



E480232

## 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
- High Temperature Soldering: 260°C/10 Seconds at Terminals
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note1) ("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

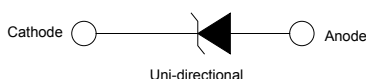
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                            |           |               |                |
|------------------------------------------------------------|-----------|---------------|----------------|
| Peak Pulse Power Surge Current on 10/1000 $\mu s$ Waveform | $I_{PPM}$ | See the Table | Note 2, Fig3   |
| Peak Pulse Power Dissipation on 10/1000 $\mu s$ Waveform   | $P_{PPM}$ | 3000W(Min)    | Note 2,3, Fig1 |

Note:

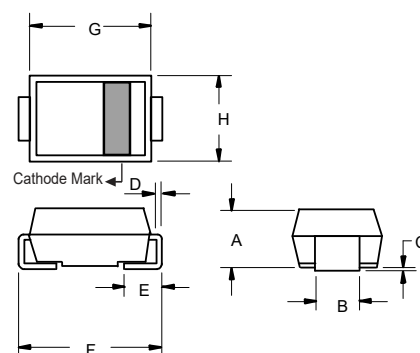
1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
2. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ C$  per Fig.4.
3. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.

Pin Configuration:



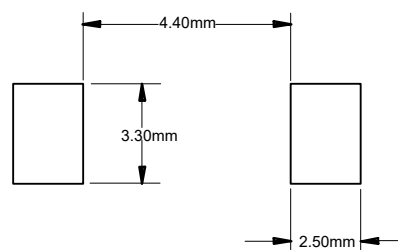
**3000 Watt TVS**  
**5.0 to 440 Volts**

