

MDE Semiconductor, Inc.

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MAX™ 20 Tab Cell Series

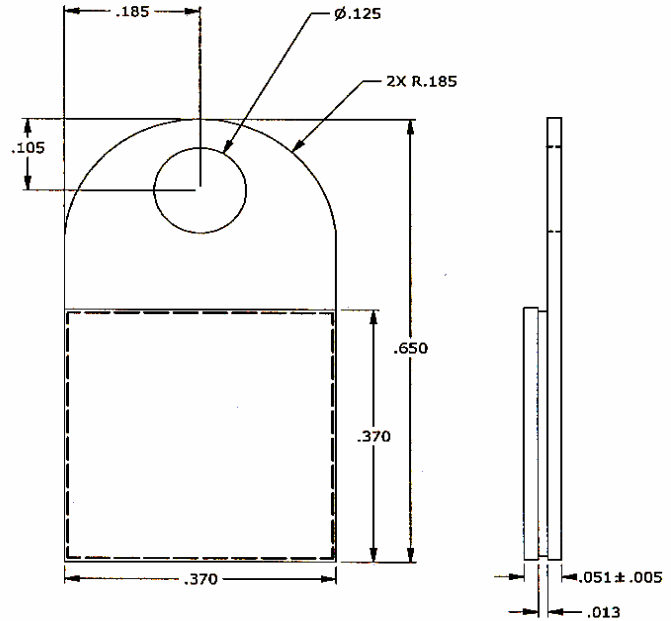
HIGH CURRENT TRANSIENT VOLTAGE SUPPRESSOR (TVS) DIODE

STAND-OFF VOLTAGE 5.0 to 22 Volts

20000 Watt Peak Pulse Power

FEATURES

- Glass passivated junction
- Bidirectional
- 20000W Peak Pulse Power capability on 10/1000 µsec waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Sharp breakdown voltage
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
- Typical IR less than 20µA above 10V
- High temperature soldering performance.
- Operating Temp -55°C to +150°C



MECHANICAL DATA

Terminals: Solderable per MIL-STD-750. Method 2026

Mounting Position: Any

Weight: 1.49 ± 0.149g (0.053 ± 0.005 ounces)

DEVICES FOR BIPOLAR APPLICATIONS

Bidirectional use CA Suffix. Electrical characteristics apply in both directions.

Unidirectional A Suffix available as a special order

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING | SYMBOL | VALUE | UNITS |
|---|---------------|---------------|--------------|
| Peak Pulse Power Dissipation on 10x1000 µsec waveform | Pppm | Minimum 20000 | Watts |
| Peak Pulse Current of on 10-1000 µsec waveform | Ippm | SEE CURVE | Amps |

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| BI-DIRECTIONAL PART NUMBER | REVERSE STAND-OFF VOLTAGE VRWM(V) | BREAKDOWN VOLTAGE VBR(V) MIN@IT | BREAKDOWN VOLTAGE VBR(V) MAX@IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V) | PEAK PULSE CURRENT IPP(A) | REVERSE LEAKAGE @VRWM IR(μA) |
|-------------------------------|--|--|--|-------------------------------|---|------------------------------------|---------------------------------------|
| MAX 20-5.0CA | 5.00 | 6.40 | 7.00 | 50 | 9.2 | 2173.90 | 5000 |
| MAX 20-6.0CA | 6.00 | 6.67 | 7.37 | 50 | 10.3 | 1941.70 | 5000 |
| MAX 20-6.5CA | 6.50 | 7.22 | 7.98 | 50 | 11.2 | 1785.70 | 5000 |
| MAX 20-7.0CA | 7.00 | 7.78 | 8.60 | 50 | 12.0 | 1666.70 | 2000 |
| MAX 20-7.5CA | 7.50 | 8.33 | 9.21 | 5.0 | 12.9 | 1550.40 | 500 |
| MAX 20-8.0CA | 8.00 | 8.89 | 9.83 | 5.0 | 13.6 | 1470.60 | 200 |
| MAX 20-8.5CA | 8.50 | 9.44 | 10.40 | 5.0 | 14.4 | 1388.90 | 50 |
| MAX 20-9.0CA | 9.00 | 10.00 | 11.10 | 5.0 | 15.4 | 1298.70 | 20 |
| MAX 20-10.0CA | 10.00 | 11.10 | 12.30 | 5.0 | 17.0 | 1176.50 | 20 |
| MAX 20-11.0CA | 11.00 | 12.20 | 13.50 | 5.0 | 18.2 | 1098.90 | 20 |
| MAX 20-12.0CA | 12.00 | 13.30 | 14.70 | 5.0 | 19.9 | 1005.00 | 20 |
| MAX 20-14.0CA | 14.00 | 15.60 | 17.20 | 5.0 | 23.2 | 862.07 | 20 |
| MAX 20-15.0CA | 15.00 | 16.70 | 18.50 | 5.0 | 24.4 | 819.67 | 20 |
| MAX 20-16.0CA | 16.00 | 17.80 | 19.70 | 5.0 | 26.0 | 769.23 | 20 |
| MAX 20-17.0CA | 17.00 | 18.90 | 20.90 | 5.0 | 27.6 | 724.64 | 20 |
| MAX 20-18.0CA | 18.00 | 20.00 | 22.10 | 5.0 | 29.2 | 684.93 | 20 |
| MAX 20-20.0CA | 20.00 | 22.20 | 24.50 | 5.0 | 32.4 | 617.28 | 20 |
| MAX 20-22.0CA | 22.00 | 24.40 | 26.90 | 5.0 | 35.5 | 563.38 | 20 |

