

# SURFACE MOUNT UES RECTIFIERS

UPR20  
UPR30  
UPR40

## **POWERMITE™** Package High Efficiency, 2A, 50nSec

### FEATURES

- High Power Surface Mount Package
- Ultra-fast Recovery Time (50nS)
- 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 ultrafast rectifiers offer the power handling capabilities previously found only in much larger packages. They are ideal for SMD applications that operate at high frequencies.

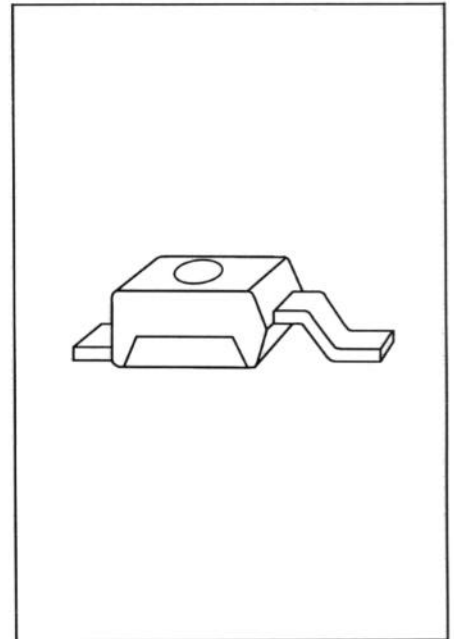
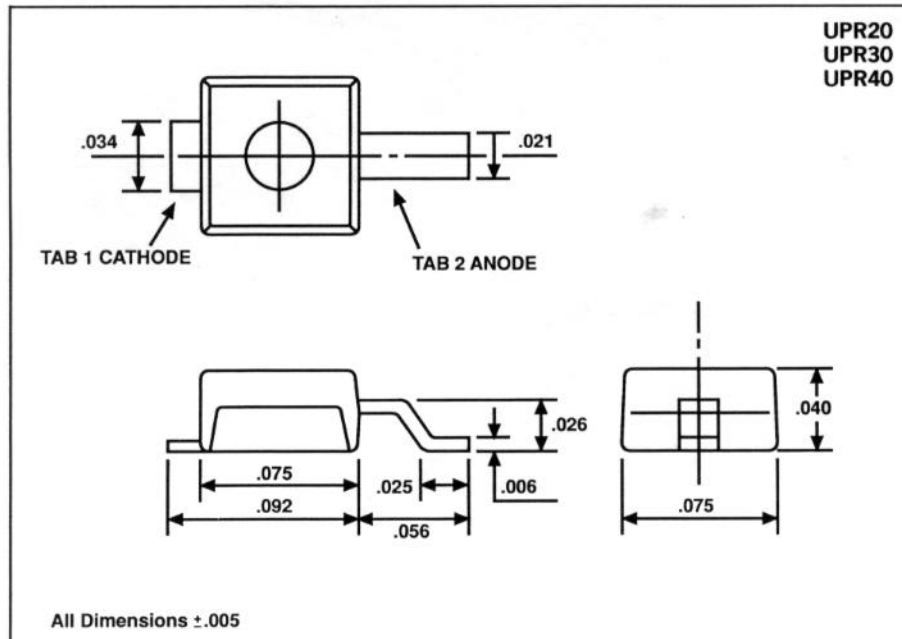
In addition to its size advantages, Powermite package features include a full metallic bottom that eliminates the possibility of solder flux entrapment during assembly, and a unique locking tab acts as an integral heat sink. Its innovative design makes this device ideal for use with automatic insertion equipment.

### ABSOLUTE MAXIMUM RATINGS

Maximum Reverse Voltage, UPR20	200V
Maximum Reverse Voltage, UPR30	300V
Maximum Reverse Voltage, UPR40	400V
Maximum Average Output Current, $T_{TAB 1} = 75^{\circ}C$	2.0A*
Thermal Resistance, Junction to Tab	30°C/W
Thermal Resistance, Junction to Bottom	10°C/W
Non-Repetitive Sinusoidal Surge Current (8.3mS)	20A
Operating and Storage Temperature	-55°C to +150°C

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

### MECHANICAL SPECIFICATIONS



**Microsemi Corp.**  
Watertown

ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  unless noted)

TEST	CONDITIONS	LIMIT	UNITS
Forward Voltage, $V_F$	$I_F = 1 \text{ Amp}$	1.25	Volts
Forward Voltage, $V_F$	$I_F = 1 \text{ Amp}, T_J = 100^\circ\text{C}$	1.15	Volts
Reverse Current, $I_R$	$V_R = \text{Max Rating}$	10	$\mu\text{Amps}$
Reverse Current, $I_R$	$V_R = \text{Max Rating}, T_J = 100^\circ\text{C}$	100	$\mu\text{Amps}$
Reverse Recovery Time, $T_{RR}$	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{REC} = 0.25 \text{ A}$	50	nSec

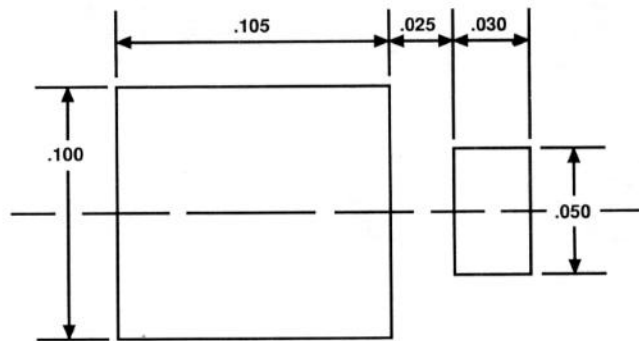


Figure 1. Suggested Mounting Pad Dimensions