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



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

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  | $I_T(mA)$       | $V_C(V)$                               | $I_{PP}(A)$              | $I_D(\mu A)$                         |              |     |
| SMLJ30CA           | 30                              | 33.3                             | 36.8 | 1               | 48.4                                   | 62.0                     | 5                                    | DFK          | IFK |
| SMLJ33C            | 33                              | 36.7                             | 44.9 | 1               | 59.0                                   | 50.4                     | 5                                    | DFL          | IFL |
| SMLJ33CA           | 33                              | 36.7                             | 40.6 | 1               | 53.3                                   | 56.2                     | 5                                    | DFM          | IFM |
| SMLJ36C            | 36                              | 40.0                             | 48.9 | 1               | 64.3                                   | 46.6                     | 5                                    | DFN          | IFN |
| SMLJ36CA           | 36                              | 40.0                             | 44.2 | 1               | 58.1                                   | 51.6                     | 5                                    | DFP          | IFP |
| SMLJ40C            | 40                              | 44.4                             | 54.3 | 1               | 71.4                                   | 42.0                     | 5                                    | DFQ          | IFQ |
| SMLJ40CA           | 40                              | 44.4                             | 49.1 | 1               | 64.5                                   | 46.4                     | 5                                    | DFR          | IFR |
| SMLJ43C            | 43                              | 47.8                             | 58.4 | 1               | 76.7                                   | 39.2                     | 5                                    | DFS          | IFS |
| SMLJ43CA           | 43                              | 47.8                             | 52.8 | 1               | 69.4                                   | 43.2                     | 5                                    | DFT          | IFT |
| SMLJ45C            | 45                              | 50.0                             | 61.1 | 1               | 80.3                                   | 37.4                     | 5                                    | DFU          | IFU |
| SMLJ45CA           | 45                              | 50.0                             | 55.3 | 1               | 72.7                                   | 41.2                     | 5                                    | DFV          | IFV |
| SMLJ48C            | 48                              | 53.3                             | 65.1 | 1               | 85.5                                   | 35.0                     | 5                                    | DFW          | IFW |
| SMLJ48CA           | 48                              | 53.3                             | 58.9 | 1               | 77.4                                   | 38.8                     | 5                                    | DFX          | IFX |
| SMLJ51C            | 51                              | 56.7                             | 69.3 | 1               | 91.1                                   | 37.0                     | 5                                    | DFY          | IFY |
| SMLJ51CA           | 51                              | 56.7                             | 62.7 | 1               | 82.4                                   | 36.4                     | 5                                    | DFZ          | IFZ |
| SMLJ54C            | 54                              | 60.0                             | 73.3 | 1               | 96.3                                   | 31.2                     | 5                                    | DGD          | IGD |
| SMLJ54CA           | 54                              | 60.0                             | 66.3 | 1               | 87.1                                   | 34.4                     | 5                                    | DGE          | IGE |
| SMLJ58C            | 58                              | 64.4                             | 78.7 | 1               | 103                                    | 39.2                     | 5                                    | DGF          | IGF |
| SMLJ58CA           | 58                              | 64.4                             | 71.2 | 1               | 93.6                                   | 32.0                     | 5                                    | DGG          | IGG |
| SMLJ60C            | 60                              | 66.7                             | 81.5 | 1               | 107                                    | 28.0                     | 5                                    | DGH          | IGH |
| SMLJ60CA           | 60                              | 66.7                             | 73.7 | 1               | 96.8                                   | 31.0                     | 5                                    | DGK          | IGK |
| SMLJ64C            | 64                              | 71.1                             | 86.9 | 1               | 114                                    | 26.4                     | 5                                    | DGL          | IGL |
| SMLJ64CA           | 64                              | 71.1                             | 78.6 | 1               | 103                                    | 29.2                     | 5                                    | DGM          | IGM |
| SMLJ70C            | 70                              | 77.8                             | 95.1 | 1               | 125                                    | 24.0                     | 5                                    | DGN          | IGN |
| SMLJ70CA           | 70                              | 77.8                             | 86.0 | 1               | 113                                    | 26.6                     | 5                                    | DGP          | IGP |
| SMLJ75C            | 75                              | 83.3                             | 102  | 1               | 134                                    | 22.4                     | 5                                    | DGQ          | IGQ |
| SMLJ75CA           | 75                              | 83.3                             | 92.1 | 1               | 121                                    | 24.8                     | 5                                    | DGR          | IGR |
| SMLJ78C            | 78                              | 86.7                             | 106  | 1               | 139                                    | 21.6                     | 5                                    | DGS          | IGS |
| SMLJ78CA           | 78                              | 86.7                             | 95.8 | 1               | 126                                    | 22.8                     | 5                                    | DGT          | IGT |
| SMLJ85C            | 85                              | 94.4                             | 115  | 1               | 151                                    | 19.8                     | 5                                    | DGU          | IGU |
| SMLJ85CA           | 85                              | 94.4                             | 104  | 1               | 137                                    | 20.8                     | 5                                    | DGV          | IGV |
| SMLJ90C            | 90                              | 100                              | 122  | 1               | 160                                    | 18.8                     | 5                                    | DGW          | IGW |
| SMLJ90CA           | 90                              | 100                              | 111  | 1               | 146                                    | 20.6                     | 5                                    | DGX          | IGX |
| SMLJ100C           | 100                             | 111                              | 136  | 1               | 179                                    | 16.8                     | 5                                    | DGY          | IGY |
| SMLJ100CA          | 100                             | 111                              | 123  | 1               | 162                                    | 18.6                     | 5                                    | DGZ          | IGZ |
| SMLJ110C           | 110                             | 122                              | 149  | 1               | 196                                    | 15.4                     | 5                                    | DHD          | IHD |
| SMLJ110CA          | 110                             | 122                              | 135  | 1               | 177                                    | 16.8                     | 5                                    | DHE          | IHE |
| SMLJ120C           | 120                             | 133                              | 163  | 1               | 214                                    | 14.0                     | 5                                    | DHF          | IHF |
| SMLJ120CA          | 120                             | 133                              | 147  | 1               | 193                                    | 15.6                     | 5                                    | DHG          | IHG |
| SMLJ130C           | 130                             | 144                              | 176  | 1               | 231                                    | 13.0                     | 5                                    | DHH          | IHH |
| SMLJ130CA          | 130                             | 144                              | 159  | 1               | 209                                    | 14.4                     | 5                                    | DHK          | IHK |
| SMLJ150C           | 150                             | 167                              | 204  | 1               | 268                                    | 11.2                     | 5                                    | DHL          | IHL |
| SMLJ150CA          | 150                             | 167                              | 185  | 1               | 243                                    | 12.4                     | 5                                    | DHM          | IHM |
| SMLJ160C           | 160                             | 178                              | 218  | 1               | 287                                    | 10.4                     | 5                                    | DHN          | IHN |
| SMLJ160CA          | 160                             | 178                              | 197  | 1               | 259                                    | 11.6                     | 5                                    | DHP          | IHP |
| SMLJ170C           | 170                             | 189                              | 231  | 1               | 304                                    | 9.8                      | 5                                    | DHQ          | IHQ |

