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UPT5-UPT48
UPTB5-UPTB48

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

Features

- Powermite Package, 5 to 48 V
- Peak Pulse Power 1000 W for 8x20 Micro-second Pulse
- Clamping Time in Pico-seconds
- Integral Heat Sink / Locking Tabs
- Full Metallic Bottom Eliminates Flux Entrapment
- Bi-directional Version Available

Description

Microsemi's new Powermite UPT series 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 includes a full metallic bottom which eliminates the possibility of solder flux entrapment at assembly, and a unique locking tab that acts as an integral heatsink. Innovative design makes this device fully compatible for use with automatic insertion equipment.

Absolute Maximum Ratings at 25°C

Stand-Off Voltage . . . . . 5 to 48 VOLTS (See Characteristics Table)
Peak Pulse Power (8 x 20 micro-second pulse) . . . . . 1000 WATTS . . (See Figure 1)
Peak Pulse Power (1 milli-second pulse) . . . . . 150 WATTS . . (See Figure 2)
Peak Pulse Current . . . . . See Characteristics Table
Breakdown Voltage . . . . . See Characteristics Table
Power(Continuous). . . . . 2.5 WATTS

Electrical Characteristics at 25°C

DEVICE TYPE		Stand-Off Voltage V_R	Minimum Breakdown Voltage BV(min) @ 1 mA	Maximum Leakage Current I_R @ V_R	Maximum Peak Current* I_P	Maximum Clamping Voltage V_R @ 10 A	Maximum Temp. Coefficient of BV
Unidirectional	Bi-directional	(V)	(V)	(µA)	(A)	(V)	(%/°C)
UPT 5	UPTB 5	5	6.0	50	89.4	9.5	.030
UPT 8	UPTB 8	8	9.0	2	62.1	13.7	.040
UPT10	UPTB10	10	11.0	2	47.2	18.0	.045
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

