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|-----------------------------------------------------------------------------------|----------------|
|  | E480232 |
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Features

- AEC-Q101 Qualified
- Low Leakage
- Very Fast Response Time
- Glass Passivated Junction
- Excellent Clamping Capability
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.5.0SMLJ10CAHE3 for 5% Tolerance

Mechanical Data

- Polarity: Color Band Denotes Positive End (cathode) Except Bidirectional

Maximum Ratings

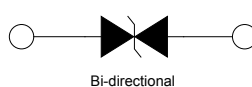
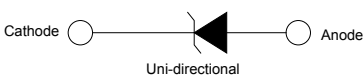
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

| | | | |
|------------------------------------------------------|-----------|---------------|----------------------------|
| Peak Pulse Power Surge Current on 10/1000µs Waveform | I_{PPM} | See the Table | Note 3 |
| Peak Pulse Power Dissipation on 10/1000µs Waveform | P_{PPM} | 5000W(Min) | Note 3 |
| Power Dissipation on infinite heat sink | P_D | 6.5W | $T_L = 75^\circ\text{C}$. |

Note:

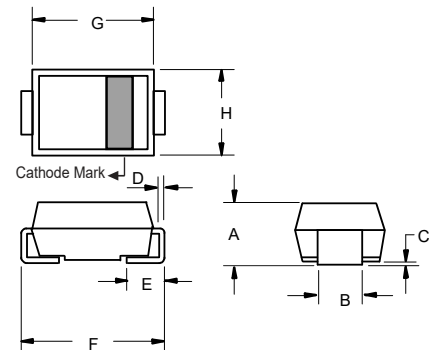
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.4

Pin Configuration:



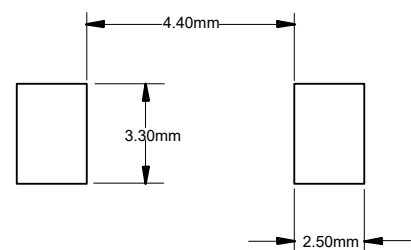
5000 Watt TVS 10 to 58 Volts

SMC (DO-214AB) (LEAD FRAME)



