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

### Features

- For Surface Mount Application in Order to Optimize Board Space
- Built-in Strain Relief
- Glass Passivated Junction
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMLJ5.0CA for 5% Tolerance
- 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
- ESD Protected up to 16KV (HBM)
- High Temperature Soldering: 260°C/10 Seconds at Terminals
- 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)

### Mechanical Data

- Polarity: Color Band Denotes Positive End( Cathode) Except Bi-directional Types
- Weight: 0.007 ounce, 0.21 gram
- 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

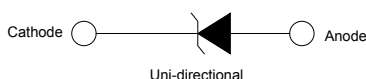
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|  |           |               |                |
|--|-----------|---------------|----------------|
| Peak Pulse Power Surge Current on 10/1000µs Waveform | $I_{PPM}$ | See the Table | Note 3, Fig3   |
| Peak Pulse Power Dissipation on 10/1000µs Waveform   | $P_{PPM}$ | 3000W(Min)    | Note 3,4, Fig1 |

Note:

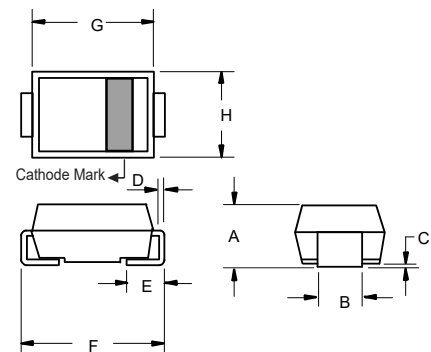
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ C$  per Fig.4.
4. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.

Pin Configuration:



