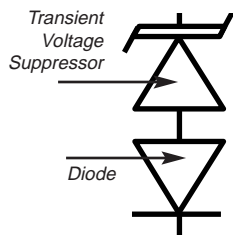


# SAC5.0 THRU SAC50 SERIES

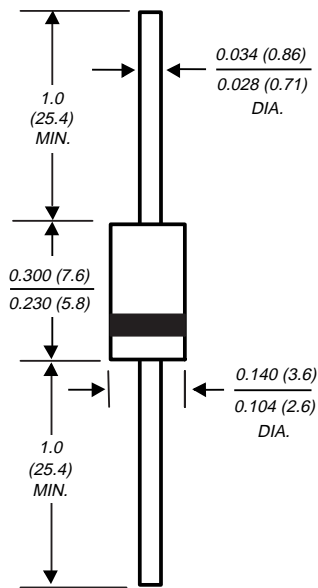
## LOW CAPACITANCE TRANSZORB™ TRANSIENT VOLTAGE SUPPRESSOR

Stand-off Voltage - 5.0 to 50 Volts Peak Pulse Power - 500 Watts

### Schematic



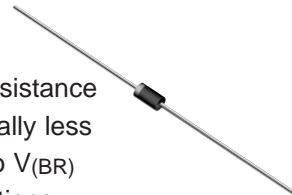
### DO-204AC



Dimensions in inches  
and  
(millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated junctions
- ◆ 500W peak pulse power capability with a 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.01%
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time: typically less than 1.0ns from 0 Volts to  $V_{(BR)}$
- ◆ Ideal for data line applications
- ◆ High temperature soldering guaranteed: 265°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-204AC molded plastic over a passivated junction

**Terminals:** Solder plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes positive end (cathode)

**Mounting Position:** Any

**Weight:** 0.015 ounce, 0.4 gram

### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNITS
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform (NOTE 1)	PPPM	Minimum 500	Watts
Steady state power dissipation at $T_L=75^\circ\text{C}$ with lead lengths or 0.375" (9.5mm)	PM(AV)	3.0	Watts
Peak pulse power surge current with a 10/1000 $\mu$ s waveform (NOTE 1, FIG. 3)	I <sub>PPM</sub>	SEE TABLE 1	Amps
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +175	°C

#### NOTES:

(1) Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2

**ELECTRICAL CHARACTERISTICS at (TA=25°C unless otherwise noted) TABLE 1**

Part Number	Stand-off Voltage (NOTE 1) VWM (VOLTS)	Minimum Breakdown Voltage at IT = 1.0mA V(BR) (VOLTS)	Maximum Reverse Leakage at VWM ID (uA)	Maximum Clamping Voltage at IPP=5.0A Vc (VOLTS)	Maximum Peak Pulse Current per FIG. 3 IPP (AMPS)	Maximum Junction Capacitance at 0 VOLTS (pF)	Working Inverse Blocking Voltage VWIB (VOLTS)	Inverse Blocking Leakage Current at VWIB IIB (mA)	Peak Inverse Blocking Voltage VPIB (VOLTS)
SAC5.0	5.0	7.60	300	10.0	44	50	75	1.0	100
SAC6.0	6.0	7.90	300	11.2	41	50	75	1.0	100
SAC7.0	7.0	8.33	300	12.6	38	50	75	1.0	100
SAC8.0	8.0	8.89	100	13.4	36	50	75	1.0	100
SAC8.5	8.5	9.44	50	14.0	34	50	75	1.0	100
SAC10	10	11.10	5.0	16.3	29	50	75	1.0	100
SAC12	12	13.30	5.0	19.0	25	50	75	1.0	100
SAC15	15	16.70	5.0	23.6	20	50	75	1.0	100
SAC18	18	20.00	5.0	28.8	15	50	75	1.0	100
SAC22	22	24.40	5.0	35.4	14	50	75	1.0	100
SAC26	26	28.90	5.0	42.3	11.1	50	75	1.0	100
SAC30	30	33.30	5.0	48.6	10.0	50	75	1.0	100
SAC36	36	40.00	5.0	60.0	8.6	50	75	1.0	100
SAC45	45	50.00	5.0	77.0	6.8	50	150	1.0	200
SAC50	50	55.50	5.0	88.0	5.8	50	150	1.0	200

