SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

UPT5 - UPT48
UPTB5 - UPTB48

POWERMITE™ Package
5 to 48V, 1000 Watts Peak

FEATURES
- Peak Pulse Power 1000W for 8 x 20 microsec pulse
- Clamping Time in Picoseconds
- Integral Heat Sink/Locking Tabs
- Full Metallic Bottom Eliminates Flux Entrapment
- Bidirectional Version Available

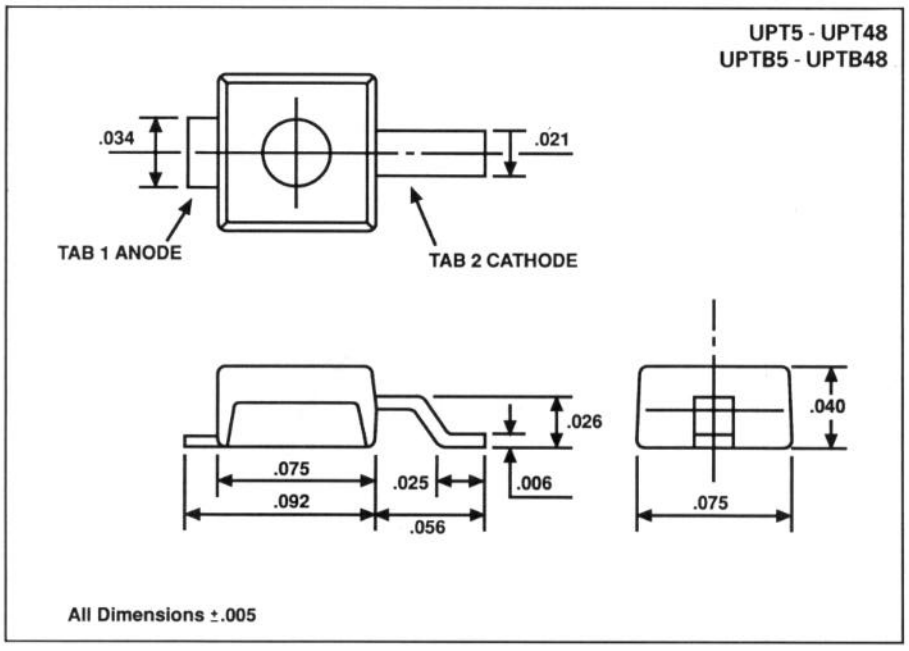
DESCRIPTION
Microsemi's new Powermite UPT series of transient voltage suppressors feature oxide passivated zener type chips with high-temperature solder bonds to achieve high surge capability and negligible electrical degradation under repeated surge conditions.

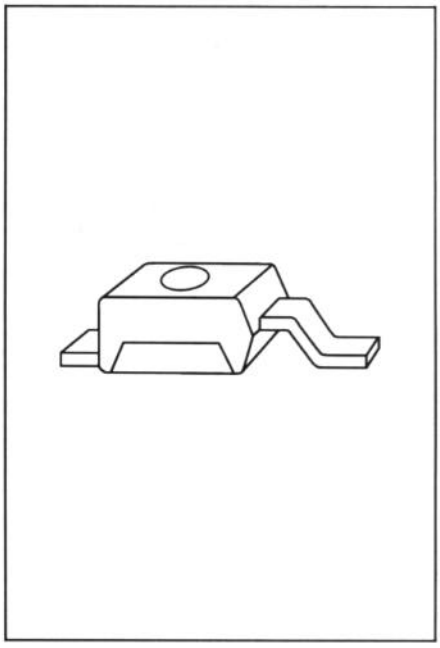
In addition to its size advantages, Powermite package features include a full metallic bottom that eliminates the possibility of solder flux entrapment during assembly and a unique locking tab that acts as an integral heat sink. Its innovative design makes this device fully compatible for use with automatic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

ABSOLUTE MAXIMUM RATINGS AT 25°C

Stand-Off Voltage	5 to 48V (See Characteristics Table)
Peak Pulse Power (8 x 20 microsec pulse)	1000W (See Figure 1)
Peak Pulse Power (1 millisec pulse)	150W (See Figure 2)
Peak Pulse Current	See Characteristics Table
Breakdown Voltage	See Characteristics Table
Power Continuous	2.5W