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  | $I_T(mA)$       | $V_C(V)$                               | $I_{PP}(A)$              | $I_D(\mu A)$                         |              |     |
| SMLJ170CA          | 170                             | 189                              | 209  | 1               | 275                                    | 11.0                     | 5                                    | DHR          | IHR |
| 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          | HDL |
| SMLJ7.0A           | 7.0                             | 7.78                             | 8.60 | 10              | 12.0                                   | 250.0                    | 200                                  | PDM          | HDM |
| SMLJ7.5            | 7.5                             | 8.33                             | 10.2 | 1               | 14.3                                   | 209.8                    | 100                                  | PDN          | HDN |
| SMLJ7.5A           | 7.5                             | 8.33                             | 9.21 | 1               | 12.9                                   | 232.6                    | 100                                  | PDP          | HDP |
| SMLJ8.0            | 8.0                             | 8.89                             | 10.9 | 1               | 15.0                                   | 200.0                    | 50                                   | PDQ          | HDQ |
| SMLJ8.0A           | 8.0                             | 8.89                             | 9.83 | 1               | 13.6                                   | 220.6                    | 50                                   | PDR          | HDR |
| SMLJ8.5            | 8.5                             | 9.44                             | 11.5 | 1               | 15.9                                   | 188.6                    | 25                                   | PDS          | HDS |
| SMLJ8.5A           | 8.5                             | 9.44                             | 10.4 | 1               | 14.4                                   | 208.4                    | 25                                   | PDT          | HDT |
| SMLJ9.0            | 9.0                             | 10.0                             | 12.2 | 1               | 16.9                                   | 177.4                    | 10                                   | PDU          | HDU |
| SMLJ9.0A           | 9.0                             | 10.0                             | 11.1 | 1               | 15.4                                   | 194.8                    | 10                                   | PDV          | HDV |
| SMLJ10             | 10                              | 11.1                             | 13.6 | 1               | 18.8                                   | 159.6                    | 5                                    | PDW          | HDW |
| SMLJ10A            | 10                              | 11.1                             | 12.3 | 1               | 17.0                                   | 176.4                    | 5                                    | PDX          | HDX |
| SMLJ11             | 11                              | 12.2                             | 14.9 | 1               | 20.1                                   | 149.2                    | 5                                    | PDY          | HDY |
| SMLJ11A            | 11                              | 12.2                             | 13.5 | 1               | 18.2                                   | 164.8                    | 5                                    | PDZ          | HDZ |
| SMLJ12             | 12                              | 13.3                             | 16.3 | 1               | 22.0                                   | 136.4                    | 5                                    | PED          | HED |
| SMLJ12A            | 12                              | 13.3                             | 14.7 | 1               | 19.9                                   | 150.6                    | 5                                    | PEE          | HEE |
| SMLJ13             | 13                              | 14.4                             | 17.6 | 1               | 23.8                                   | 126.0                    | 5                                    | PEF          | HEF |
| SMLJ13A            | 13                              | 14.4                             | 15.9 | 1               | 21.5                                   | 139.4                    | 5                                    | PEG          | HEG |
| SMLJ14             | 14                              | 15.6                             | 19.1 | 1               | 25.8                                   | 116.2                    | 5                                    | PEH          | HEH |
| SMLJ14A            | 14                              | 15.6                             | 17.2 | 1               | 23.2                                   | 129.4                    | 5                                    | PEK          | HEK |
| SMLJ15             | 15                              | 16.7                             | 20.4 | 1               | 26.9                                   | 111.6                    | 5                                    | PEL          | HEL |
| SMLJ15A            | 15                              | 16.7                             | 18.5 | 1               | 24.4                                   | 123.0                    | 5                                    | PEM          | HEM |
| SMLJ16             | 16                              | 17.8                             | 21.8 | 1               | 28.8                                   | 104.2                    | 5                                    | PEN          | HEN |
| SMLJ16A            | 16                              | 17.8                             | 19.7 | 1               | 26.0                                   | 115.4                    | 5                                    | PEP          | HEP |
| SMLJ17             | 17                              | 18.9                             | 23.1 | 1               | 30.5                                   | 98.4                     | 5                                    | PEQ          | HEQ |
| SMLJ17A            | 17                              | 18.9                             | 20.9 | 1               | 27.6                                   | 106.6                    | 5                                    | PER          | HER |
| SMLJ18             | 18                              | 20.0                             | 24.4 | 1               | 32.2                                   | 93.2                     | 5                                    | PES          | HES |
| SMLJ18A            | 18                              | 20.0                             | 22.1 | 1               | 29.2                                   | 102.8                    | 5                                    | PET          | HET |
| SMLJ20             | 20                              | 22.2                             | 27.1 | 1               | 35.8                                   | 83.8                     | 5                                    | PEU          | HEU |
| SMLJ20A            | 20                              | 22.2                             | 24.5 | 1               | 32.4                                   | 92.6                     | 5                                    | PEV          | HEV |

