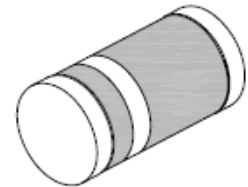


400W Surface Mount Transient Voltage Suppressor

Features

- Breakdown voltage from 6.8 to 170 volts
- Glass passivated junction
- Excellent clamping capability
- Low incremental surge resistance
- 400W peak pulse capability with a 10/1000us waveform, Repetition rate (duty cycle): 0.01%
- Fast response time: typically less than 1.0ps from 0V to VBR
- For devices with $VBR \geq 10V$, I_D are typically less than 1.0uA
- High temperature soldering guaranteed 250°C/10 seconds at terminals
- RoHS Compliant



MELF (DO-213AB)



Mechanical Data

| | |
|---------------------------|---|
| Case: | JEDEC DO-213AB (MELF) molded plastic body over passivated junction |
| Epoxy: | Plastic package has UL flammability classification 94V-0 |
| Terminals: | Solder plated, solderable per MIL-STD-750, Method 2026 |
| Polarity: | Blue bands denotes the cathode which is positive with respect to the anode under normal TVS operation |
| Mounting position: | Any |
| Weight: | 0.0046 Ounce, 0. 116 gram |

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

| Symbol | Description | Value | Unit | Conditions |
|--------------------------------------|---|-------------|------|--|
| PPPM | Peak Pulse Power Dissipation on 10/1000 us waveform | Minimum 400 | W | Non-repetitive current pulse, per FIG.3 and derated above $TA=25^{\circ}C$ per FIG.2 |
| IPPM | Peak Pulse current with a 10/1000 us waveform | See Table | A | |
| IFSM | Peak Forward Surge Current | 40 | A | 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) |
| T_J,T_{STG} | Operating Junction and Storage Temperature Range | -55 to 150 | ° C | |

