



### FEATURES

- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-O.
- ✧ Glass passivated junction.
- ✧ 500W peak pulse power capability with a 10/1000µs waveform, repetition rate (duty cycle): 0.01%.
- ✧ Excellent clamping capability.
- ✧ Low incremental surge resistance.
- ✧ Fast response time: typically less than 5.0ns from 0 volt to  $V_{BR}$  min.
- ✧ Ideal for data line applications.
- ✧ High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension.



DO-204AC/DO-15

### MECHANICAL DATA

- ✧ Case: JEDEC DO-15 molded plastic over a passivated junction.
- ✧ Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026.
- ✧ Polarity: Color band denotes cathode.
- ✧ Mounting Position: Any.
- ✧ Weight: 0.015 ounce, 0.4 grams.

### MAXIMUM RATINGS AND CHARACTERISTICS

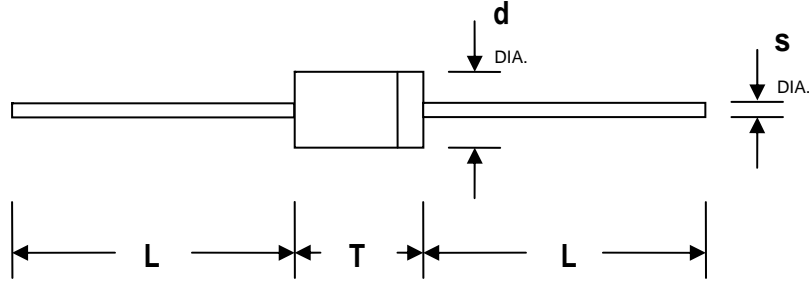
Ratings at 25°C ambient temperature unless otherwise specified.

| RATING   | SYMBOL         | VALUE       | UNIT  |
|--|----------------|-------------|-------|
| Peak Pulse Power Dissipation on 10/1000µs waveform. (Note 1, Fig. 1)                             | $P_{PPM}$      | Minimum 500 | Watts |
| Peak Pulse Current on 10/1000µs waveform. (Note 1, Fig. 3)                                       | $I_{PPM}$      | See Table   | Amps  |
| Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ , Lead length .375" (9.5mm). (Fig. 5) | $P_{M(AV)}$    | 3.0         | Watts |
| Operating junction and Storage Temperature Range.  | $T_J, T_{STG}$ | -55 to +175 | °C    |

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



PACKAGE DIMENSIONS



D0-204AC/D0-15

| Item | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| L    | 25.40       | -    | 1.000  | -     |
| T    | 5.80        | 7.60 | 0.230  | 0.300 |
| d    | 2.60        | 3.60 | 0.104  | 0.140 |
| s    | 0.71        | 0.86 | 0.028  | 0.034 |

SPECIFICATIONS

| Part Number | Reverse Stand-Off Voltage | Minimum Breakdown Voltage @ $I_T=1.0mA$ | Maximum Reverse Leakage @ $V_{RWM}$ | Maximum Clamping Voltage @ $I_{PP}=5.0A$ | Maximum Peak Pulse Current FIG.3 | Maximum Junction Capacitance @0V | Working Inverse Blocking Voltage | Inverse Blocking Leakage Current | Peak Inverse Blocking Voltage |
|-------------|---------------------------|---|-------------------------------------|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|
|             | $V_{RWM}(V)$              | $V_{BR}(V)$                             | $I_R(\mu A)$                        | $V_C(V)$                                 | $I_{PP}(A)$                      | pF                               | $V_{WIB}(V)$                     | $I_{IB}(mA)$                     | $V_{PIB}(V)$                  |
| SAC5.0      | 5.0                       | 7.60                                    | 300                                 | 10.0                                     | 44.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC6.0      | 6.0                       | 7.90                                    | 300                                 | 11.2                                     | 41.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC7.0      | 7.0                       | 8.33                                    | 300                                 | 12.6                                     | 38.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC8.0      | 8.0                       | 8.89                                    | 100                                 | 13.4                                     | 36.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC8.5      | 8.5                       | 9.44                                    | 50                                  | 14.0                                     | 34.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC10       | 10.0                      | 11.10                                   | 5                                   | 16.3                                     | 29.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC12       | 12.0                      | 13.30                                   | 1                                   | 19.0                                     | 25.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC15       | 15.0                      | 16.70                                   | 1                                   | 23.6                                     | 20.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC18       | 18.0                      | 20.00                                   | 1                                   | 28.8                                     | 15.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC22       | 22.0                      | 24.40                                   | 1                                   | 35.4                                     | 14.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC26       | 26.0                      | 28.90                                   | 1                                   | 42.3                                     | 11.1                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC30       | 30.0                      | 33.30                                   | 1                                   | 48.6                                     | 10.0                             | 50                               | 75                               | 1.0                              | 100                           |
| SAC36       | 36.0                      | 40.00                                   | 1                                   | 60.0                                     | 8.6                              | 50                               | 75                               | 1.0                              | 100                           |
| SAC45       | 45.0                      | 50.00                                   | 1                                   | 77.0                                     | 6.8                              | 50                               | 150                              | 1.0                              | 200                           |
| SAC50       | 50.0                      | 55.50                                   | 1                                   | 88.0                                     | 5.8                              | 50                               | 150                              | 1.0                              | 200                           |



