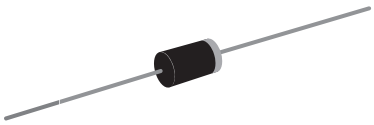
Low Capacitance TRANSZORB® Transient Voltage Suppressors



DO-204AC (DO-15)

FEATURES

- Glass passivated chip junction
- Excellent clamping capability
- 500 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle): 0.01 %
- Very fast response time
- Low incremental surge resistance
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial and telecommunication.

PRIMARY CHARACTERISTICS	
V_{WM}	5.0 V to 50 V
P_{PPM}	500 W
P_D	3.0 W
T_J max.	175 °C

MECHANICAL DATA

Case: DO-204AC, molded epoxy over passivated body

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes TVS cathode end

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Peak pulse power dissipation with a 10/1000 µs waveform (1)	P_{PPM}	500	W
Power dissipation on infinite heatsink at T_L = 75 °C (Fig. 2)	P_D	3.0	W
Peak pulse power surge current with a 10/1000 µs waveform (Fig. 3) (1)	I_{PPM}	See next table	A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 175	°C

Note:

(1) Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25 °C per Fig. 2

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PART NUMBER	**STAND-OFF VOLTAGE (1) V_{WM} (V)**	**MINIMUM BREAKDOWN VOLTAGE AT I_T = 1.0 mA V_{BR} (V)**	**MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (µA)**	**MAXIMUM CLAMPING VOLTAGE AT I_{PP} = 5.0 A V_C (V)**	**MAXIMUM PEAK PULSE CURRENT PER FIG. 3 I_{PP} (A)**	**MAXIMUM JUNCTION CAPACITANCE AT 0 VOLTS (pF)**	**WORKING INVERSE BLOCKING VOLTAGE V_{WIB} (V)**	**INVERSE BLOCKING LEAKAGE CURRENT V_{WIB} I_{IB} (mA)**	**PEAK INVERSE BLOCKING VOLTAGE V_{PIB} (V)**
SAC5.0	5	7.60	300	10.0	44	50	75	1.0	100
SAC6.0	6	7.90	300	11.2	41	50	75	1.0	100
SAC7.0	7	8.33	300	12.6	38	50	75	1.0	100
SAC8.0	8	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

Note:

(1) Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25 °C per Fig. 2

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
SAC5.0-E3/54	0.432	54	4000	13" diameter paper tape and reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

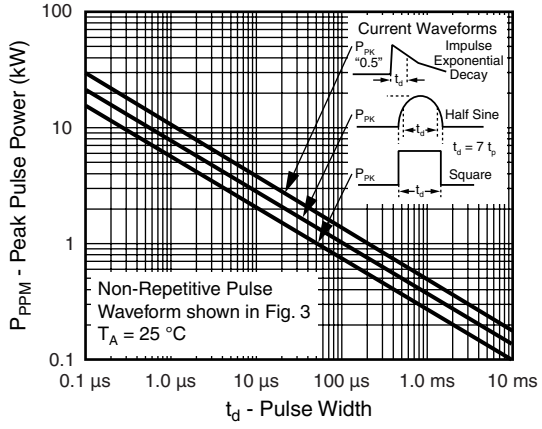


Figure 1. Peak Pulse Power Rating Curve

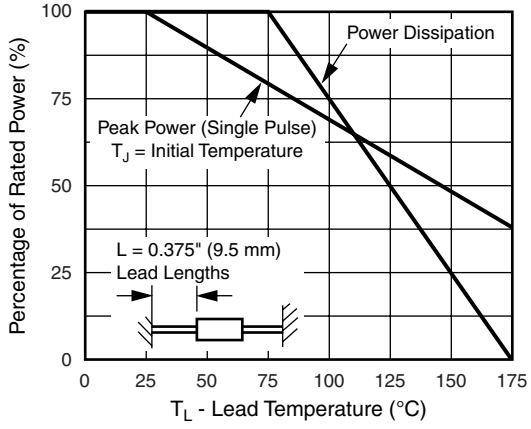


Figure 2. Power Derating Curve

For technical questions within your region, please contact one of the following:
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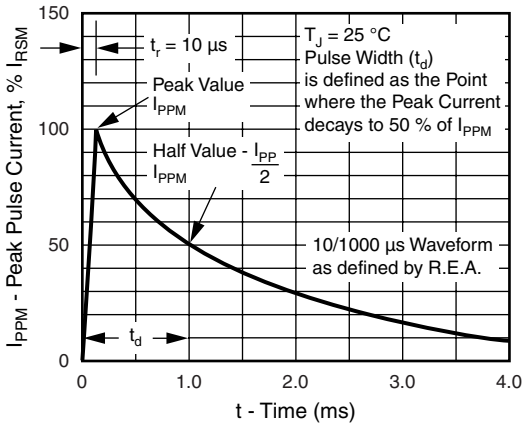
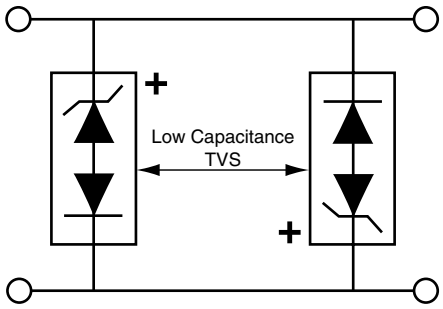


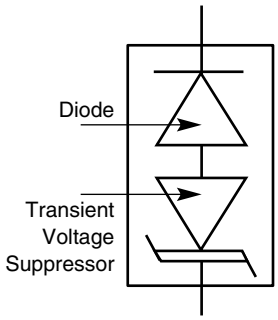
Figure 3. Pulse Waveform



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

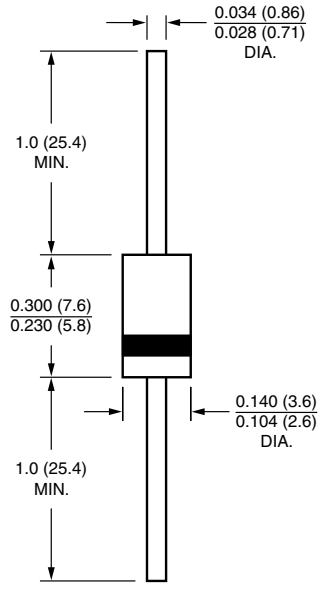
Figure 4. AC Line Protection Application

SCHEMATIC



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)



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