

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>

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


KEY FEATURES

- Low Profile – Maximum height of 1.1 mm
- Footprint Area of 10 mm²
- 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

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 $T_L = 65^\circ\text{C}$)	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

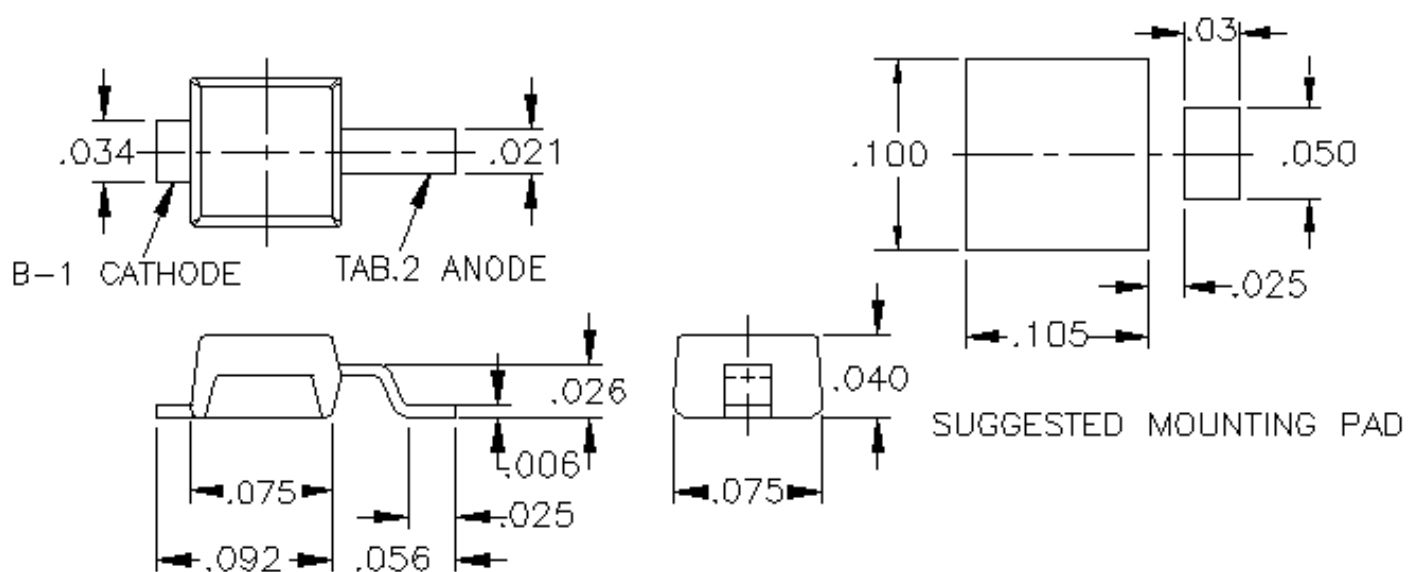
THERMAL CHARACTERISTICS

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

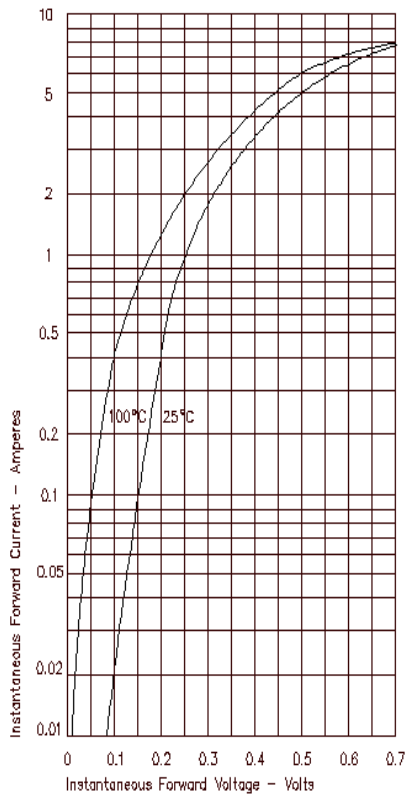


Figure 3
Typical Junction Capacitance

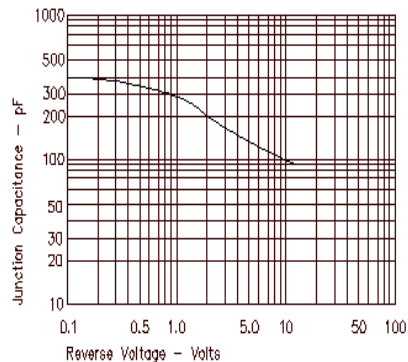


Figure 2
Typical Reverse Characteristics