**RATING AND CHARACTERISTIC CURVES** (T<sub>A</sub>: 25°C UNLESS OTHERWISE SPECIFIED)

Figure 1 - Peak Pulse Power Rating Curve

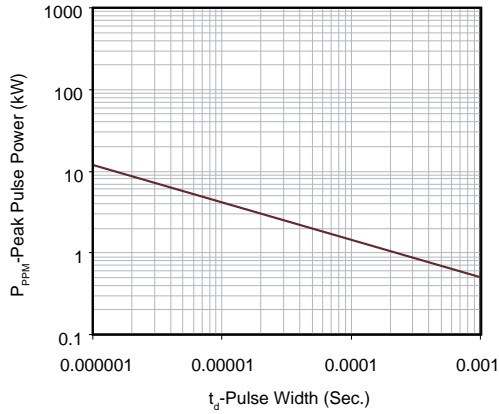


Figure 2 - Pulse Derating Curve

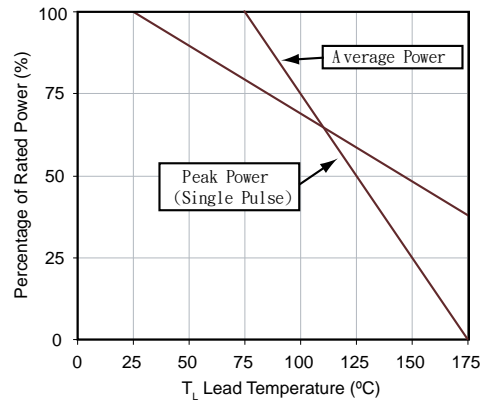


Figure 3 - Pulse Waveform

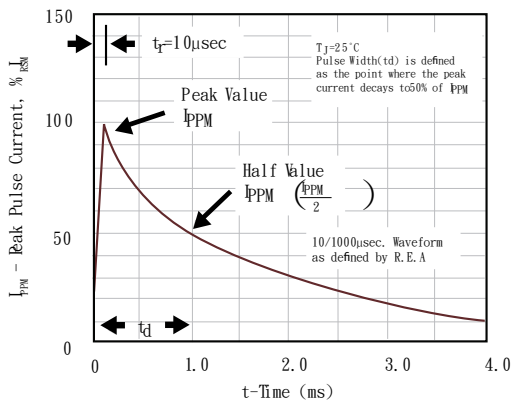


Figure 4 - AC Line Protection Application

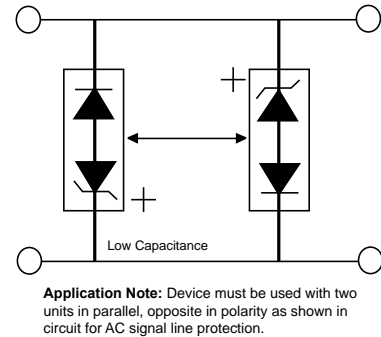


Figure 5 - Steady State Power Dissipation Derating Curve