To order use Part Number Plus - TCell
Example: MAX-XX-CA-TCell

MAX 20 Series

Rating and Characteristic Curves

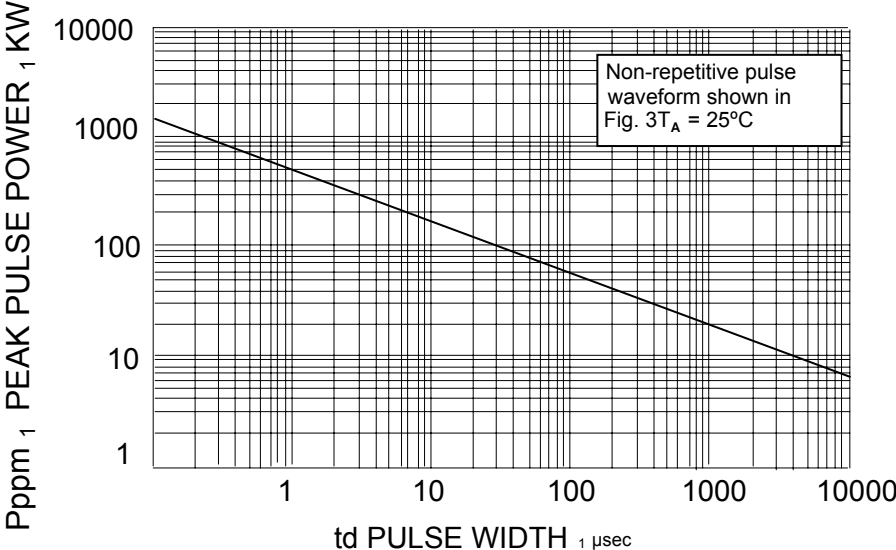


FIG. 1 PEAK PULSE POWER RATING

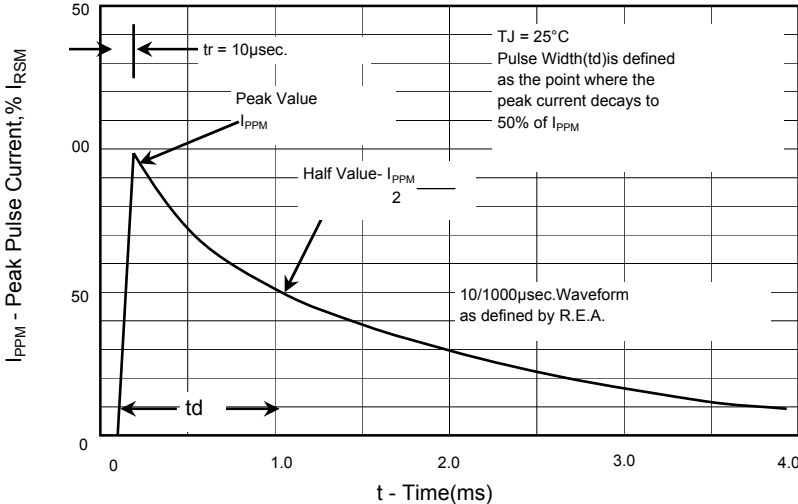
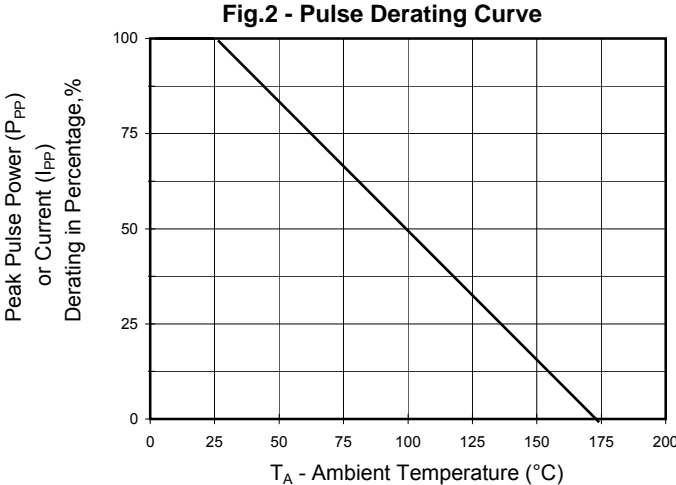


Fig.3 - Pulse Waveform