Note: Mounted on copper pads to each terminal of 0.31 in² (8.0 mm²) per Fig.5

400W Surface Mount Transient Voltage Suppressor

TGL41-6.8 - TGL41-170CA

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

| Part NO. | | Device Marking Code | | Reverse Stand-off Voltage | Breakdown Voltage @ Test Current. | | | Max. Clamping Voltage @ IPPM | Max. Peak Pulse Current | Max. Reverse Leakage Current @ V_{WM} |
|------------|------------|---------------------|----|---------------------------|-----------------------------------|------|------------|------------------------------|-------------------------|---|
| | | | | | V_{BR} | | I_T (mA) | | | |
| Uni-Polar | Bi-Polar | Uni | Bi | V_{WM} (V) | Min. | Max. | | V_C (V) | IPPM (A) | I_D (μ A) |
| TGL416.8 | TGL416.8C | - | - | 5.50 | 6.12 | 7.48 | 10 | 10.8 | 37.0 | 1000 |
| TGL416.8A | TGL416.8CA | - | - | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 38.1 | 1000 |
| TGL41-7.5 | TGL41-7.5C | - | - | 6.05 | 6.75 | 8.25 | 10 | 11.7 | 34.2 | 500 |
| TGL41-7.5A | TGL417.5CA | - | - | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 35.4 | 500 |
| TGL41-8.2 | TGL41-8.2C | - | - | 6.63 | 7.38 | 9.02 | 10 | 12.5 | 32.0 | 200 |
| TGL41-8.2A | TGL418.2CA | - | - | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 33.1 | 200 |
| TGL41-9.1 | TGL41-9.1C | - | - | 7.37 | 8.19 | 10.0 | 1.0 | 13.8 | 29.0 | 50 |
| TGL41-9.1A | TGL419.1CA | - | - | 7.78 | 8.65 | 9.55 | 1.0 | 13.4 | 29.9 | 50 |
| TGL41-10 | TGL41-10C | - | - | 8.10 | 9.00 | 11.0 | 1.0 | 15.0 | 26.7 | 10 |
| TGL41-10A | TGL41-10CA | - | - | 8.55 | 9.50 | 10.5 | 1.0 | 14.5 | 27.6 | 10 |
| TGL41-11 | TGL41-11C | - | - | 8.92 | 9.90 | 12.1 | 1.0 | 16.2 | 24.7 | 5 |
| TGL41-11A | TGL41-11CA | - | - | 9.40 | 10.5 | 11.6 | 1.0 | 15.6 | 25.6 | 5 |
| TGL41-12 | TGL41-12C | - | - | 9.72 | 10.8 | 13.2 | 1.0 | 17.3 | 23.1 | 5 |
| TGL41-12A | TGL41-12CA | - | - | 10.2 | 11.4 | 12.6 | 1.0 | 16.7 | 24.0 | 5 |
| TGL41-13 | TGL41-13C | - | - | 10.5 | 11.7 | 14.3 | 1.0 | 19.0 | 21.1 | 5 |
| TGL41-13A | TGL41-13CA | - | - | 11.1 | 12.4 | 13.7 | 1.0 | 18.2 | 22.0 | 5 |
| TGL41-15 | TGL41-15C | - | - | 12.1 | 13.5 | 16.5 | 1.0 | 22.0 | 18.2 | 5 |
| TGL41-15A | TGL41-15CA | - | - | 12.8 | 14.3 | 15.8 | 1.0 | 21.2 | 18.9 | 5 |
| TGL41-16 | TGL41-16C | - | - | 12.9 | 14.4 | 17.6 | 1.0 | 23.5 | 17.0 | 5 |
| TGL41-16A | TGL41-16CA | - | - | 13.6 | 15.2 | 16.8 | 1.0 | 22.5 | 17.8 | 5 |
| TGL41-18 | TGL41-18C | - | - | 14.5 | 16.2 | 19.8 | 1.0 | 26.5 | 15.1 | 5 |
| TGL41-18A | TGL41-18CA | - | - | 15.3 | 17.1 | 18.9 | 1.0 | 25.2 | 15.9 | 5 |
| TGL41-20 | TGL41-20C | - | - | 16.2 | 18.0 | 22.0 | 1.0 | 29.1 | 13.7 | 5 |
| TGL41-20A | TGL41-20CA | - | - | 17.1 | 19.0 | 21.0 | 1.0 | 27.7 | 14.4 | 5 |
| TGL41-22 | TGL41-22C | - | - | 17.8 | 19.8 | 24.2 | 1.0 | 31.9 | 12.5 | 5 |
| TGL41-22A | TGL41-22CA | - | - | 18.8 | 20.9 | 23.1 | 1.0 | 30.6 | 13.1 | 5 |
| TGL41-24 | TGL41-24C | - | - | 19.4 | 21.6 | 26.4 | 1.0 | 34.7 | 11.5 | 5 |
| TGL41-24A | TGL41-24CA | - | - | 20.5 | 22.8 | 25.2 | 1.0 | 33.2 | 12.0 | 5 |
| TGL41-27 | TGL41-27C | - | - | 21.8 | 24.3 | 29.7 | 1.0 | 39.1 | 10.2 | 5 |
| TGL41-27A | TGL41-27CA | - | - | 23.1 | 25.7 | 28.4 | 1.0 | 37.5 | 10.7 | 5 |