MECHANICAL SPECIFICATIONS





Microsemi Corp.
Watertown

ELECTRICAL CHARACTERISTICS AT 25°C

Type		Stand-Off Voltage V_R	Minimum Breakdown Voltage BV(min) @ 1mA	Maximum Leakage Current I_R @ V_R	Maximum Peak Current* I_P	Maximum Clamping Voltage* V_C @ 10A	Maximum Temp. Coef. of BV
Unidirectional	Bidirectional	(V)	(V)	(μA)	(A)	(V)	(%/°C)
UPT5	UPTB5	5	6.0	50	89.4	9.5	.030
UPT8	UPTB8	8	9.0	2	62.1	13.7	.040
UPT12	UPTB12	12	13.8	1	40.3	21.6	.050
UPT15	UPTB15	15	16.7	1	33.9	26.0	.055
UPT17	UPTB17	17	19.0	1	30.8	29.2	.060
UPT24	UPTB24	24	28.4	1	22.0	43.2	.070
UPT28	UPTB28	28	31.0	1	19.2	47.8	.075
UPT33	UPTB33	33	36.8	1	16.4	56.7	.080
UPT48	UPTB48	48	54.0	1	11.2	84.3	.090

*See Figure 1.

Figure 1. Current Impulse Waveform

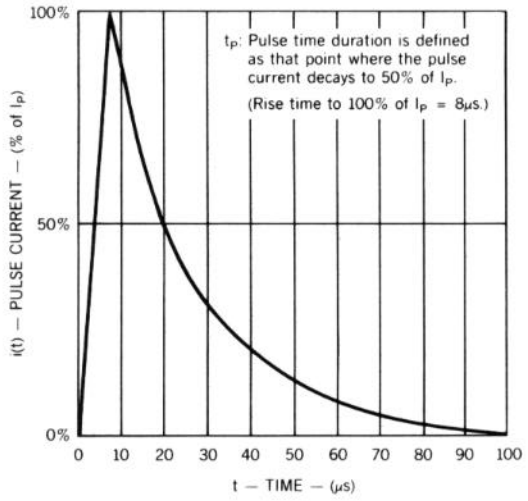


Figure 2. Peak Pulse Power vs. Pulse Duration

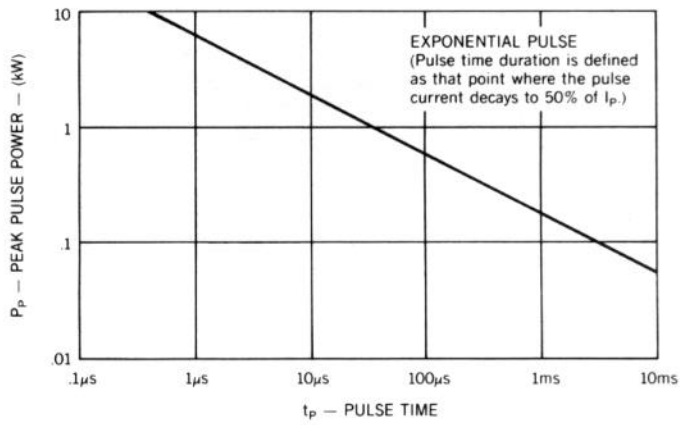


Figure 3. Derating Curve

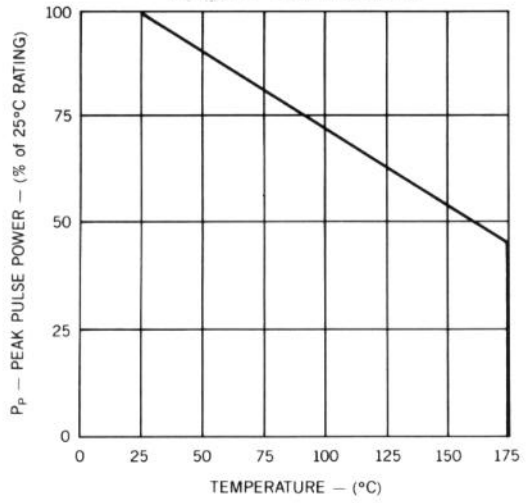
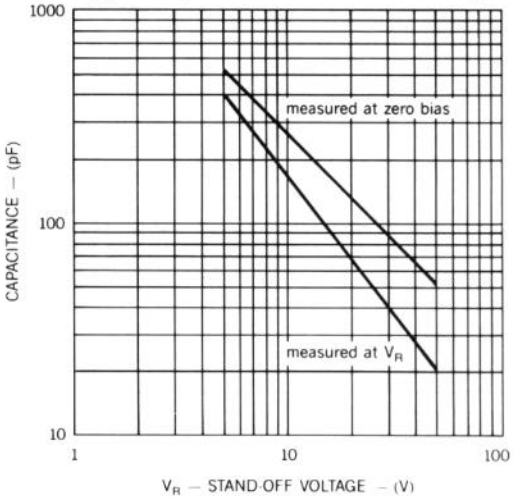


Figure 4.
Typical Capacitance vs. Stand-Off Voltage



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