


|   |                |
|---|----------------|
|  | <b>E480232</b> |
|---|----------------|

### Features

- AEC-Q101 Qualified
- For Surface Mount Application in Order to Optimize Board Space
- Built-in Strain Relief
- Glass Passivated Junction
- Excellent Clamping Capability
- Repetition Rate(duty cycle):0.5%
- Fast Response Time: Typical Less Than 1ps From 0V to BV Min
- Typical  $I_D$  Less Than  $1\mu A$  above 10V
- High Temperature Soldering: 260°C/10 Seconds at Terminals
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMLJ10CAHE3 for 5% Tolerance
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Mechanical Data

- Polarity: Color Band Denotes Positive End( Cathode) Except Bi-directional Types
- Weight: 0.007 ounce, 0.21 gram
- Manufacturing Code Added for Better Tracking
- Standard Packaging: 16mm Tape Per ( EIA 481).
- Terminals: Solderable Per MIL-STD-750, Method 2026

### Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 17.5°C/W Junction to Lead
- Thermal Resistance: 75°C/W Junction to Ambient

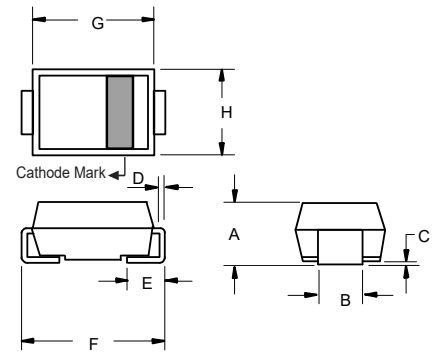
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|  |           |               |                     |
|--|-----------|---------------|---------------------|
| Peak Pulse Power Surge Current on 10/1000 $\mu s$ Waveform | $I_{PPM}$ | See the Table | Note 3              |
| Peak Pulse Power Dissipation on 10/1000 $\mu s$ Waveform   | $P_{PPM}$ | 3000W(Min)    | Note 3,4            |
| Power Dissipation on infinite heat sink                    | $P_D$     | 6.5W          | $T_L = 50^\circ C.$ |

- 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  $T_A=25^\circ C$  per Fig.4.
4. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.