**RATINGS AND CHARACTERISTIC CURVES SAC5.0 THRU SAC50 SERIES**

FIG. 1 - PEAK PULSE POWER RATING CURVE

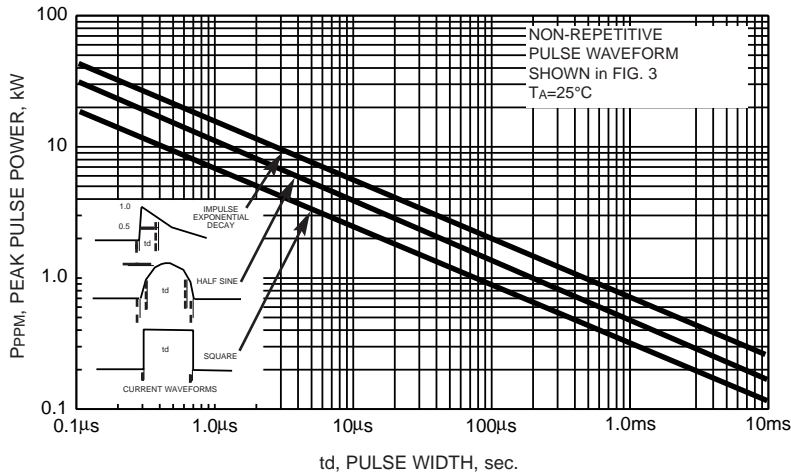


FIG. 2 - POWER DERATING CURVE

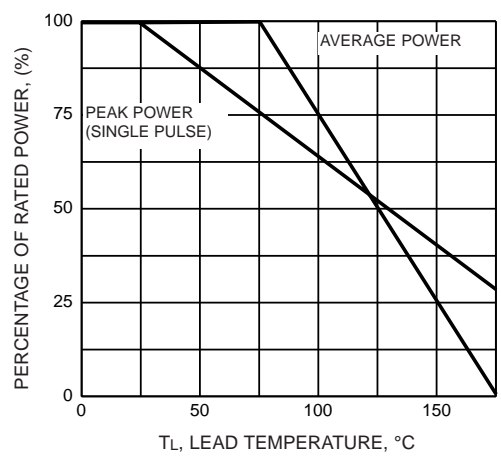


FIG. 3 - PULSE WAVEFORM

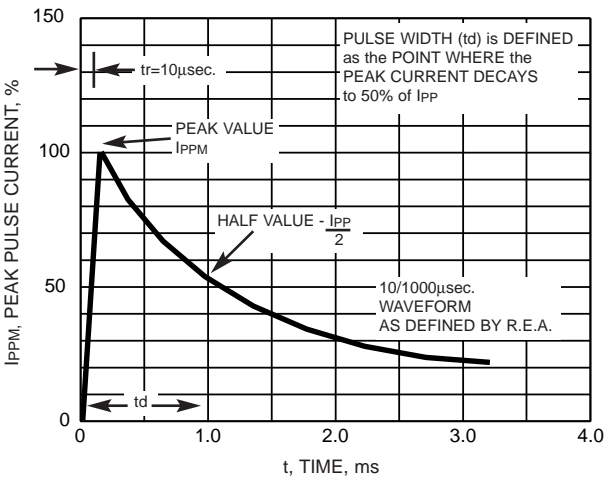
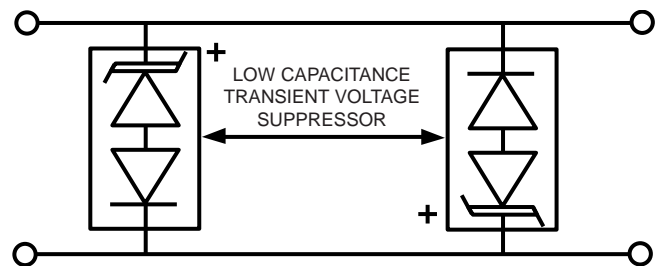


FIG. 4 - AC LINE PROTECTION APPLICATION



APPLICATION NOTE: Device must be used with two units in parallel, opposite in polarity as shown in circuit for AC signal line protection