



FEATURES

- VOLTAGES FROM 5.0 TO 28V STAND-OFF (V_{WM})
- LOW CLAMPING RATIO
- SMALL PACKAGE SIZE

The SOV series is an inexpensive, 500 watt transient absorption zener designed for board level protection of bipolar and MOS memories from ESD (Electrostatic Discharge) and other transient voltages. In addition, TAZ, because of their low clamping factor, provide a high degree of protection to VMOS, HMOS, and CMOS circuits susceptible to line transients.

MAXIMUM RATINGS

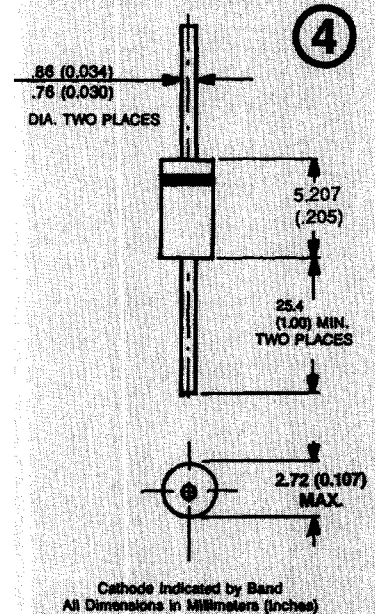
500 Watts of Peak Pulse Power dissipation at 25°C (see derating curve)
 $t_{clamping}$ (0 volts to BV min): Less than 1×10^{-12} seconds (theoretical)
 Operating and Storage temperatures: -65° to +175°C
 Forward surge rating: 70 amps, 1/120 second at 25°C
 Steady State power dissipation: 1.0 watt $T_L = 75^\circ\text{C}$, Lead Length = 3/8"
 Repetition rate (duty cycle): .01%

ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT $I_D @ V_{WM}$ μA	MINIMUM BREAKDOWN VOLTAGE V_{BR} (MIN) @ 1 mA VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) $V_C @ 1A$ VOLTS	TYPICAL CLAMPING VOLTAGE V_C @ 5A VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) $V_C @ I_{PP}$ VOLTS	MAXIMUM PEAK PULSE CURRENT (Fig. 2) I_{PP} AMPS
SOV 5.0	5.0	300	6.0	7.4		7.9	53.7
SOV10	10.0	2	11.1	13.2		14.4	30.3
SOV12	12.0	2	13.8	16.5		18.5	23.8
SOV15	15.0	2	16.7	19.7		22.2	19.8
SOV18	18.0	2	20.4	23.8	26.0	30.5	16.3
SOV24	24.0	2	28.4	32.4	37.0	42.0	11.9
SOV28	28.0	2	30.7	35.9	41.0	46.5	10.7

NOTE 1: A TAZ is normally selected according to the reverse "Stand-Off Voltage" V_{WM} which should be equal to or greater than the DC or continuous peak operating voltage level.

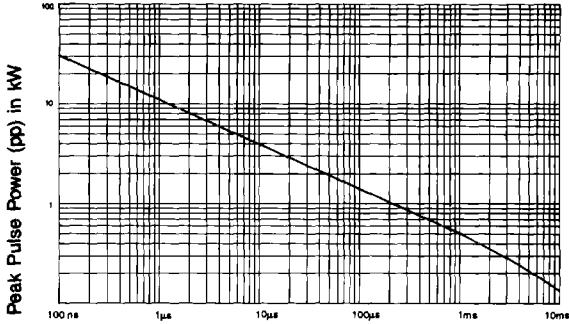
TRANSIENT ABSORPTION ZENER



MECHANICAL CHARACTERISTICS

- CASE: Molded case.
- FINISH: Silver plated copper, readily solderable.
- POLARITY: Band denotes cathode.
- WEIGHT: 0.4 grams (Appx.).
- MOUNTING POSITION: Any.

SOV5.0 thru SOV28



t_p — Pulse Time

FIGURE 1
PEAK PULSE POWER
VS. PULSE TIME

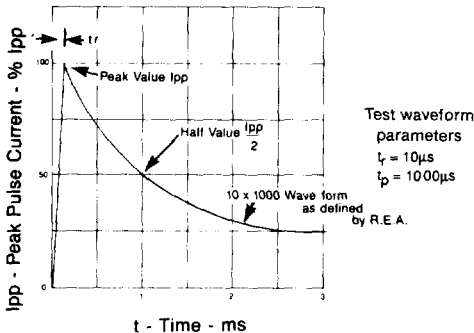


FIGURE 2
PULSE WAVEFORM