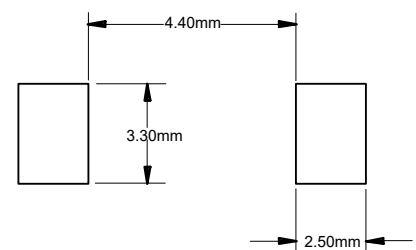
**3000 Watt TVS**  
**10 to 43 Volts**

### SMC (DO-214AB) (LEAD FRAME)



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | 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 | Reverse Stand -Off Voltage | Breakdown Voltage $V_{BR}(V)$ |      | Test Current | Max. Clamping Voltage @ $I_{PP}$ | Peak Pulse Current | Reverse Leakage Current@ $V_{WM}$ | Marking Code |
|-----------------|----------------------------|-------------------------------|------|--------------|----------------------------------|--------------------|-----------------------------------|--------------|
|                 | $V_{WM}(V)$                | Min                           | Max  | $I_T(mA)$    | $V_C(V)$                         | $I_{PP}(A)$        | $I_D(\mu A)$                      |              |
| SMLJ10AHE3      | 10                         | 11.1                          | 12.3 | 5            | 17.0                             | 176.4              | 15                                | PDX          |
| SMLJ11AHE3      | 11                         | 12.2                          | 13.5 | 5            | 18.2                             | 164.8              | 2                                 | PDZ          |
| SMLJ12AHE3      | 12                         | 13.3                          | 14.7 | 5            | 19.9                             | 150.6              | 2                                 | PEE          |
| SMLJ13AHE3      | 13                         | 14.4                          | 15.9 | 5            | 21.5                             | 139.4              | 2                                 | PEG          |
| SMLJ14AHE3      | 14                         | 15.6                          | 17.2 | 5            | 23.2                             | 129.4              | 2                                 | PEK          |
| SMLJ15AHE3      | 15                         | 16.7                          | 18.5 | 5            | 24.4                             | 123.0              | 2                                 | PEM          |
| SMLJ16AHE3      | 16                         | 17.8                          | 19.7 | 5            | 26.0                             | 115.4              | 2                                 | PEP          |
| SMLJ17AHE3      | 17                         | 18.9                          | 20.9 | 5            | 27.6                             | 106.6              | 2                                 | PER          |
| SMLJ18AHE3      | 18                         | 20.0                          | 22.1 | 5            | 29.2                             | 102.8              | 2                                 | PET          |
| SMLJ20AHE3      | 20                         | 22.2                          | 24.5 | 5            | 32.4                             | 92.6               | 2                                 | PEV          |
| SMLJ22AHE3      | 22                         | 24.4                          | 26.9 | 5            | 35.5                             | 84.4               | 2                                 | PEX          |
| SMLJ24AHE3      | 24                         | 26.7                          | 29.5 | 5            | 38.9                             | 77.2               | 2                                 | PEZ          |
| SMLJ26AHE3      | 26                         | 28.9                          | 31.9 | 5            | 42.1                             | 71.2               | 2                                 | PFE          |
| SMLJ28AHE3      | 28                         | 31.1                          | 34.4 | 5            | 45.4                             | 66.0               | 2                                 | PFG          |
| SMLJ30AHE3      | 30                         | 33.3                          | 36.8 | 5            | 48.4                             | 62.0               | 2                                 | PFK          |
| SMLJ33AHE3      | 33                         | 36.7                          | 40.6 | 5            | 53.3                             | 56.2               | 2                                 | PFM          |
| SMLJ36AHE3      | 36                         | 40.0                          | 44.2 | 5            | 58.1                             | 51.6               | 2                                 | PFP          |
| SMLJ40AHE3      | 40                         | 44.4                          | 49.1 | 5            | 64.5                             | 46.4               | 2                                 | PFR          |
| SMLJ43AHE3      | 43                         | 47.8                          | 52.8 | 5            | 69.4                             | 43.2               | 2                                 | PFT          |
| SMLJ10CAHE3     | 10                         | 11.1                          | 12.3 | 5            | 17.0                             | 176.4              | 15                                | DDX          |
| SMLJ11CAHE3     | 11                         | 12.2                          | 13.5 | 5            | 18.2                             | 164.8              | 2                                 | DDZ          |
| SMLJ12CAHE3     | 12                         | 13.3                          | 14.7 | 5            | 19.9                             | 150.6              | 2                                 | DEE          |
| SMLJ13CAHE3     | 13                         | 14.4                          | 15.9 | 5            | 21.5                             | 139.4              | 2                                 | DEG          |
| SMLJ14CAHE3     | 14                         | 15.6                          | 17.2 | 5            | 23.2                             | 129.4              | 2                                 | DEK          |
| SMLJ15CAHE3     | 15                         | 16.7                          | 18.5 | 5            | 24.4                             | 123.0              | 2                                 | DEM          |
| SMLJ16CAHE3     | 16                         | 17.8                          | 19.7 | 5            | 26.0                             | 115.4              | 2                                 | DEP          |
| SMLJ17CAHE3     | 17                         | 18.9                          | 20.9 | 5            | 27.6                             | 106.6              | 2                                 | DER          |
| SMLJ18CAHE3     | 18                         | 20.0                          | 22.1 | 5            | 29.2                             | 102.8              | 2                                 | DET          |
| SMLJ20CAHE3     | 20                         | 22.2                          | 24.5 | 5            | 32.4                             | 92.6               | 2                                 | DEV          |
| SMLJ22CAHE3     | 22                         | 24.4                          | 26.9 | 5            | 35.5                             | 84.4               | 2                                 | DEX          |
| SMLJ24CAHE3     | 24                         | 26.7                          | 29.5 | 5            | 38.9                             | 77.2               | 2                                 | DEZ          |
| SMLJ26CAHE3     | 26                         | 28.9                          | 31.9 | 5            | 42.1                             | 71.2               | 2                                 | DFE          |
| SMLJ28CAHE3     | 28                         | 31.1                          | 34.4 | 5            | 45.4                             | 66.0               | 2                                 | DFG          |
| SMLJ30CAHE3     | 30                         | 33.3                          | 36.8 | 5            | 48.4                             | 62.0               | 2                                 | DFK          |
| SMLJ33CAHE3     | 33                         | 36.7                          | 40.6 | 5            | 53.3                             | 56.2               | 2                                 | DFM          |
| SMLJ36CAHE3     | 36                         | 40.0                          | 44.2 | 5            | 58.1                             | 51.6               | 2                                 | DFP          |
| SMLJ40CAHE3     | 40                         | 44.4                          | 49.1 | 5            | 64.5                             | 46.4               | 2                                 | DFR          |
| SMLJ43CAHE3     | 43                         | 47.8                          | 52.8 | 5            | 69.4                             | 43.2               | 2                                 | DFT          |