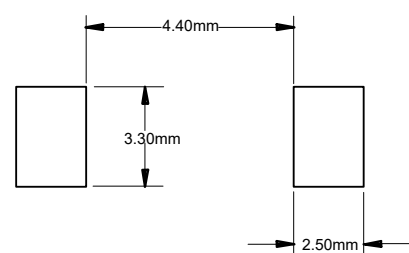
## 3000 Watt TVS 5.0 to 440 Volts

### 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 | 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  | $I_T(mA)$    | $V_C(V)$                         | $I_{PP}(A)$        | $I_D(\mu A)$                      |              |
| SMLJ5.0C        | 5.0                       | 6.40                          | 7.30 | 10           | 9.6                              | 312.5              | 1000                              | DDD          |
| SMLJ5.0CA       | 5.0                       | 6.40                          | 7.00 | 10           | 9.2                              | 326.0              | 1000                              | DDE          |
| SMLJ6.0C        | 6.0                       | 6.67                          | 8.15 | 10           | 11.4                             | 263.2              | 1000                              | DDF          |
| SMLJ6.0CA       | 6.0                       | 6.67                          | 7.37 | 10           | 10.3                             | 291.3              | 1000                              | DDG          |
| SMLJ6.5C        | 6.5                       | 7.22                          | 8.82 | 10           | 12.3                             | 243.9              | 500                               | DDH          |
| SMLJ6.5CA       | 6.5                       | 7.22                          | 7.98 | 10           | 11.2                             | 267.9              | 500                               | DDK          |
| SMLJ7.0C        | 7.0                       | 7.78                          | 9.51 | 10           | 13.3                             | 225.6              | 200                               | DDL          |
| SMLJ7.0CA       | 7.0                       | 7.78                          | 8.60 | 10           | 12.0                             | 250.0              | 200                               | DDM          |
| SMLJ7.5C        | 7.5                       | 8.33                          | 10.2 | 1            | 14.3                             | 209.8              | 100                               | DDN          |
| SMLJ7.5CA       | 7.5                       | 8.33                          | 9.21 | 1            | 12.9                             | 232.6              | 100                               | DDP          |
| SMLJ8.0C        | 8.0                       | 8.89                          | 10.9 | 1            | 15.0                             | 200.0              | 50                                | DDQ          |
| SMLJ8.0CA       | 8.0                       | 8.89                          | 9.83 | 1            | 13.6                             | 220.6              | 50                                | DDR          |
| SMLJ8.5C        | 8.5                       | 9.44                          | 11.5 | 1            | 15.9                             | 188.6              | 25                                | DDS          |
| SMLJ8.5CA       | 8.5                       | 9.44                          | 10.4 | 1            | 14.4                             | 208.4              | 25                                | DDT          |
| SMLJ9.0C        | 9.0                       | 10.0                          | 12.2 | 1            | 16.9                             | 177.4              | 10                                | DDU          |
| SMLJ9.0CA       | 9.0                       | 10.0                          | 11.1 | 1            | 15.4                             | 194.8              | 10                                | DDV          |
| SMLJ10C         | 10                        | 11.1                          | 13.6 | 1            | 18.8                             | 159.6              | 5                                 | DDW          |
| SMLJ10CA        | 10                        | 11.1                          | 12.3 | 1            | 17.0                             | 176.4              | 5                                 | DDX          |
| SMLJ11C         | 11                        | 12.2                          | 14.9 | 1            | 20.1                             | 149.2              | 2                                 | DDY          |
| SMLJ11CA        | 11                        | 12.2                          | 13.5 | 1            | 18.2                             | 164.8              | 2                                 | DDZ          |
| SMLJ12C         | 12                        | 13.3                          | 16.3 | 1            | 22.0                             | 136.4              | 2                                 | DED          |
| SMLJ12CA        | 12                        | 13.3                          | 14.7 | 1            | 19.9                             | 150.6              | 2                                 | DEE          |
