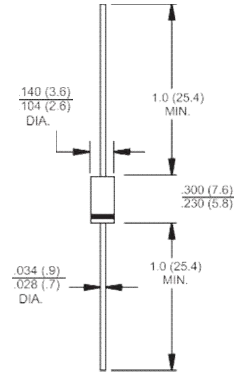




DO-15



Dimensions in inches and (millimeters)

Features

- Constructed with Glass Passivated Die
- Excellent Clamping Capability
- 500W Peak Pulse Power Dissipation
- Fast Response Time
- 100% Tested at Rated Peak Pulse Power
- Voltage Range 5.0 - 170 Volts
- Unidirectional and Bi-directional Versions Available (Note 1)

Mechanical Data

- Case: Transfer Molded Epoxy
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Leads: Plated Leads, Solderable per MIL-STD-202, Method 208
- Marking: Unidirectional: Type Number and Cathode Band
- Marking Bi-directional: Type Number Only
- Approx. Weight: 0.4 grams

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|----------------|-------------|------------------|
| Peak Power Dissipation, $T_p = 1.0\text{ms}$ (Non repetitive current pulse, derated above $T_A = 25^\circ\text{C}$) | P_{pk} | 500 | W |
| Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 9.5 mm (Board mounted) | P_d | 1.0 | W |
| Peak Forward Surge Current, 8.3 Single Half Sine Wave Superimposed on Rated Load Duty Cycle = 4 pulses per minute maximum | I_{FSM} | 70 | A |
| Forward Voltage @ $I_F = 35\text{A}$ 300 μs Square Wave Pulse, Unidirectional Only | V_F | 3.5 | V |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +175 | $^\circ\text{C}$ |

- Notes:
- Suffix "A" denotes unidirectional, suffix "CA" denotes bi-directional device.
 - For bi-directional devices having V_R of 10 volts and under, the I_R limit is doubled.

