

### DESCRIPTION

In Microsemi's new Powermite SMT Package, these high efficiency Schottky rectifiers offer 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

## SURFACE MOUNT

### POWERMITE® Surface Mount Power Package

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

### KEY FEATURES

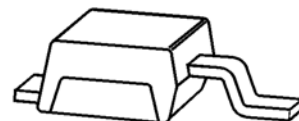
- Low Profile – Maximum height of 1.1 mm
- Footprint Area of 10 mm<sup>2</sup>
- Low  $V_F$  Provides Higher Efficiency
- Low Thermal Resistance with Direct Thermal Path of Die on Exposed Cathode Heat Sink
- Supplied in 8mm Tape and Reel – 3,000 units/7" Reel; 12,000 units/13" Reel

### APPLICATIONS/BENEFITS

- High power Surface Mount Package
- Guard Ring Protection
- Ultra Low forward voltage
- Integral Heat Sink/Locking Tabs
- Compatible with Automatic Insertion Equipment
- Full Metallic Bottom Eliminates Flux Entrapment
- High Surge Capacity
- Ideal for OR'ing Diode

### MECHANICAL CHARACTERISTICS

- Case: Molded Epoxy
- Meets UL94VO at 1/8 inch
- Device Marking S15U
- Lead and Mounting Surface Temperature for Soldering = 260°C Maximum for 10 Seconds



**MAXIMUM RATINGS**

RATING	(Conditions)	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage		$V_{RRM}$	15	V
Working Peak Reverse Voltage		$V_{RWM}$	15	V
		$V_R$		V
Average Rectified Forward Current	(@ Rated $V_R$ and $T_J = 65^\circ\text{C}$ )	$I_O$	1.0	A
Repetitive Peak Surge Current	(Non-Repetitive peak surge current @ $I_O = 1.0$ Amps )	$I_{FSM}$	50	A
Storage Temperature Range		$T_{STG}, T_C$	-55 to 150	$^\circ\text{C}$
Operating Temperature Range		$T_J$	-55 to 100	$^\circ\text{C}$
Voltage Rate of Change	(@ Rated $V_R$ and $T_J = 25^\circ\text{C}$ )	$dv/dt$	1000	V/us
Max Peak Reverse Current ( $V_{RRM} = 15\text{V}$ , $T_J = 25^\circ\text{C}$ )		$I_{RM}$	10	mA

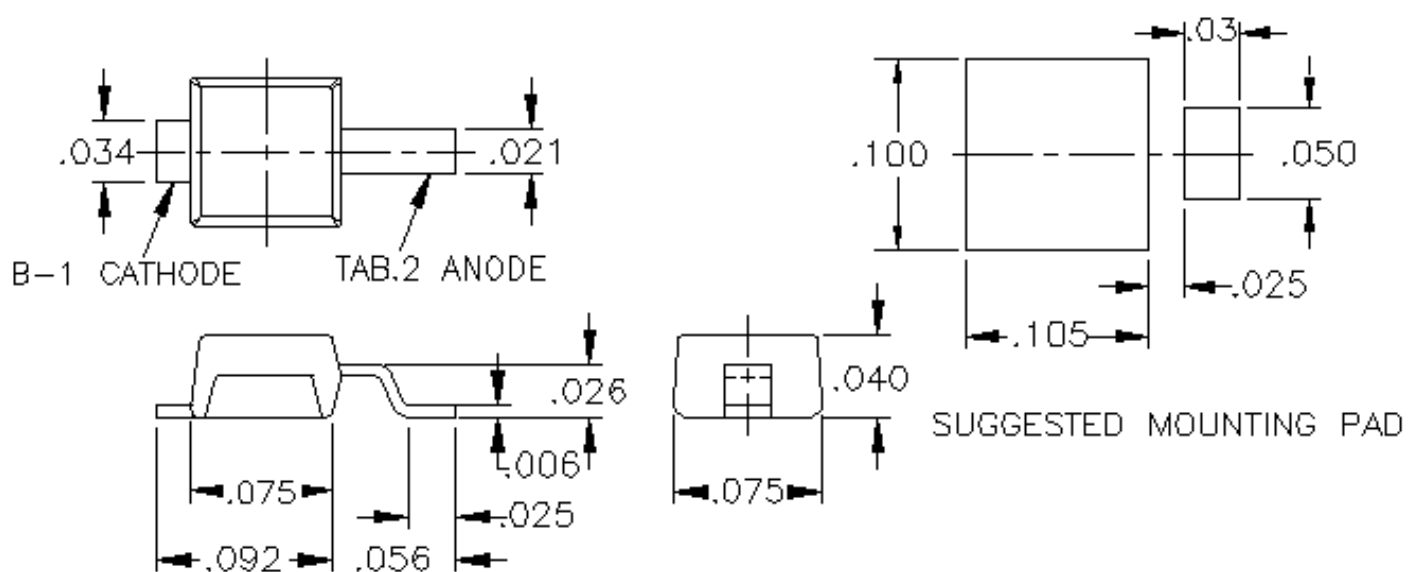
**THERMAL CHARACTERISTICS**

RATING	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction – to – Lead (1)	$R_{OJL}$	15	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS**

RATING	(Conditions)	SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage	( $I_F = 1.0$ Amps, $T_J = +75^\circ\text{C}$ )	$V_F$	.22	Volts
Maximum Instantaneous Reverse Current	( $V_R = 15$ Vdc, $T_J = +25^\circ\text{C}$ )	$I_{RM}$	10	mA
Typical Junction Capacitance ( $T_J = 25^\circ\text{C}$ , $V_R = 5\text{V}$ )		$C_J$	150	pF

**MECHANICAL SPECIFICATIONS**



DIMENSIONS ARE NOMINAL INCHES

Figure 1  
Typical Forward Characteristics

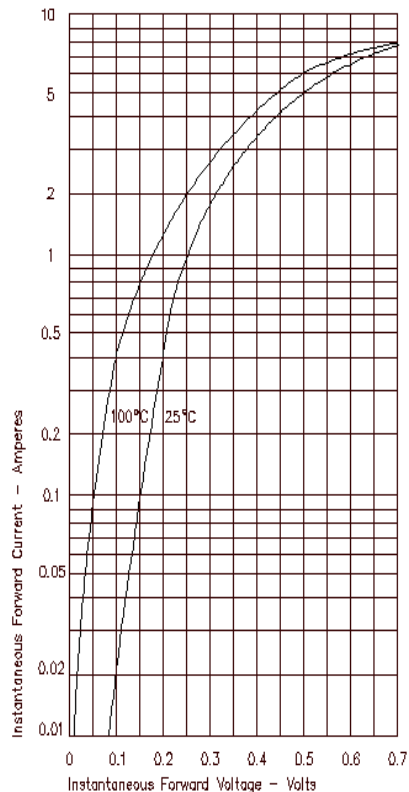


Figure 3  
Typical Junction Capacitance

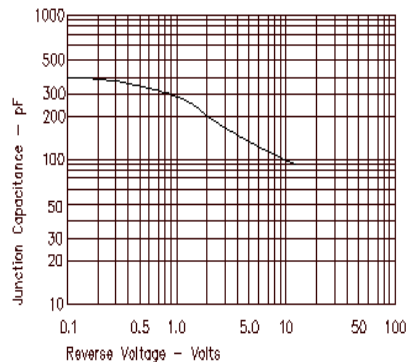


Figure 2  
Typical Reverse Characteristics