| SMLJ13C         | 13                        | 14.4                          | 17.6 | 1            | 23.8                             | 126.0              | 2                                 | DEF          |
| SMLJ13CA        | 13                        | 14.4                          | 15.9 | 1            | 21.5                             | 139.4              | 2                                 | DEG          |
| SMLJ14C         | 14                        | 15.6                          | 19.1 | 1            | 25.8                             | 116.2              | 2                                 | DEH          |
| SMLJ14CA        | 14                        | 15.6                          | 17.2 | 1            | 23.2                             | 129.4              | 2                                 | DEK          |
| SMLJ15C         | 15                        | 16.7                          | 20.4 | 1            | 26.9                             | 111.6              | 2                                 | DEL          |
| SMLJ15CA        | 15                        | 16.7                          | 18.5 | 1            | 24.4                             | 123.0              | 2                                 | DEM          |
| SMLJ16C         | 16                        | 17.8                          | 21.8 | 1            | 28.8                             | 104.2              | 2                                 | DEN          |
| SMLJ16CA        | 16                        | 17.8                          | 19.7 | 1            | 26.0                             | 115.4              | 2                                 | DEP          |
| SMLJ17C         | 17                        | 18.9                          | 23.1 | 1            | 30.5                             | 98.4               | 2                                 | DEQ          |
| SMLJ17CA        | 17                        | 18.9                          | 20.9 | 1            | 27.6                             | 106.6              | 2                                 | DER          |
| SMLJ18C         | 18                        | 20.0                          | 24.4 | 1            | 32.2                             | 93.2               | 2                                 | DES          |
| SMLJ18CA        | 18                        | 20.0                          | 22.1 | 1            | 29.2                             | 102.8              | 2                                 | DET          |
| SMLJ20C         | 20                        | 22.2                          | 27.1 | 1            | 35.8                             | 83.8               | 2                                 | DEU          |
| SMLJ20CA        | 20                        | 22.2                          | 24.5 | 1            | 32.4                             | 92.6               | 2                                 | DEV          |
| SMLJ22C         | 22                        | 24.4                          | 29.8 | 1            | 39.4                             | 76.2               | 2                                 | DEW          |
| SMLJ22CA        | 22                        | 24.4                          | 26.9 | 1            | 35.5                             | 84.4               | 2                                 | DEX          |
| SMLJ24C         | 24                        | 26.7                          | 32.6 | 1            | 43.0                             | 69.8               | 2                                 | DEY          |
| SMLJ24CA        | 24                        | 26.7                          | 29.5 | 1            | 38.9                             | 77.2               | 2                                 | DEZ          |
| SMLJ26C         | 26                        | 28.9                          | 35.3 | 1            | 46.6                             | 64.4               | 2                                 | DFD          |
| SMLJ26CA        | 26                        | 28.9                          | 31.9 | 1            | 42.1                             | 71.2               | 2                                 | DFE          |
| SMLJ28C         | 28                        | 31.1                          | 38.0 | 1            | 50.0                             | 60.0               | 2                                 | DFF          |
| SMLJ28CA        | 28                        | 31.1                          | 34.4 | 1            | 45.4                             | 66.0               | 2                                 | DFG          |
| SMLJ30C         | 30                        | 33.3                          | 40.7 | 1            | 53.5                             | 56.0               | 2                                 | DFH          |

For parts without A, the VBR is +10%.