SA5V0(C)A-SA170(C)A

500W Transient Voltage Suppressor

| Type Number (Suffix C = Bidirectional) (Note 1) | Reverse Standoff Voltage | Breakdown Voltage $V_{BR} @ I_t$ | | Test Current | Max. Clamping Voltage $@I_{PP}$ | Max. Peak Pulse Current | Max. Reverse Leakage $@V_R$ (Note 2) | Max. Voltage Temp. Variation of V_{BR} |
|--|--------------------------------|-------------------------------------|---------|-----------------|--|-------------------------------|--|---|
| | V_R (V) | Min (V) | Max (V) | I_t (mA) | V_C (V) | I_{PP} (A) | I_R (μ A) | mV/ $^{\circ}$ C |
| SA5V0(C)A | 5.0 | 6.40 | 7.00 | 10 | 9.2 | 54.3 | 600 | 5.0 |
| SA6V0(C)A | 6.0 | 6.67 | 7.37 | 10 | 10.3 | 48.5 | 600 | 5.0 |
| SA6V5(C)A | 6.5 | 7.22 | 7.98 | 10 | 11.2 | 44.7 | 400 | 5.0 |
| SA7V0(C)A | 7.0 | 7.78 | 8.60 | 10 | 12.0 | 41.7 | 150 | 6.0 |
| SA7V5(C)A | 7.5 | 8.33 | 9.21 | 1.0 | 12.9 | 38.8 | 50 | 7.0 |
| SA8V0(C)A | 8.0 | 8.89 | 9.83 | 1.0 | 13.6 | 36.7 | 25 | 7.0 |
| SA8V5(C)A | 8.5 | 9.44 | 10.4 | 1.0 | 14.4 | 34.7 | 10 | 8.0 |
| SA9V0(C)A | 9.0 | 10.0 | 11.1 | 1.0 | 15.4 | 32.5 | 5.0 | 9.0 |
| SA10(C)A | 10 | 11.1 | 12.3 | 1.0 | 17.0 | 29.4 | 3.0 | 10 |
| SA11(C)A | 11 | 12.2 | 13.5 | 1.0 | 18.2 | 27.4 | 3.0 | 11 |
| SA12(C)A | 12 | 13.3 | 14.7 | 1.0 | 19.9 | 25.1 | 3.0 | 12 |
| SA13(C)A | 13 | 14.4 | 15.9 | 1.0 | 21.5 | 23.2 | 3.0 | 13 |
| SA14(C)A | 14 | 15.6 | 17.2 | 1.0 | 23.2 | 21.5 | 3.0 | 14 |
| SA15(C)A | 15 | 16.7 | 18.5 | 1.0 | 24.4 | 20.6 | 3.0 | 16 |
| SA16(C)A | 16 | 17.8 | 19.7 | 1.0 | 26.0 | 19.2 | 3.0 | 17 |
| SA17(C)A | 17 | 18.9 | 20.9 | 1.0 | 27.6 | 18.1 | 3.0 | 19 |
| SA18(C)A | 18 | 20.0 | 22.1 | 1.0 | 29.2 | 17.2 | 3.0 | 20 |
| SA20(C)A | 20 | 22.2 | 24.5 | 1.0 | 32.4 | 15.4 | 3.0 | 23 |
| SA22(C)A | 22 | 24.4 | 26.9 | 1.0 | 35.5 | 14.1 | 3.0 | 25 |
| SA24(C)A | 24 | 26.7 | 29.5 | 1.0 | 38.9 | 12.8 | 3.0 | 28 |
| SA26(C)A | 26 | 28.9 | 31.9 | 1.0 | 42.1 | 11.9 | 3.0 | 30 |
| SA28(C)A | 28 | 31.1 | 34.4 | 1.0 | 45.4 | 11.0 | 3.0 | 31 |
| SA30(C)A | 30 | 33.3 | 36.8 | 1.0 | 48.4 | 10.3 | 3.0 | 36 |
| SA33(C)A | 33 | 36.7 | 40.6 | 1.0 | 53.3 | 9.4 | 3.0 | 39 |
| SA36(C)A | 36 | 40.0 | 44.2 | 1.0 | 58.1 | 8.6 | 3.0 | 41 |
| SA40(C)A | 40 | 44.4 | 49.1 | 1.0 | 64.5 | 7.8 | 3.0 | 46 |
| SA43(C)A | 43 | 47.8 | 52.8 | 1.0 | 69.4 | 7.2 | 3.0 | 50 |
| SA45(C)A | 45 | 50.0 | 55.3 | 1.0 | 72.7 | 6.9 | 3.0 | 52 |
| SA48(C)A | 48 | 53.3 | 58.9 | 1.0 | 77.4 | 6.5 | 3.0 | 56 |
| SA51(C)A | 51 | 56.7 | 62.7 | 1.0 | 82.4 | 6.1 | 3.0 | 61 |
| SA54(C)A | 54 | 60.0 | 66.3 | 1.0 | 87.1 | 5.7 | 3.0 | 65 |
| SA58(C)A | 58 | 64.4 | 71.2 | 1.0 | 93.6 | 5.3 | 3.0 | 70 |
| SA60(C)A | 60 | 66.7 | 73.7 | 1.0 | 96.8 | 5.2 | 3.0 | 71 |
| SA64(C)A | 64 | 71.1 | 78.6 | 1.0 | 103.0 | 4.9 | 3.0 | 76 |
| SA70(C)A | 70 | 77.8 | 86.0 | 1.0 | 113.0 | 4.4 | 3.0 | 85 |
| SA75(C)A | 75 | 83.3 | 92.1 | 1.0 | 121.0 | 4.1 | 3.0 | 91 |
| SA78(C)A | 78 | 86.7 | 95.8 | 1.0 | 126.0 | 4.0 | 3.0 | 95 |
| SA85(C)A | 85 | 94.4 | 104.0 | 1.0 | 137.0 | 3.6 | 3.0 | 103 |
| SA90(C)A | 90 | 100 | 111.0 | 1.0 | 146.0 | 3.4 | 3.0 | 110 |
| SA100(C)A | 100 | 111 | 123.0 | 1.0 | 162.0 | 3.1 | 3.0 | 123 |
| SA110(C)A | 110 | 122 | 135.0 | 1.0 | 177.0 | 2.8 | 3.0 | 133 |
| SA120(C)A | 120 | 133 | 147.0 | 1.0 | 193.0 | 2.6 | 3.0 | 146 |
| SA130(C)A | 130 | 144 | 159.0 | 1.0 | 209.0 | 2.4 | 3.0 | 158 |
| SA150(C)A | 150 | 167 | 185.0 | 1.0 | 243.0 | 2.1 | 3.0 | 184 |
| SA160(C)A | 160 | 178 | 197.0 | 1.0 | 259.0 | 1.9 | 3.0 | 196 |
| SA170(C)A | 170 | 189 | 209.0 | 1.0 | 275.0 | 1.8 | 3.0 | 208 |

Notes: 1. Suffix "A" denotes unidirectional, suffix "CA" denotes bi-directional device.
 2. For bi-directional devices having V_R of 10 volts and under, the I_R limit is doubled.