400W Surface Mount Transient Voltage Suppressor

TGL41-6.8 - TGL41-170CA

| | | | | | | | | | | |
|------------|-------------|---|---|------|------|------|-----|------|------|---|
| TGL41-30 | TGL41-30C | - | - | 24.3 | 27.0 | 33.0 | 1.0 | 43.5 | 9.2 | 5 |
| TGL41-30A | TGL41-30CA | - | - | 25.6 | 28.5 | 31.5 | 1.0 | 41.4 | 9.7 | 5 |
| TGL41-33 | TGL41-33C | - | - | 26.8 | 29.7 | 36.3 | 1.0 | 47.7 | 8.4 | 5 |
| TGL41-33A | TGL41-33CA | - | - | 28.2 | 31.4 | 34.7 | 1.0 | 45.7 | 8.8 | 5 |
| TGL41-36 | TGL41-36C | - | - | 29.1 | 32.4 | 39.6 | 1.0 | 52.0 | 7.7 | 5 |
| TGL41-36A | TGL41-36CA | - | - | 30.8 | 34.2 | 37.8 | 1.0 | 49.9 | 8.0 | 5 |
| TGL41-47 | TGL41-47C | - | - | 38.1 | 42.3 | 51.7 | 1.0 | 67.8 | 5.9 | 5 |
| TGL41-47A | TGL41-47CA | - | - | 40.2 | 44.7 | 49.4 | 1.0 | 64.8 | 6.2 | 5 |
| TGL41-51 | TGL41-51C | - | - | 41.3 | 45.9 | 56.1 | 1.0 | 73.5 | 5.4 | 5 |
| TGL41-51A | TGL41-51CA | - | - | 43.6 | 48.5 | 53.6 | 1.0 | 70.1 | 5.7 | 5 |
| TGL41-56 | TGL41-56C | - | - | 45.4 | 50.4 | 61.6 | 1.0 | 80.5 | 5.0 | 5 |
| TGL41-56A | TGL41-56CA | - | - | 47.8 | 53.2 | 58.8 | 1.0 | 77.0 | 5.2 | 5 |
| TGL41-62 | TGL41-62C | - | - | 50.2 | 55.8 | 68.2 | 1.0 | 89.0 | 4.5 | 5 |
| TGL41-62A | TGL41-62CA | - | - | 53.0 | 58.9 | 65.1 | 1.0 | 85.0 | 4.7 | 5 |
| TGL41-68 | TGL41-68C | - | - | 55.1 | 61.2 | 74.8 | 1.0 | 98.0 | 4.1 | 5 |
| TGL41-68A | TGL41-68CA | - | - | 58.1 | 64.6 | 71.4 | 1.0 | 92.0 | 4.3 | 5 |
| TGL41-75 | TGL41-75C | - | - | 60.7 | 67.5 | 82.5 | 1.0 | 108 | 3.7 | 5 |
| TGL41-75A | TGL41-75CA | - | - | 64.1 | 71.3 | 78.8 | 1.0 | 103 | 3.9 | 5 |
| TGL41-82 | TGL41-82C | - | - | 66.4 | 73.8 | 90.2 | 1.0 | 118 | 3.4 | 5 |
| TGL41-82A | TGL41-82CA | - | - | 70.1 | 77.9 | 86.1 | 1.0 | 113 | 3.5 | 5 |
| TGL41-91 | TGL41-91C | - | - | 73.7 | 81.9 | 100 | 1.0 | 131 | 3.1 | 5 |
| TGL41-91A | TGL41-91CA | - | - | 77.8 | 86.5 | 95.5 | 1.0 | 125 | 3.2 | 5 |
| TGL41-100 | TGL41-100C | - | - | 81.0 | 90.0 | 110 | 1.0 | 144 | 1.39 | 5 |
| TGL41-100A | TGL41-100CA | - | - | 85.5 | 95.0 | 105 | 1.0 | 137 | 1.46 | 5 |
| TGL41-110 | TGL41-110C | - | - | 89.2 | 99.0 | 121 | 1.0 | 158 | 1.27 | 5 |
| TGL41-110A | TGL41-110CA | - | - | 94.0 | 105 | 116 | 1.0 | 152 | 1.32 | 5 |
| TGL41-120 | TGL41-120C | - | - | 97.2 | 108 | 132 | 1.0 | 173 | 1.16 | 5 |
| TGL41-120A | TGL41-120CA | - | - | 102 | 114 | 126 | 1.0 | 165 | 1.21 | 5 |
| TGL41-130 | TGL41-130C | - | - | 105 | 117 | 143 | 1.0 | 187 | 1.07 | 5 |
| TGL41-130A | TGL41-130CA | - | - | 111 | 124 | 137 | 1.0 | 179 | 1.12 | 5 |
| TGL41-150 | TGL41-150C | - | - | 121 | 135 | 165 | 1.0 | 215 | 0.93 | 5 |
| TGL41-150A | TGL41-150CA | - | - | 128 | 143 | 158 | 1.0 | 207 | 0.97 | 5 |
| TGL41-160 | TGL41-160C | - | - | 130 | 144 | 176 | 1.0 | 230 | 0.87 | 5 |
| TGL41-160A | TGL41-160CA | - | - | 136 | 152 | 168 | 1.0 | 219 | 0.91 | 5 |
| TGL41-170 | TGL41-170C | - | - | 138 | 153 | 187 | 1.0 | 244 | 0.82 | 5 |
| TGL41-170A | TGL41-170CA | - | - | 145 | 162 | 179 | 1.0 | 234 | 0.85 | 5 |

400W Surface Mount Transient Voltage Suppressor

TGL41-6.8 - TGL41-170CA

NOTES:

- (1) $V_{(BR)}$ measured after I_T applied for 300 μ s square wave pulse or equivalent
- (2) Surge current waveform per Figure 3 and derate per Fig.2
- (3) All terms and symbols are consistent with ANSI/IEEE C62.35

