

30KW Transient Voltage Suppressor

Features

- Glass passivated junction
- 30KW peak pulse power capability at 10/1000µs waveform repetition rate (duty cycles): 0.01%
- Fast response time: typically less than 1.0ps from 0v to VBR min.
- Excellent clamping capability
- Low incremental surge resistance
- High temperature soldering guaranteed:
260°C/40 seconds, 0.375" (9.5mm) lead length at 5lbs. (2.3kg) tension
- RoHS Compliant



T6L



Mechanical Data

| | |
|---------------------------|---|
| Case: | T6L molded plastic body over passivated junction |
| Epoxy: | Plastic package has UL flammability classification 94V-0 |
| Lead: | Plated axial leads, solderable per MIL-STD-750, Method 2026 |
| Polarity: | Color band denotes the cathode except Bi-directional |
| Mounting position: | Any |
| Weight: | 0.07 ounce, 2.5 grams |

Maximum Ratings *(T_{Ambient}=25°C unless noted otherwise)*

| Symbol | Description | Value | Unit | Conditions |
|---------------------------------------|--|-------------|-------|---|
| V_{WM} | Maximum Recurrent Peak Reverse Voltage | 28 to 288 | V | |
| P_{PPM} | Peak Pulse Power Dissipation on 10/1000µs Waveform | 30 | KW | Note 1 |
| I_{PPM} | Peak Pulse Current with 10/1000µs Waveform | See Table | A | Note 1 |
| I_{FSM} | Peak Forward Surge Current, Uni-directional only | 400 | A | 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum |
| R_{thJA} | Typical Thermal Resistance to Ambient | 40 | ° C/W | |
| R_{thJL} | Typical Thermal Resistance to Lead | 8.0 | ° C/W | |
| T_J, T_{STG} | Operating Junction and Storage Temperature Range | -55 to +175 | ° C | |

30KW Transient Voltage Suppressor

30KPA28A - 30KPA288CA

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

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| P/N (note3) | | Stand-Off Voltage | Breakdown Voltage @ Test Current (note1) | | Max. Reverse Leakage Current @ VWM | Max. Clamping Voltage @ IPPM | Max. Peak Pulse Current |
|-------------|------------|-------------------|--|---------|------------------------------------|------------------------------|-------------------------|
| | | | VBR | IT (mA) | | | |
| Uni-Polar | Bi-Polar | VWM (V) | Min. | | ID (μA) (note2) | Vc (V) | IPPM (A) (note1) |
| 30KPA28A | 30KPA28CA | 28 | 31.28 | 50 | 5000 | 50.0 | 606.0 |
| 30KPA30A | 30KPA30CA | 30 | 33.51 | 50 | 5000 | 55.2 | 548.9 |
| 30KPA33A | 30KPA33CA | 33 | 36.90 | 50 | 5000 | 58.5 | 517.9 |
| 30KPA36A | 30KPA36CA | 36 | 40.20 | 50 | 5000 | 61.8 | 490.3 |
| 30KPA39A | 30KPA39CA | 39 | 43.60 | 20 | 2000 | 67.2 | 450.9 |
| 30KPA42A | 30KPA42CA | 42 | 46.90 | 10 | 1000 | 72.0 | 420.8 |
| 30KPA43A | 30KPA43CA | 43 | 48.00 | 10 | 1000 | 73.0 | 415.1 |
| 30KPA45A | 30KPA45CA | 45 | 50.30 | 5 | 250 | 77.4 | 391.5 |
| 30KPA48A | 30KPA48CA | 48 | 53.60 | 5 | 150 | 81.6 | 371.3 |
| 30KPA51A | 30KPA51CA | 51 | 57.00 | 5 | 50 | 86.4 | 350.7 |
| 30KPA54A | 30KPA54CA | 54 | 60.30 | 5 | 20 | 91.4 | 331.5 |
| 30KPA58A | 30KPA58CA | 58 | 64.80 | 5 | 20 | 92.4 | 327.9 |
| 30KPA60A | 30KPA60CA | 60 | 67.00 | 5 | 15 | 102.0 | 297.1 |
| 30KPA64A | 30KPA64CA | 64 | 71.50 | 5 | 10 | 104.0 | 291.3 |
| 30KPA66A | 30KPA66CA | 66 | 73.70 | 5 | 2 | 107.0 | 283.2 |
| 30KPA70A | 30KPA70CA | 70 | 78.20 | 5 | 2 | 109.0 | 278.0 |
| 30KPA71A | 30KPA71CA | 71 | 79.30 | 5 | 2 | 111.5 | 271.7 |
| 30KPA72A | 30KPA72CA | 72 | 80.40 | 5 | 2 | 114.0 | 265.8 |
| 30KPA75A | 30KPA75CA | 75 | 83.80 | 5 | 2 | 119.4 | 253.8 |
| 30KPA78A | 30KPA78CA | 78 | 87.10 | 5 | 2 | 129.0 | 234.9 |
| 30KPA84A | 30KPA84CA | 84 | 93.80 | 5 | 2 | 139.2 | 217.7 |
| 30KPA90A | 30KPA90CA | 90 | 100.50 | 5 | 2 | 146.4 | 207.0 |
| 30KPA96A | 30KPA96CA | 96 | 107.20 | 5 | 2 | 156.0 | 194.2 |
| 30KPA102A | 30KPA102CA | 102 | 113.90 | 5 | 2 | 165.6 | 183.0 |