**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  | $I_T(mA)$    | $V_C(V)$                         | $I_{PP}(A)$        | $I_D(\mu A)$                      |              |
| SMLJ30CA        | 30                        | 33.3                          | 36.8 | 1            | 48.4                             | 62.0               | 2                                 | DFK          |
| SMLJ33C         | 33                        | 36.7                          | 44.9 | 1            | 59.0                             | 50.4               | 2                                 | DFL          |
| SMLJ33CA        | 33                        | 36.7                          | 40.6 | 1            | 53.3                             | 56.2               | 2                                 | DFM          |
| SMLJ36C         | 36                        | 40.0                          | 48.9 | 1            | 64.3                             | 46.6               | 2                                 | DFN          |
| SMLJ36CA        | 36                        | 40.0                          | 44.2 | 1            | 58.1                             | 51.6               | 2                                 | DFP          |
| SMLJ40C         | 40                        | 44.4                          | 54.3 | 1            | 71.4                             | 42.0               | 2                                 | DFQ          |
| SMLJ40CA        | 40                        | 44.4                          | 49.1 | 1            | 64.5                             | 46.4               | 2                                 | DFR          |
| SMLJ43C         | 43                        | 47.8                          | 58.4 | 1            | 76.7                             | 39.2               | 2                                 | DFS          |
| SMLJ43CA        | 43                        | 47.8                          | 52.8 | 1            | 69.4                             | 43.2               | 2                                 | DFT          |
| SMLJ45C         | 45                        | 50.0                          | 61.1 | 1            | 80.3                             | 37.4               | 2                                 | DFU          |
| SMLJ45CA        | 45                        | 50.0                          | 55.3 | 1            | 72.7                             | 41.2               | 2                                 | DFV          |
| SMLJ48C         | 48                        | 53.3                          | 65.1 | 1            | 85.5                             | 35.0               | 2                                 | DFW          |
| SMLJ48CA        | 48                        | 53.3                          | 58.9 | 1            | 77.4                             | 38.8               | 2                                 | DFX          |
| SMLJ51C         | 51                        | 56.7                          | 69.3 | 1            | 91.1                             | 37.0               | 2                                 | DFY          |
| SMLJ51CA        | 51                        | 56.7                          | 62.7 | 1            | 82.4                             | 36.4               | 2                                 | DFZ          |
| SMLJ54C         | 54                        | 60.0                          | 73.3 | 1            | 96.3                             | 31.2               | 2                                 | DGD          |
| SMLJ54CA        | 54                        | 60.0                          | 66.3 | 1            | 87.1                             | 34.4               | 2                                 | DGE          |
| SMLJ58C         | 58                        | 64.4                          | 78.7 | 1            | 103                              | 39.2               | 2                                 | DGF          |
| SMLJ58CA        | 58                        | 64.4                          | 71.2 | 1            | 93.6                             | 32.0               | 2                                 | DGG          |
| SMLJ60C         | 60                        | 66.7                          | 81.5 | 1            | 107                              | 28.0               | 2                                 | DGH          |
| SMLJ60CA        | 60                        | 66.7                          | 73.7 | 1            | 96.8                             | 31.0               | 2                                 | DGK          |
| SMLJ64C         | 64                        | 71.1                          | 86.9 | 1            | 114                              | 26.4               | 2                                 | DGL          |
| SMLJ64CA        | 64                        | 71.1                          | 78.6 | 1            | 103                              | 29.2               | 2                                 | DGM          |
| SMLJ70C         | 70                        | 77.8                          | 95.1 | 1            | 125                              | 24.0               | 2                                 | DGN          |
| SMLJ70CA        | 70                        | 77.8                          | 86.0 | 1            | 113                              | 26.6               | 2                                 | DGP          |
| SMLJ75C         | 75                        | 83.3                          | 102  | 1            | 134                              | 22.4               | 2                                 | DGQ          |
| SMLJ75CA        | 75                        | 83.3                          | 92.1 | 1            | 121                              | 24.8               | 2                                 | DGR          |
| SMLJ78C         | 78                        | 86.7                          | 106  | 1            | 139                              | 21.6               | 2                                 | DGS          |
| SMLJ78CA        | 78                        | 86.7                          | 95.8 | 1            | 126                              | 22.8               | 2                                 | DGT          |
| SMLJ85C         | 85                        | 94.4                          | 115  | 1            | 151                              | 19.8               | 2                                 | DGU          |
| SMLJ85CA        | 85                        | 94.4                          | 104  | 1            | 137                              | 20.8               | 2                                 | DGV          |
| SMLJ90C         | 90                        | 100                           | 122  | 1            | 160                              | 18.8               | 2                                 | DGW          |
| SMLJ90CA        | 90                        | 100                           | 111  | 1            | 146                              | 20.6               | 2                                 | DGX          |
| SMLJ100C        | 100                       | 111                           | 136  | 1            | 179                              | 16.8               | 2                                 | DGY          |
| SMLJ100CA       | 100                       | 111                           | 123  | 1            | 162                              | 18.6               | 2                                 | DGZ          |
| SMLJ110C        | 110                       | 122                           | 149  | 1            | 196                              | 15.4               | 2                                 | DHD          |
| SMLJ110CA       | 110                       | 122                           | 135  | 1            | 177                              | 16.8               | 2                                 | DHE          |
| SMLJ120C        | 120                       | 133                           | 163  | 1            | 214                              | 14.0               | 2                                 | DHF          |
| SMLJ120CA       | 120                       | 133                           | 147  | 1            | 193                              | 15.6               | 2                                 | DHG          |
| SMLJ130C        | 130                       | 144                           | 176  | 1            | 231                              | 13.0               | 2                                 | DHH          |
| SMLJ130CA       | 130                       | 144                           | 159  | 1            | 209                              | 14.4               | 2                                 | DHK          |
| SMLJ150C        | 150                       | 167                           | 204  | 1            | 268                              | 11.2               | 2                                 | DHL          |
| SMLJ150CA       | 150                       | 167                           | 185  | 1            | 243                              | 12.4               | 2                                 | DHM          |
| SMLJ160C        | 160                       | 178                           | 218  | 1            | 287                              | 10.4               | 2                                 | DHN          |
| SMLJ160CA       | 160                       | 178                           | 197  | 1            | 259                              | 11.6               | 2                                 | DHP          |
| SMLJ170C        | 170                       | 189                           | 231  | 1            | 304                              | 9.8                | 2                                 | DHQ          |