Typical Characteristics Curves

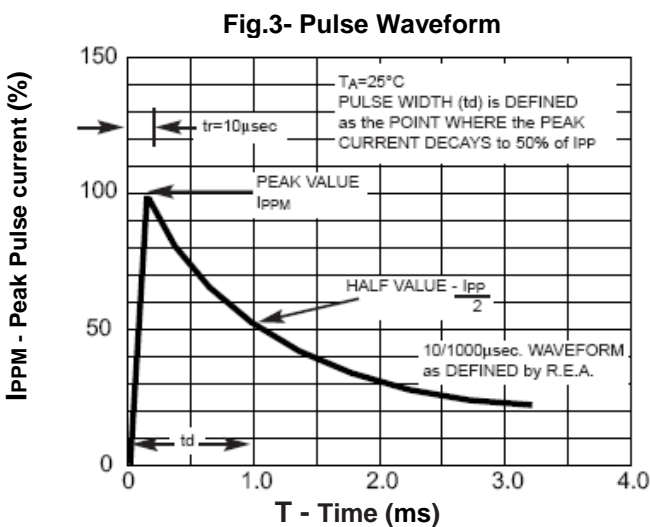
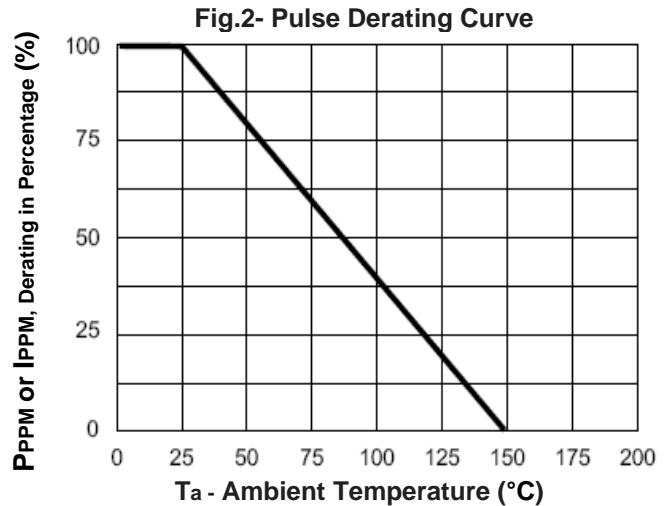
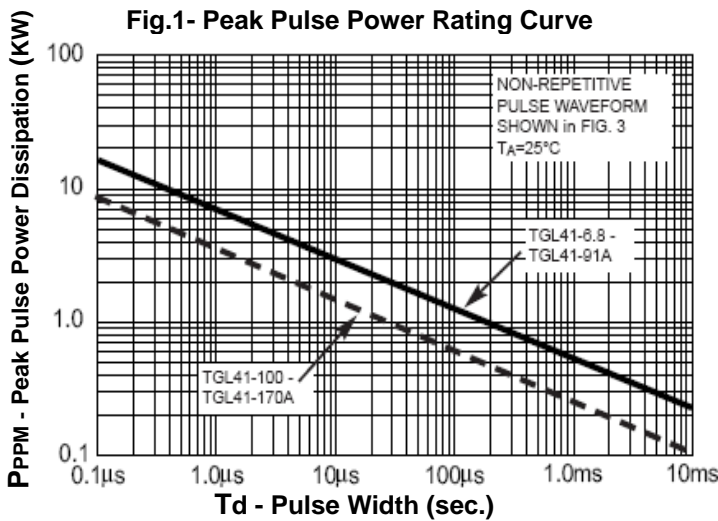
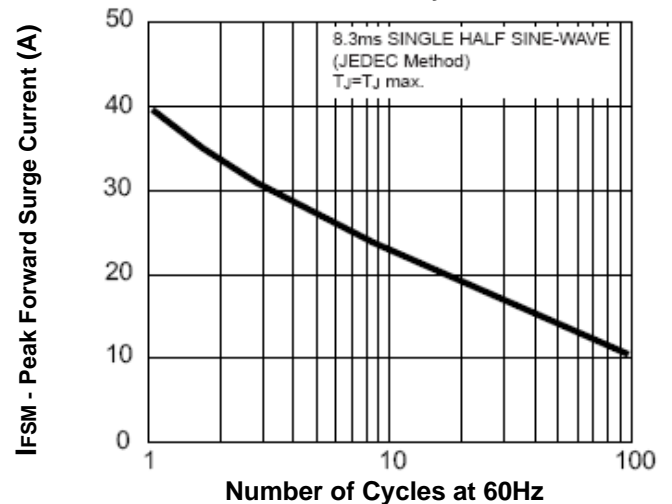
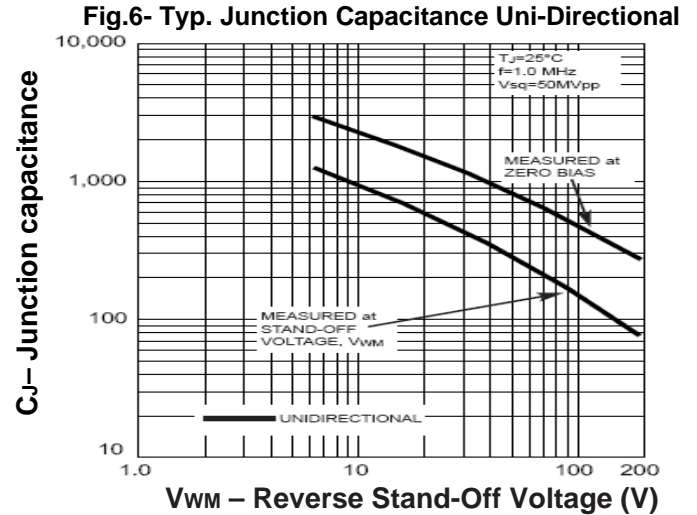
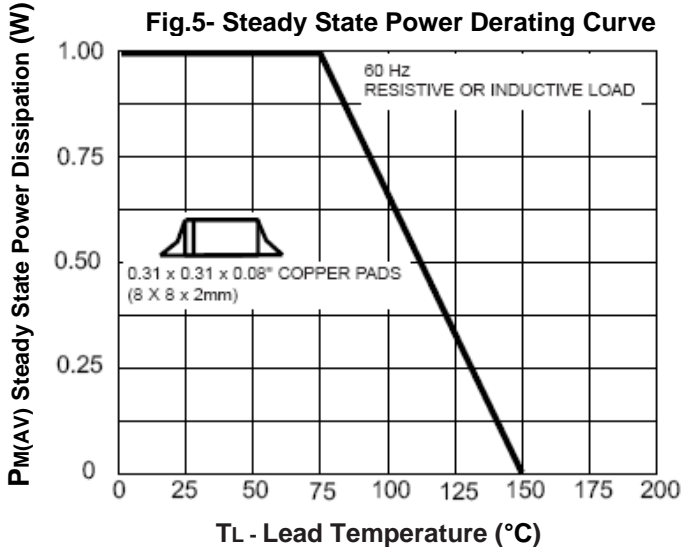