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30KPA28A - 30KPA288CA

| P/N (note3) | | Stand-Off Voltage | Breakdown Voltage @ Test Current (note1) | | Max. Reverse Leakage Current @ V _{WM} | Max. Clamping Voltage @ I _{PPM} | Max. Peak Pulse Current |
|-------------|------------|---------------------|--|---------------------|--|--|------------------------------|
| | | | V _{BR} | I _T (mA) | | | |
| Uni-Polar | Bi-Polar | V _{WM} (V) | Min. | | I _D (μA) (note2) | V _C (V) | I _{PPM} (A) (note1) |
| 30KPA108A | 30KPA108CA | 108 | 120.60 | 5 | 2 | 175.2 | 172.9 |
| 30KPA120A | 30KPA120CA | 120 | 134.00 | 5 | 2 | 194.4 | 155.9 |
| 30KPA132A | 30KPA132CA | 132 | 147.40 | 5 | 2 | 213.0 | 142.3 |
| 30KPA144A | 30KPA144CA | 144 | 160.80 | 5 | 2 | 223.2 | 135.8 |
| 30KPA150A | 30KPA150CA | 150 | 167.60 | 5 | 2 | 233.4 | 129.8 |
| 30KPA156A | 30KPA156CA | 156 | 174.30 | 5 | 2 | 245.0 | 123.7 |
| 30KPA160A | 30KPA160CA | 160 | 178.70 | 5 | 2 | 252.6 | 120.0 |
| 30KPA168A | 30KPA168CA | 168 | 187.70 | 5 | 2 | 272.4 | 111.2 |
| 30KPA170A | 30KPA170CA | 170 | 189.90 | 5 | 2 | 275.0 | 110.2 |
| 30KPA180A | 30KPA180CA | 180 | 201.10 | 5 | 2 | 290.4 | 104.3 |
| 30KPA198A | 30KPA198CA | 198 | 221.20 | 5 | 2 | 319.8 | 94.7 |
| 30KPA216A | 30KPA216CA | 216 | 241.30 | 5 | 2 | 348.6 | 86.9 |
| 30KPA240A | 30KPA240CA | 240 | 268.10 | 5 | 2 | 387.0 | 78.3 |
| 30KPA258A | 30KPA258CA | 258 | 288.20 | 5 | 2 | 416.4 | 72.8 |
| 30KPA260A | 30KPA260CA | 260 | 290.40 | 5 | 2 | 416.0 | 72.8 |
| 30KPA270A | 30KPA270CA | 270 | 301.60 | 5 | 2 | 436.2 | 69.5 |
| 30KPA280A | 30KPA280CA | 280 | 312.80 | 5 | 2 | 464.0 | 65.3 |
| 30KPA288A | 30KPA288CA | 288 | 321.70 | 5 | 2 | 469.9 | 64.5 |

- Note:**
1. Surge current waveform per Fig. 3 and derate per Fig. 2
 2. For Bi-directional types with V_{WM} of 10 volts and less, the I_D limit is doubled.
 3. C suffix for Bidirectional use, A suffix for 5% tolerance.