For parts without A, the VBR is +10%.

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  | $I_T(mA)$    | $V_C(V)$                         | $I_{PP}(A)$        | $I_D(\mu A)$                       |              |
| SMLJ170CA       | 170                       | 189                           | 209  | 1            | 275                              | 11.0               | 2                                  | DHR          |
| SMLJ180CA       | 180                       | 200                           | 220  | 5            | 291.6                            | 10.29              | 2                                  | DHT          |
| SMLJ190CA       | 190                       | 211                           | 232  | 5            | 307.8                            | 9.75               | 2                                  | DHV          |
| SMLJ200CA       | 200                       | 224                           | 247  | 5            | 324                              | 9.26               | 2                                  | DHW          |
| SMLJ220CA       | 220                       | 246                           | 272  | 5            | 356                              | 8.43               | 2                                  | DHX          |
| SMLJ250CA       | 250                       | 279                           | 309  | 5            | 405                              | 7.41               | 2                                  | DHZ          |
| SMLJ300CA       | 300                       | 335                           | 371  | 5            | 486                              | 6.17               | 2                                  | DJE          |
| SMLJ350CA       | 350                       | 391                           | 432  | 5            | 567                              | 5.29               | 2                                  | DJG          |
| SMLJ400CA       | 400                       | 447                           | 494  | 5            | 648                              | 4.63               | 2                                  | DJK          |
| SMLJ440CA       | 440                       | 492                           | 543  | 5            | 713                              | 4.21               | 2                                  | DJM          |
| SMLJ5.0         | 5.0                       | 6.40                          | 7.30 | 10           | 9.6                              | 312.5              | 1000                               | RDD          |
| SMLJ5.0A        | 5.0                       | 6.40                          | 7.00 | 10           | 9.2                              | 326.0              | 1000                               | RDE          |
| SMLJ6.0         | 6.0                       | 6.67                          | 8.15 | 10           | 11.4                             | 263.2              | 1000                               | RDF          |
| SMLJ6.0A        | 6.0                       | 6.67                          | 7.37 | 10           | 10.3                             | 291.3              | 1000                               | RDG          |
| SMLJ6.5         | 6.5                       | 7.22                          | 8.82 | 10           | 12.3                             | 243.9              | 500                                | RDH          |
| SMLJ6.5A        | 6.5                       | 7.22                          | 7.98 | 10           | 11.2                             | 267.9              | 500                                | RDK          |
| SMLJ7.0         | 7.0                       | 7.78                          | 9.51 | 10           | 13.3                             | 225.6              | 200                                | PDL          |
| SMLJ7.0A        | 7.0                       | 7.78                          | 8.60 | 10           | 12.0                             | 250.0              | 200                                | PDM          |
| SMLJ7.5         | 7.5                       | 8.33                          | 10.2 | 1            | 14.3                             | 209.8              | 100                                | PDN          |
| SMLJ7.5A        | 7.5                       | 8.33                          | 9.21 | 1            | 12.9                             | 232.6              | 100                                | PDP          |
| SMLJ8.0         | 8.0                       | 8.89                          | 10.9 | 1            | 15.0                             | 200.0              | 50                                 | PDQ          |
| SMLJ8.0A        | 8.0                       | 8.89                          | 9.83 | 1            | 13.6                             | 220.6              | 50                                 | PDR          |
| SMLJ8.5         | 8.5                       | 9.44                          | 11.5 | 1            | 15.9                             | 188.6              | 25                                 | PDS          |
| SMLJ8.5A        | 8.5                       | 9.44                          | 10.4 | 1            | 14.4                             | 208.4              | 25                                 | PDT          |
| SMLJ9.0         | 9.0                       | 10.0                          | 12.2 | 1            | 16.9                             | 177.4              | 10                                 | PDU          |
| SMLJ9.0A        | 9.0                       | 10.0                          | 11.1 | 1            | 15.4                             | 194.8              | 10                                 | PDV          |
| SMLJ10          | 10                        | 11.1                          | 13.6 | 1            | 18.8                             | 159.6              | 5                                  | PDW          |
| SMLJ10A         | 10                        | 11.1                          | 12.3 | 1            | 17.0                             | 176.4              | 5                                  | PDX          |
| SMLJ11          | 11                        | 12.2                          | 14.9 | 1            | 20.1                             | 149.2              | 2                                  | PDY          |
| SMLJ11A         | 11                        | 12.2                          | 13.5 | 1            | 18.2                             | 164.8              | 2                                  | PDZ          |
| SMLJ12          | 12                        | 13.3                          | 16.3 | 1            | 22.0                             | 136.4              | 2                                  | PED          |
| SMLJ12A         | 12                        | 13.3                          | 14.7 | 1            | 19.9                             | 150.6              | 2                                  | PEE          |
| SMLJ13          | 13                        | 14.4                          | 17.6 | 1            | 23.8                             | 126.0              | 2                                  | PEF          |
| SMLJ13A         | 13                        | 14.4                          | 15.9 | 1            | 21.5                             | 139.4              | 2                                  | PEG          |
| SMLJ14          | 14                        | 15.6                          | 19.1 | 1            | 25.8                             | 116.2              | 2                                  | PEH          |
| SMLJ14A         | 14                        | 15.6                          | 17.2 | 1            | 23.2                             | 129.4              | 2                                  | PEK          |
| SMLJ15          | 15                        | 16.7                          | 20.4 | 1            | 26.9                             | 111.6              | 2                                  | PEL          |
| SMLJ15A         | 15                        | 16.7                          | 18.5 | 1            | 24.4                             | 123.0              | 2                                  | PEM          |
| SMLJ16          | 16                        | 17.8                          | 21.8 | 1            | 28.8                             | 104.2              | 2                                  | PEN          |
| SMLJ16A         | 16                        | 17.8                          | 19.7 | 1            | 26.0                             | 115.4              | 2                                  | PEP          |
| SMLJ17          | 17                        | 18.9                          | 23.1 | 1            | 30.5                             | 98.4               | 2                                  | PEQ          |
| SMLJ17A         | 17                        | 18.9                          | 20.9 | 1            | 27.6                             | 106.6              | 2                                  | PER          |
| SMLJ18          | 18                        | 20.0                          | 24.4 | 1            | 32.2                             | 93.2               | 2                                  | PES          |
| SMLJ18A         | 18                        | 20.0                          | 22.1 | 1            | 29.2                             | 102.8              | 2                                  | PET          |
| SMLJ20          | 20                        | 22.2                          | 27.1 | 1            | 35.8                             | 83.8               | 2                                  | PEU          |
| SMLJ20A         | 20                        | 22.2                          | 24.5 | 1            | 32.4                             | 92.6               | 2                                  | PEV          |

For parts without A, the VBR is +10%.

