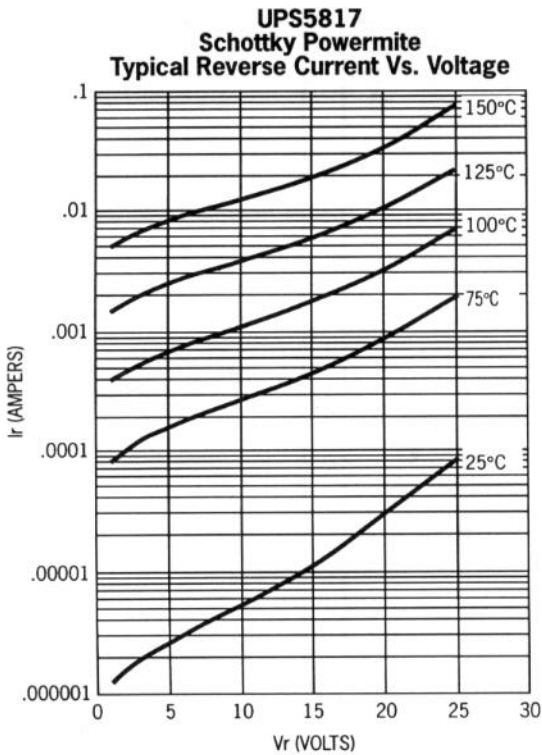
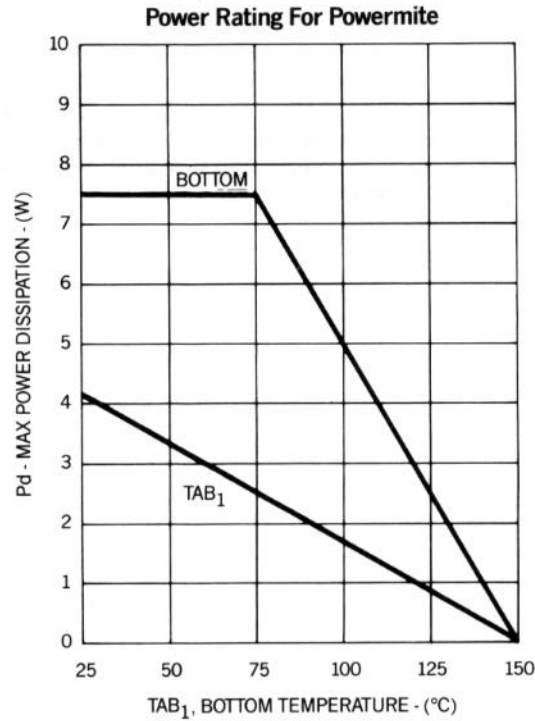
MECHANICAL SPECIFICATIONS



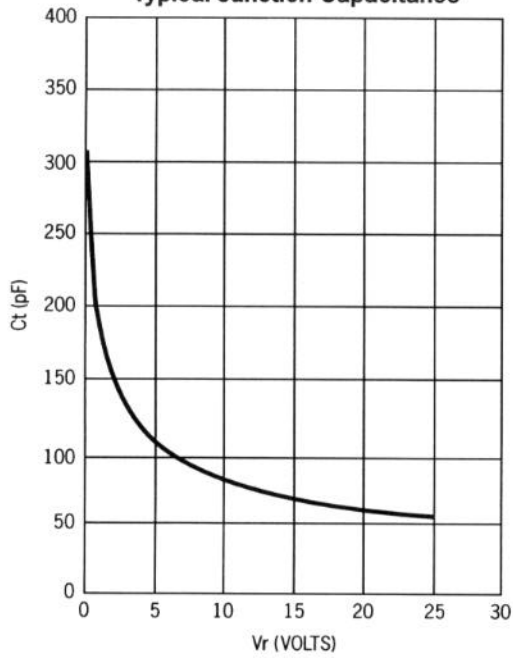
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless noted)

UPS5817
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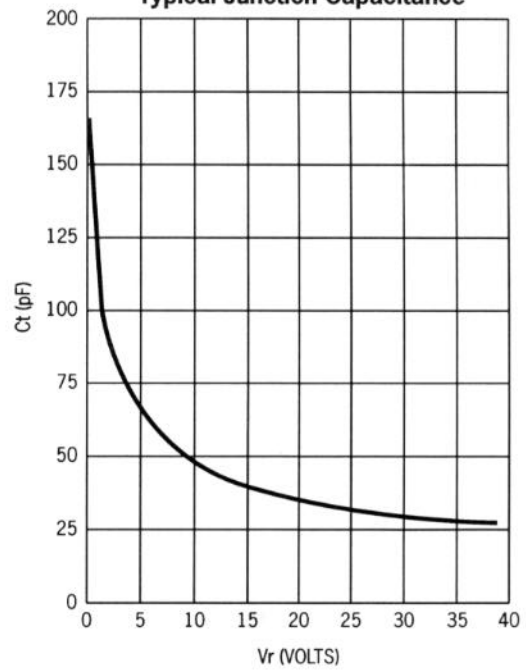
| TEST | CONDITIONS | UPS5817 | UPS5819 |
|--|-----------------------------|---------|---------|
| Maximum Forward Voltage (V _{FM}) | IFM = 0.1A | .36V | .39V |
| Maximum Forward Voltage (V _{FM}) | IFM = 1.0A | .45V | .55V |
| Maximum Forward Voltage (V _{FM}) | IFM = 3.0A | .65V | .85V |
| Maximum Reverse Current (I _{RM}) | V _R = Max Rating | 1mA | 1mA |
| Typical Junction Capacitance | V _R = 5.0V | 105pF | 60pF |



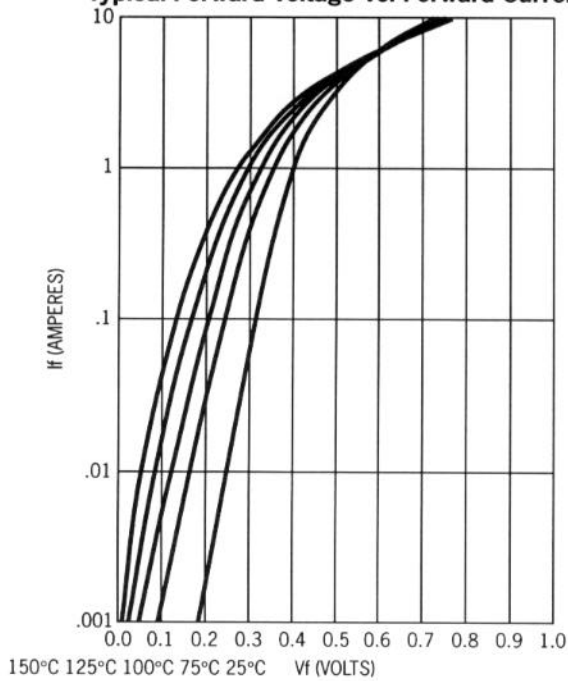
**UPS5817
Schottky Powermite
Typical Junction Capacitance**



**UPS5819
Schottky Powermite
Typical Junction Capacitance**



**UPS5817
Schottky Powermite
Typical Forward Voltage Vs. Forward Current**



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