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Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

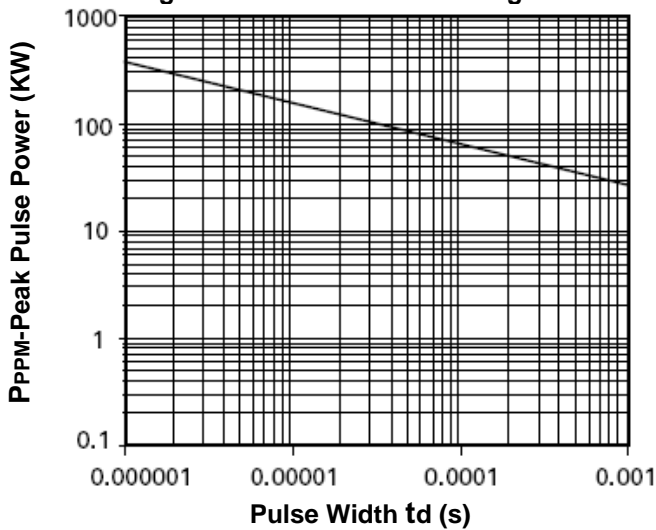


Fig.2- Pulse Derating Curve

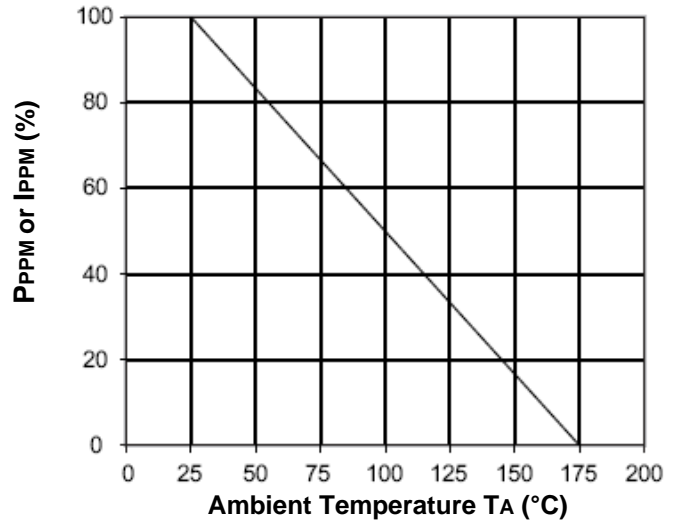


Fig.3- Pulse Waveform

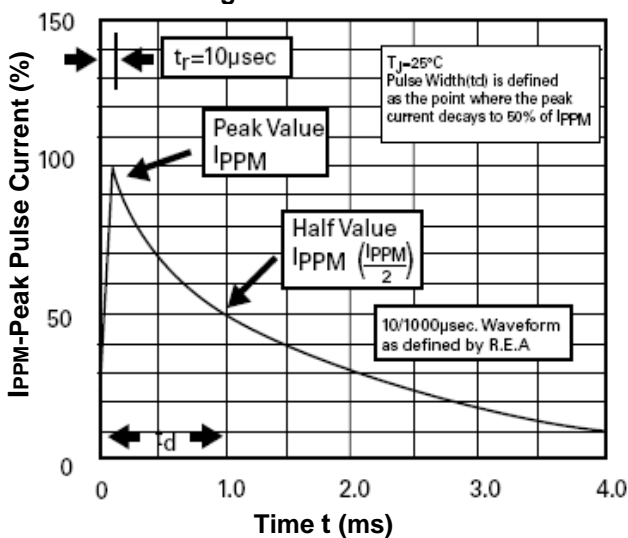
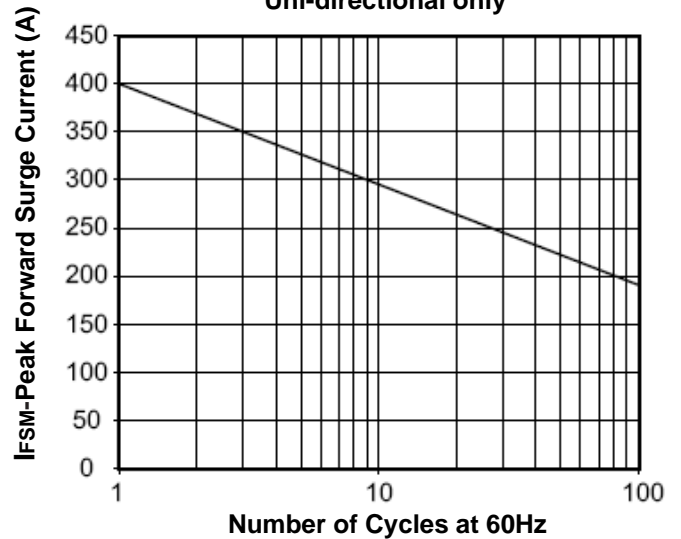