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  | $I_T(mA)$    | $V_C(V)$                         | $I_{PP}(A)$        | $I_D(\mu A)$                      |              |
| SMLJ22          | 22                        | 24.4                          | 29.8 | 1            | 39.4                             | 76.2               | 2                                 | PEW          |
| SMLJ22A         | 22                        | 24.4                          | 26.9 | 1            | 35.5                             | 84.4               | 2                                 | PEX          |
| SMLJ24          | 24                        | 26.7                          | 32.6 | 1            | 43.0                             | 69.8               | 2                                 | PEY          |
| SMLJ24A         | 24                        | 26.7                          | 29.5 | 1            | 38.9                             | 77.2               | 2                                 | PEZ          |
| SMLJ26          | 26                        | 28.9                          | 35.3 | 1            | 46.6                             | 64.4               | 2                                 | PFD          |
| SMLJ26A         | 26                        | 28.9                          | 31.9 | 1            | 42.1                             | 71.2               | 2                                 | PFE          |
| SMLJ28          | 28                        | 31.1                          | 38.0 | 1            | 50.0                             | 60.0               | 2                                 | PFF          |
| SMLJ28A         | 28                        | 31.1                          | 34.4 | 1            | 45.4                             | 66.0               | 2                                 | PFG          |
| SMLJ30          | 30                        | 33.3                          | 40.7 | 1            | 53.5                             | 56.0               | 2                                 | PFH          |
| SMLJ30A         | 30                        | 33.3                          | 36.8 | 1            | 48.4                             | 62.0               | 2                                 | PFK          |
| SMLJ33          | 33                        | 36.7                          | 44.9 | 1            | 59.0                             | 50.4               | 2                                 | PFL          |
| SMLJ33A         | 33                        | 36.7                          | 40.6 | 1            | 53.3                             | 56.2               | 2                                 | PFM          |
| SMLJ36          | 36                        | 40.0                          | 48.9 | 1            | 64.3                             | 46.6               | 2                                 | PFN          |
| SMLJ36A         | 36                        | 40.0                          | 44.2 | 1            | 58.1                             | 51.6               | 2                                 | PFP          |
| SMLJ40          | 40                        | 44.4                          | 54.3 | 1            | 71.4                             | 42.0               | 2                                 | PFQ          |
| SMLJ40A         | 40                        | 44.4                          | 49.1 | 1            | 64.5                             | 46.4               | 2                                 | PFR          |
| SMLJ43          | 43                        | 47.8                          | 58.4 | 1            | 76.7                             | 39.2               | 2                                 | PFS          |
| SMLJ43A         | 43                        | 47.8                          | 52.8 | 1            | 69.4                             | 43.2               | 2                                 | PFT          |
| SMLJ45          | 45                        | 50.0                          | 61.1 | 1            | 80.3                             | 37.4               | 2                                 | PFU          |
| SMLJ45A         | 45                        | 50.0                          | 55.3 | 1            | 72.7                             | 41.2               | 2                                 | PFV          |
| SMLJ48          | 48                        | 53.3                          | 65.1 | 1            | 85.5                             | 35.0               | 2                                 | PFW          |
| SMLJ48A         | 48                        | 53.3                          | 58.9 | 1            | 77.4                             | 38.8               | 2                                 | PFX          |
| SMLJ51          | 51                        | 56.7                          | 69.3 | 1            | 91.1                             | 37.0               | 2                                 | PFY          |
| SMLJ51A         | 51                        | 56.7                          | 62.7 | 1            | 82.4                             | 36.4               | 2                                 | PFZ          |
| SMLJ54          | 54                        | 60.0                          | 73.3 | 1            | 96.3                             | 31.2               | 2                                 | RGD          |
| SMLJ54A         | 54                        | 60.0                          | 66.3 | 1            | 87.1                             | 34.4               | 2                                 | RGE          |
| SMLJ58          | 58                        | 64.4                          | 78.7 | 1            | 103                              | 39.2               | 2                                 | PGF          |
| SMLJ58A         | 58                        | 64.4                          | 71.2 | 1            | 93.6                             | 32.0               | 2                                 | PGG          |
| SMLJ60          | 60                        | 66.7                          | 81.5 | 1            | 107                              | 28.0               | 2                                 | PGH          |
| SMLJ60A         | 60                        | 66.7                          | 73.7 | 1            | 96.8                             | 31.0               | 2                                 | PGK          |
| SMLJ64          | 64                        | 71.1                          | 86.9 | 1            | 114                              | 26.4               | 2                                 | PGL          |
| SMLJ64A         | 64                        | 71.1                          | 78.6 | 1            | 103                              | 29.2               | 2                                 | PGM          |
| SMLJ70          | 70                        | 77.8                          | 95.1 | 1            | 125                              | 24.0               | 2                                 | PGN          |
| SMLJ70A         | 70                        | 77.8                          | 86.0 | 1            | 113                              | 26.6               | 2                                 | PGP          |
| SMLJ75          | 75                        | 83.3                          | 102  | 1            | 134                              | 22.4               | 2                                 | PGQ          |
| SMLJ75A         | 75                        | 83.3                          | 92.1 | 1            | 121                              | 24.8               | 2                                 | PGR          |
| SMLJ78          | 78                        | 86.7                          | 106  | 1            | 139                              | 21.6               | 2                                 | PGS          |
| SMLJ78A         | 78                        | 86.7                          | 95.8 | 1            | 126                              | 22.8               | 2                                 | PGT          |
| SMLJ85          | 85                        | 94.4                          | 115  | 1            | 151                              | 19.8               | 2                                 | PGU          |
| SMLJ85A         | 85                        | 94.4                          | 104  | 1            | 137                              | 20.8               | 2                                 | PGV          |
| SMLJ90          | 90                        | 100                           | 122  | 1            | 160                              | 18.8               | 2                                 | PGW          |
| SMLJ90A         | 90                        | 100                           | 111  | 1            | 146                              | 20.6               | 2                                 | PGX          |
| SMLJ100         | 100                       | 111                           | 136  | 1            | 179                              | 16.8               | 2                                 | PGY          |
| SMLJ100A        | 100                       | 111                           | 123  | 1            | 162                              | 18.6               | 2                                 | PGZ          |
| SMLJ110         | 110                       | 122                           | 149  | 1            | 196                              | 15.4               | 2                                 | PHD          |
| SMLJ110A        | 110                       | 122                           | 135  | 1            | 177                              | 16.8               | 2                                 | PHE          |