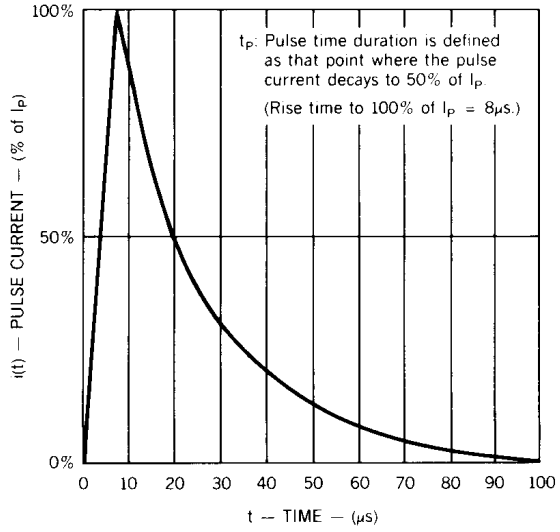


Figure 2. Peak Pulse Power vs. Pulse Duration

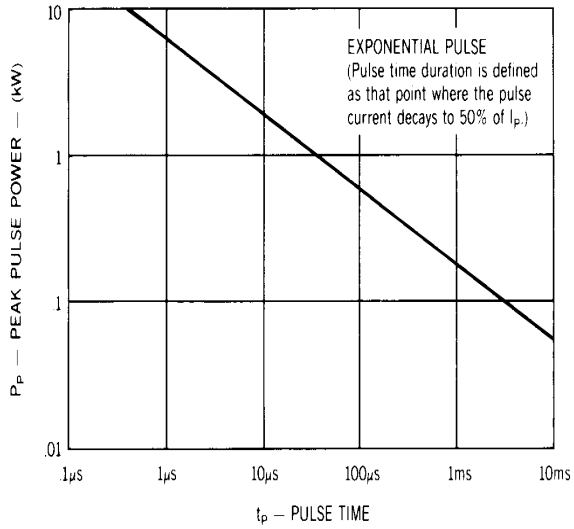


Figure 3. Derating Curve

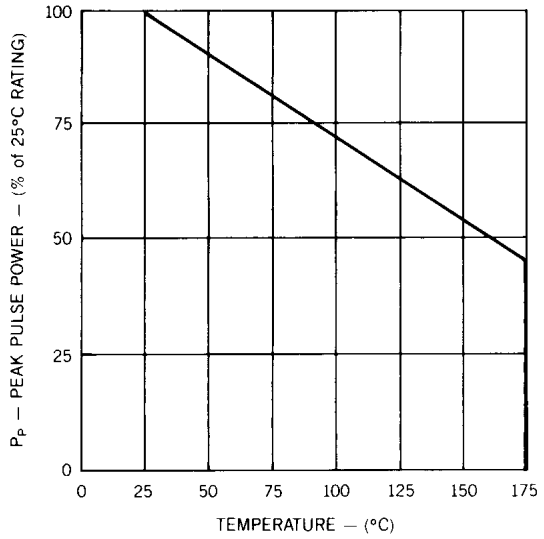
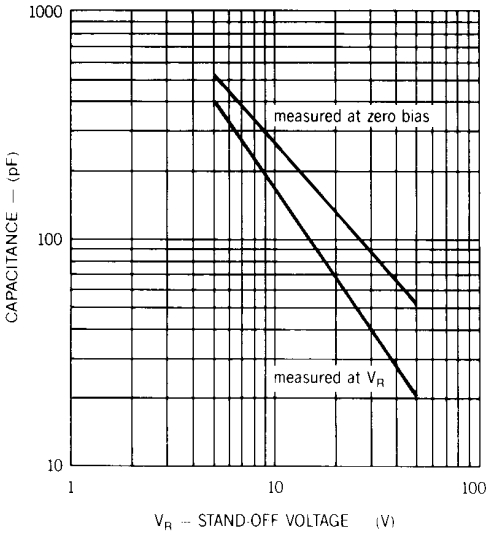
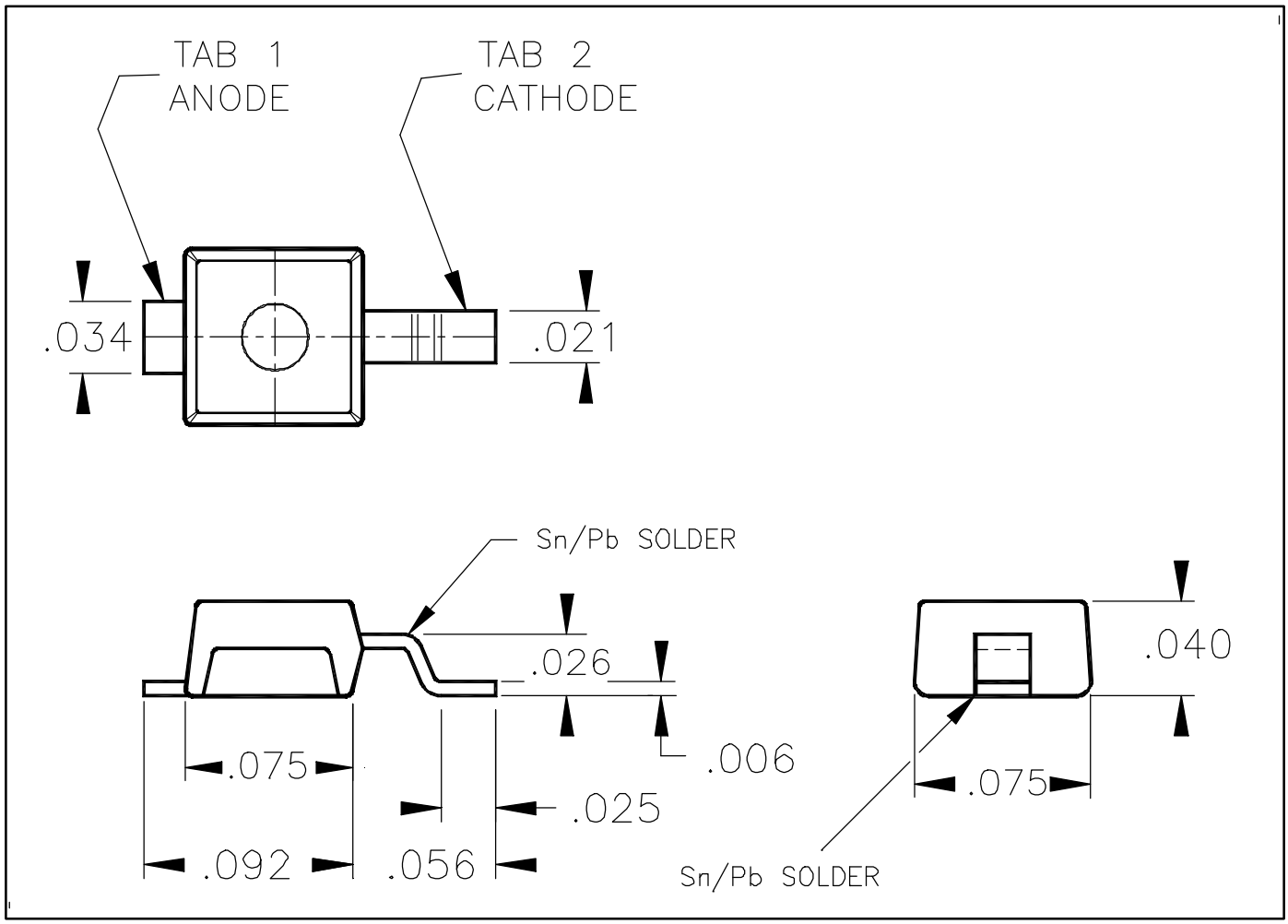


Figure 4.
Typical Capacitance vs. Stand-Off Voltage





MECHANICAL SPECIFICATIONS