SA5V0(C)A-SA170(C)A

500W Transient Voltage Suppressor

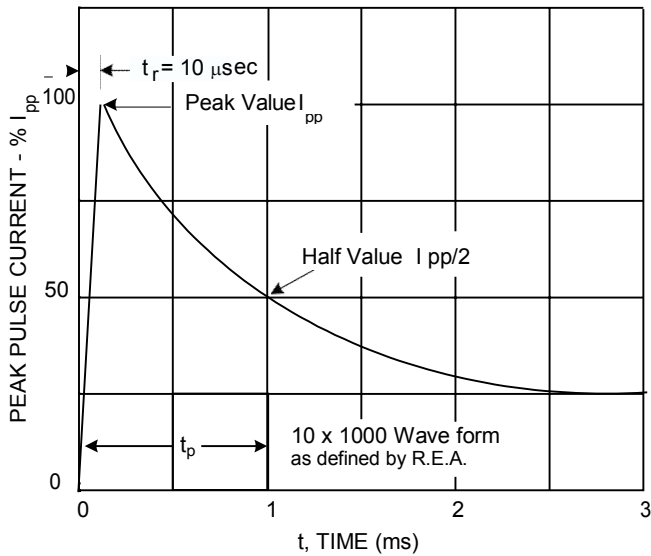


Fig. 1, Pulse Waveform

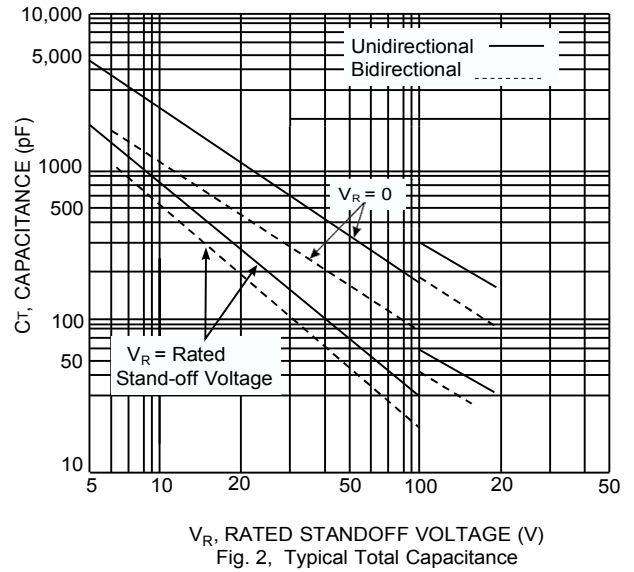


Fig. 2, Typical Total Capacitance

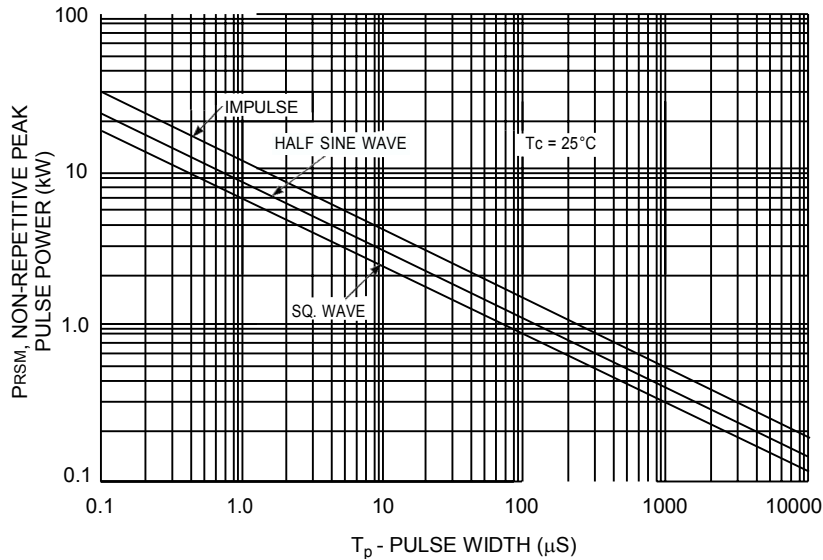


Fig. 3, Peak Pulse Power Derating

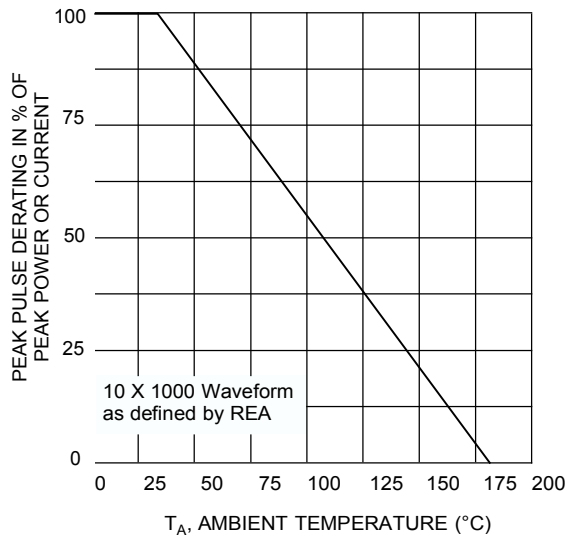


Fig. 4, Derating Curve

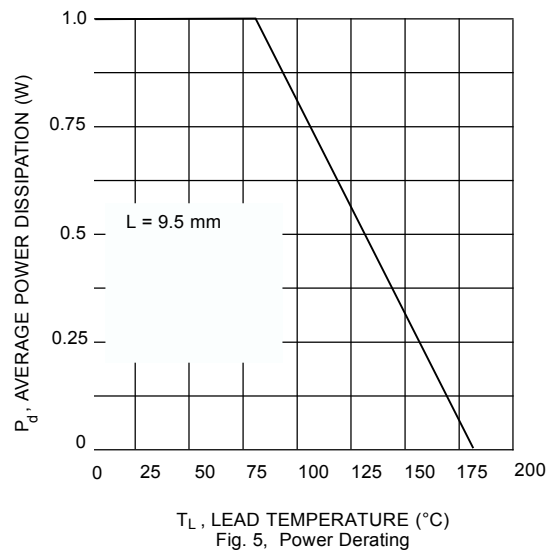


Fig. 5, Power Derating