Fig.4-Max. Non-Repetitive Forward Surge Current Uni-directional only

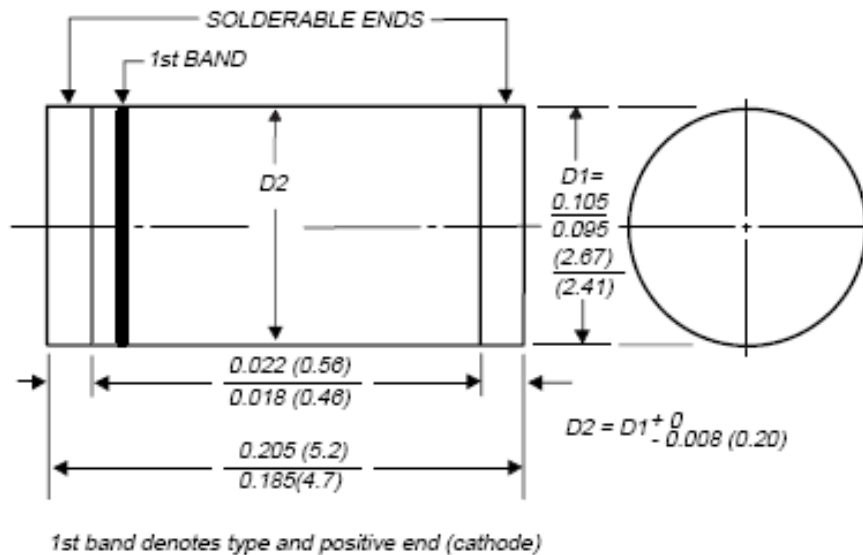


400W Surface Mount Transient Voltage Suppressor

TGL41-6.8 - TGL41-170CA



Dimensions in inches (mm)



MELF (DO-213AB)

400W Surface Mount Transient Voltage Suppressor

TGL41-6.8 - TGL41-170CA

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