For parts without A, the VBR is +10%.

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

| MCC<br>Part Number | Reverse<br>Stand-Off<br>Voltage | Breakdown Voltage<br>$V_{BR}(V)$ |     | Test<br>Current | Max.<br>Clamping Voltage<br>@ $I_{PP}$ | Peak<br>Pulse<br>Current | Reverse Leakage<br>Current@ $V_{WM}$ | Marking Code |
|--------------------|---------------------------------|----------------------------------|-----|-----------------|--|--------------------------|--------------------------------------|--------------|
|                    | $V_{WM}(V)$                     | Min                              | Max | $I_T(mA)$       | $V_C(V)$                               | $I_{PP}(A)$              | $I_D(\mu A)$                         |              |
| SMLJ120            | 120                             | 133                              | 163 | 1               | 214                                    | 14.0                     | 2                                    | PHF          |
| SMLJ120A           | 120                             | 133                              | 147 | 1               | 193                                    | 15.6                     | 2                                    | PHG          |
| SMLJ130            | 130                             | 144                              | 176 | 1               | 231                                    | 13.0                     | 2                                    | PHH          |
| SMLJ130A           | 130                             | 144                              | 159 | 1               | 209                                    | 14.4                     | 2                                    | PHK          |
| SMLJ150            | 150                             | 167                              | 204 | 1               | 268                                    | 11.2                     | 2                                    | PHL          |
| SMLJ150A           | 150                             | 167                              | 185 | 1               | 243                                    | 12.4                     | 2                                    | PHM          |
| SMLJ160            | 160                             | 178                              | 218 | 1               | 287                                    | 10.4                     | 2                                    | PHN          |
| SMLJ160A           | 160                             | 178                              | 197 | 1               | 259                                    | 11.6                     | 2                                    | PHP          |
| SMLJ170            | 170                             | 189                              | 231 | 1               | 304                                    | 9.8                      | 2                                    | PHQ          |
| SMLJ170A           | 170                             | 189                              | 209 | 1               | 275                                    | 11.0                     | 2                                    | PHR          |
| SMLJ180A           | 180                             | 200                              | 220 | 5               | 291.6                                  | 10.29                    | 2                                    | PHT          |
| SMLJ190A           | 190                             | 211                              | 232 | 5               | 307.8                                  | 9.75                     | 2                                    | PHV          |
| SMLJ200A           | 200                             | 224                              | 247 | 5               | 324                                    | 9.26                     | 2                                    | PHW          |
| SMLJ220A           | 220                             | 246                              | 272 | 5               | 356                                    | 8.43                     | 2                                    | PHX          |
| SMLJ250A           | 250                             | 279                              | 309 | 5               | 405                                    | 7.41                     | 2                                    | PHZ          |
| SMLJ300A           | 300                             | 335                              | 371 | 5               | 486                                    | 6.17                     | 2                                    | PJE          |
| SMLJ350A           | 350                             | 391                              | 432 | 5               | 567                                    | 5.29                     | 2                                    | PJG          |
| SMLJ400A           | 400                             | 447                              | 494 | 5               | 648                                    | 4.63                     | 2                                    | PJK          |
| SMLJ440A           | 440                             | 492                              | 543 | 5               | 713                                    | 4.21                     | 2                                    | PJM          |

For parts without A, the VBR is +10%.