Fig.4- Max. Non-Repetitive Forward Surge Current Uni-directional only



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Fig.5- Steady State Power Derating Curve

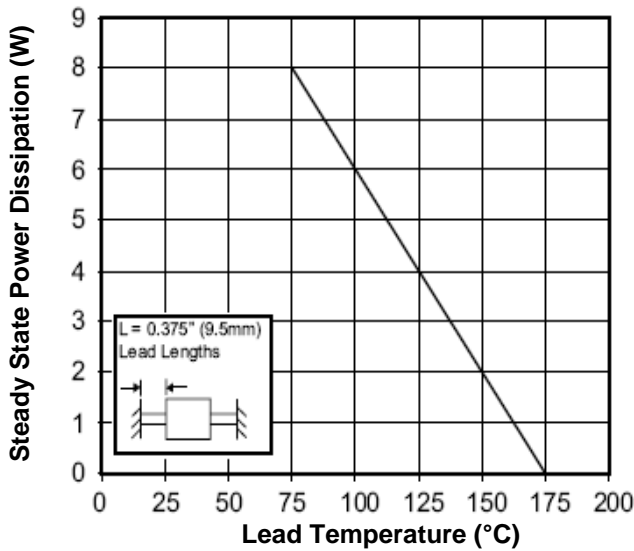
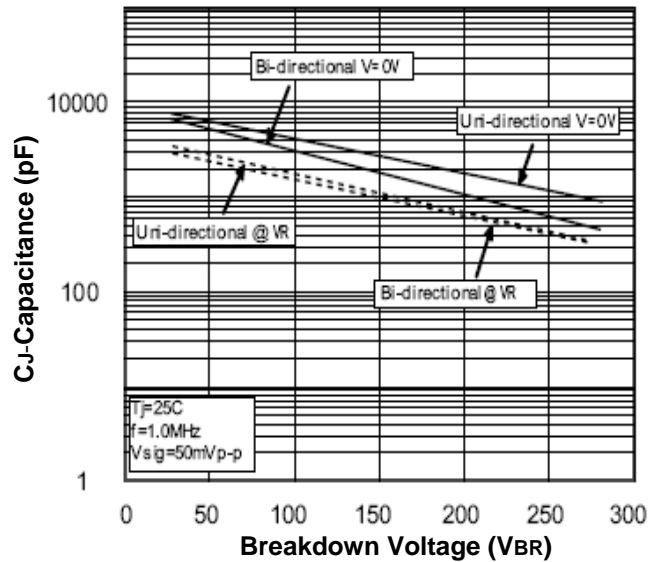
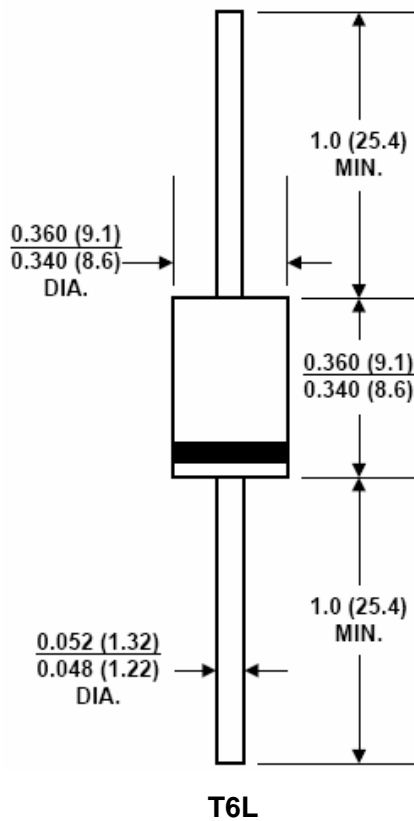


Fig.6- Typical Junction Capacitance



Dimensions in inch (mm)



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