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

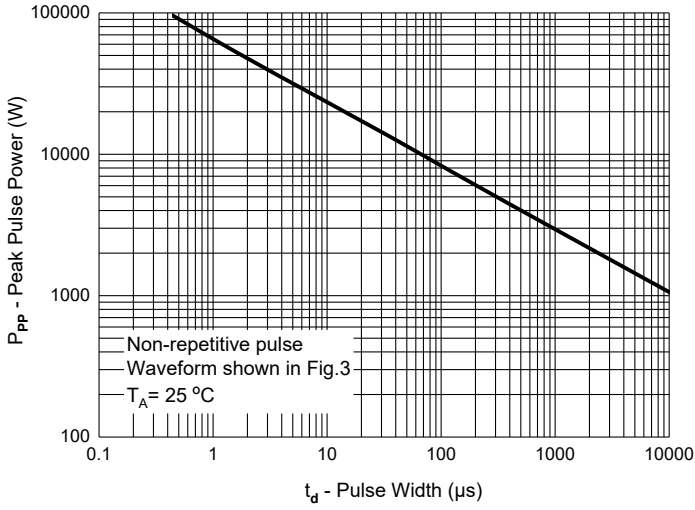


Fig. 2 - Typical Junction Capacitance

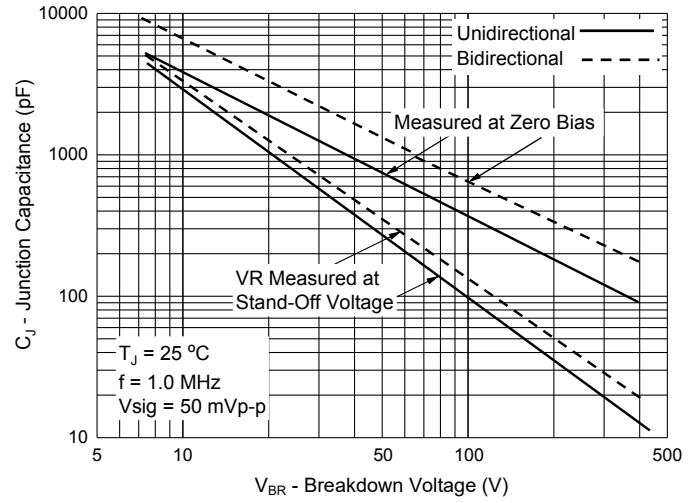


Fig. 3 - Pulse Waveform

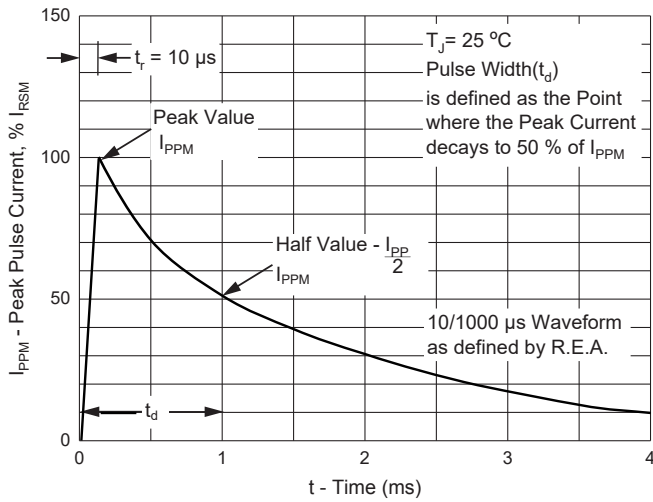
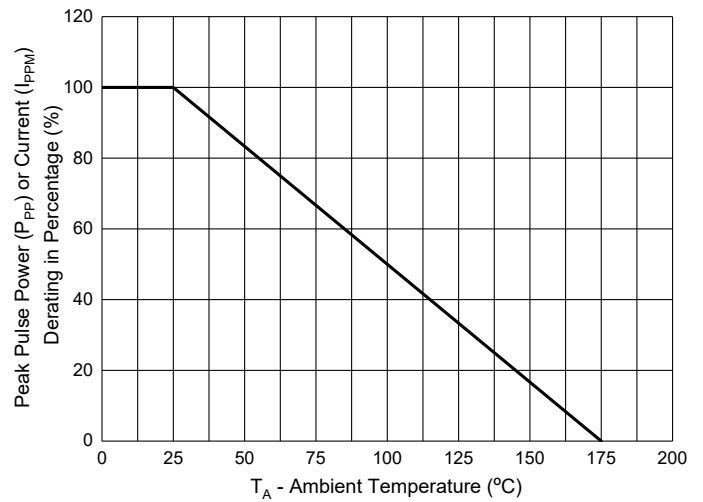


Fig. 4 - Pulse Derating Curve



## Ordering Information

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:3Kpcs/Reel |

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