**Curve Characteristics**

Fig. 1 - Peak Pulse Power Rating Curve

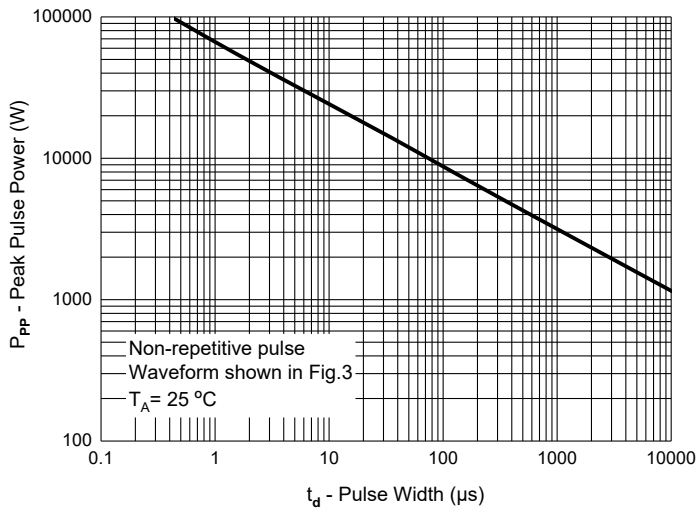


Fig. 2 - Typical Junction Capacitance

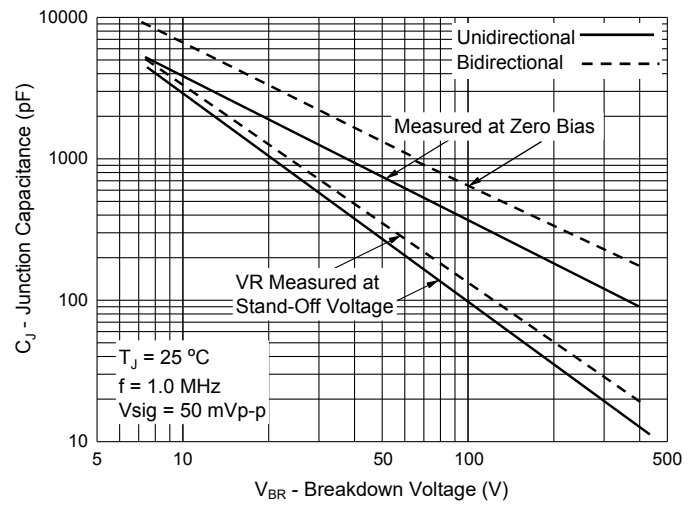


Fig. 3 - Pulse Waveform

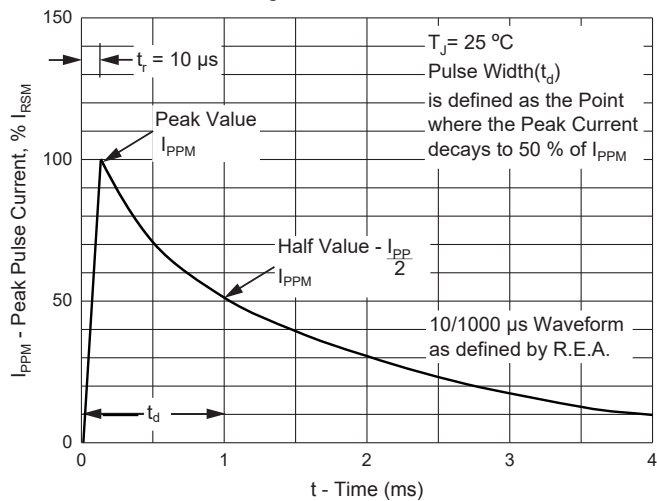
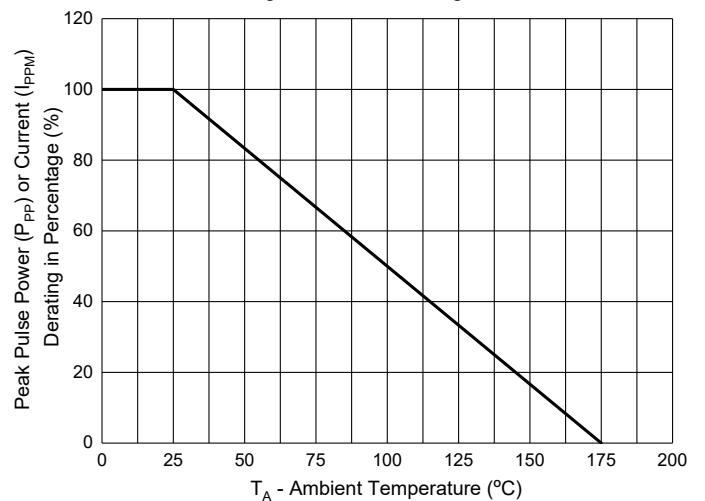


Fig. 4 - Pulse Derating Curve



## Ordering Information

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

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