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-------|-------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.079 | 0.103 | 2.00 | 2.62 | |
| B | 0.108 | 0.128 | 2.75 | 3.25 | |
| C | 0.002 | 0.008 | 0.051 | 0.203 | |
| D | 0.006 | 0.012 | 0.152 | 0.305 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.305 | 0.320 | 7.75 | 8.13 | |
| G | 0.260 | 0.280 | 6.60 | 7.11 | |
| H | 0.220 | 0.245 | 5.59 | 6.22 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | | Working Peak Reverse Voltage | Breakdown Voltage V_{BR} @ I_T | | | Maximum Clamping Voltage @ I_{PP} | Maximum Reverse Surge Current | Maximum Reverse Leakage @ V_{RWM} | Device Marking Code | |
|-----------------|----------------|------------------------------|------------------------------------|---------|---------|-------------------------------------|-------------------------------|-------------------------------------|---------------------|-----------|
| Uni | Bi | | $V_{RWM}(V)$ | Min (V) | Max (V) | | | | I_T (mA) | $V_C(V)$ |
| 5.0SMLJ10AHE3 | 5.0SMLJ10CAHE3 | 10.0 | 11.10 | 12.30 | 1 | 17.0 | 294.12 | 5 | 5SAE | 5DAE |
| 5.0SMLJ11AHE3 | 5.0SMLJ11CAHE3 | 11.0 | 12.20 | 13.50 | 1 | 18.2 | 275.0 | 2 | 5SAF | 5DAF |
| 5.0SMLJ12AHE3 | 5.0SMLJ12CAHE3 | 12.0 | 13.30 | 14.70 | 1 | 19.9 | 252.0 | 2 | 5SAG | 5DAG |
| 5.0SMLJ13AHE3 | 5.0SMLJ13CAHE3 | 13.0 | 14.40 | 15.90 | 1 | 21.5 | 233.0 | 2 | 5SAK | 5DAK |
| 5.0SMLJ14AHE3 | 5.0SMLJ14CAHE3 | 14.0 | 15.60 | 17.20 | 1 | 23.2 | 216.0 | 2 | 5SAM | 5DAM |
| 5.0SMLJ15AHE3 | 5.0SMLJ15CAHE3 | 15.0 | 16.70 | 18.50 | 1 | 24.4 | 205.0 | 2 | 5SAP | 5DAP |
| 5.0SMLJ16AHE3 | 5.0SMLJ16CAHE3 | 16.0 | 17.80 | 19.70 | 1 | 26.0 | 193.0 | 2 | 5SAR | 5DAR |
| 5.0SMLJ17AHE3 | 5.0SMLJ17CAHE3 | 17.0 | 18.90 | 20.90 | 1 | 27.6 | 181.0 | 2 | 5SAT | 5DAT |
| 5.0SMLJ18AHE3 | 5.0SMLJ18CAHE3 | 18.0 | 20.00 | 22.10 | 1 | 29.2 | 172.0 | 2 | 5SAV | 5DAV |
| 5.0SMLJ19AHE3 | 5.0SMLJ19CAHE3 | 19.0 | 21.10 | 23.30 | 1 | 30.8 | 162.4 | 2 | 5SAX | 5DAX |
| 5.0SMLJ20AHE3 | 5.0SMLJ20CAHE3 | 20.0 | 22.20 | 24.50 | 1 | 32.4 | 155.0 | 2 | 5SAZ | 5DAZ |
| 5.0SMLJ22AHE3 | 5.0SMLJ22CAHE3 | 22.0 | 24.40 | 26.90 | 1 | 35.5 | 141.0 | 2 | 5SBE | 5DBE |
| 5.0SMLJ24AHE3 | 5.0SMLJ24CAHE3 | 24.0 | 26.70 | 29.50 | 1 | 38.9 | 129.0 | 2 | 5SBF | 5DBF |
| 5.0SMLJ26AHE3 | 5.0SMLJ26CAHE3 | 26.0 | 28.90 | 31.90 | 1 | 42.1 | 119.0 | 2 | 5SBG | 5DBG/5BFE |
| 5.0SMLJ28AHE3 | 5.0SMLJ28CAHE3 | 28.0 | 31.10 | 34.40 | 1 | 45.4 | 110.0 | 2 | 5SBK | 5DBK |
| 5.0SMLJ30AHE3 | 5.0SMLJ30CAHE3 | 30.0 | 33.30 | 36.80 | 1 | 48.4 | 103.0 | 2 | 5SBM | 5DBM |
| 5.0SMLJ33AHE3 | 5.0SMLJ33CAHE3 | 33.0 | 36.70 | 40.60 | 1 | 53.3 | 93.9 | 2 | 5SBP | 5DBP |
| 5.0SMLJ36AHE3 | 5.0SMLJ36CAHE3 | 36.0 | 40.00 | 44.20 | 1 | 58.1 | 86.1 | 2 | 5SBR | 5DBR |
| 5.0SMLJ40AHE3 | 5.0SMLJ40CAHE3 | 40.0 | 44.40 | 49.10 | 1 | 64.5 | 77.6 | 2 | 5SBT | 5DBT |
| 5.0SMLJ43AHE3 | 5.0SMLJ43CAHE3 | 43.0 | 47.80 | 52.80 | 1 | 69.4 | 72.1 | 2 | 5SBV | 5DBV |
| 5.0SMLJ45AHE3 | 5.0SMLJ45CAHE3 | 45.0 | 50.00 | 55.30 | 1 | 72.7 | 68.8 | 2 | 5SBX | 5DBX |
| 5.0SMLJ48AHE3 | 5.0SMLJ48CAHE3 | 48.0 | 53.30 | 58.90 | 1 | 77.4 | 64.7 | 2 | 5SBZ | 5DBZ |
| 5.0SMLJ51AHE3 | 5.0SMLJ51CAHE3 | 51.0 | 56.70 | 62.70 | 1 | 82.4 | 60.7 | 2 | 5SCE | 5DCE |
| 5.0SMLJ54AHE3 | 5.0SMLJ54CAHE3 | 54.0 | 60.00 | 66.30 | 1 | 87.1 | 57.5 | 2 | 5SCF | 5DCF |
| 5.0SMLJ58AHE3 | 5.0SMLJ58CAHE3 | 58.0 | 64.40 | 71.20 | 1 | 93.6 | 53.5 | 2 | 5SCG | 5DCG |

Note:

- Add suffix 'C' after part number to specify Bi-directional devices
- For Bi-Directional devices having V_R of 10 volts, the I_R limit is double

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

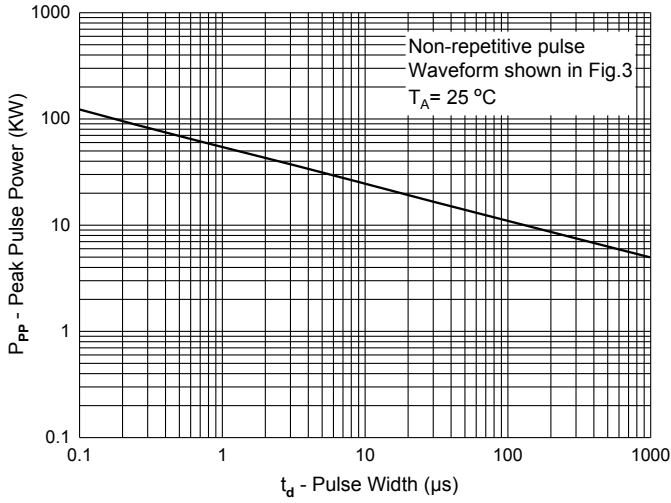


Fig. 2 - Typical Junction Capacitance

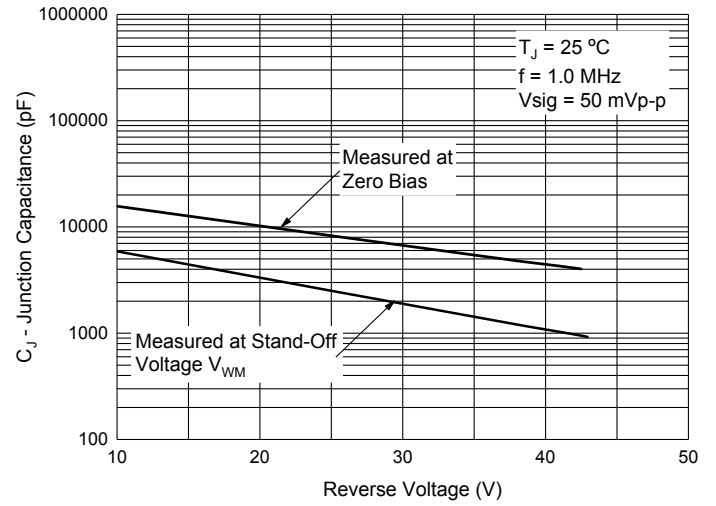


Fig. 3 - Pulse Waveform

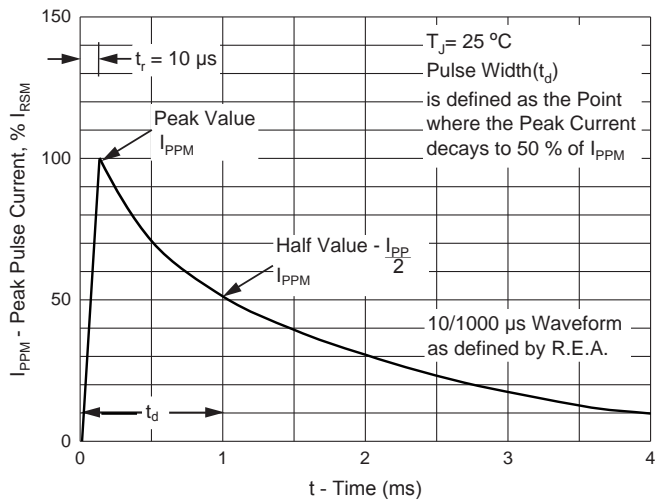


Fig. 4 - Pulse Derating Curve