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  | $I_T(mA)$       | $V_C(V)$                               | $I_{PP}(A)$              | $I_D(\mu A)$                         |              |     |
| SMLJ22             | 22                              | 24.4                             | 29.8 | 1               | 39.4                                   | 76.2                     | 5                                    | PEW          | HEW |
| SMLJ22A            | 22                              | 24.4                             | 26.9 | 1               | 35.5                                   | 84.4                     | 5                                    | PEX          | HEX |
| SMLJ24             | 24                              | 26.7                             | 32.6 | 1               | 43.0                                   | 69.8                     | 5                                    | PEY          | HEY |
| SMLJ24A            | 24                              | 26.7                             | 29.5 | 1               | 38.9                                   | 77.2                     | 5                                    | PEZ          | HEZ |
| SMLJ26             | 26                              | 28.9                             | 35.3 | 1               | 46.6                                   | 64.4                     | 5                                    | PFD          | HFD |
| SMLJ26A            | 26                              | 28.9                             | 31.9 | 1               | 42.1                                   | 71.2                     | 5                                    | PFE          | HFE |
| SMLJ28             | 28                              | 31.1                             | 38.0 | 1               | 50.0                                   | 60.0                     | 5                                    | PFF          | HFF |
| SMLJ28A            | 28                              | 31.1                             | 34.4 | 1               | 45.4                                   | 66.0                     | 5                                    | PFG          | HFG |
| SMLJ30             | 30                              | 33.3                             | 40.7 | 1               | 53.5                                   | 56.0                     | 5                                    | PFH          | HFH |
| SMLJ30A            | 30                              | 33.3                             | 36.8 | 1               | 48.4                                   | 62.0                     | 5                                    | PFK          | HFK |
| SMLJ33             | 33                              | 36.7                             | 44.9 | 1               | 59.0                                   | 50.4                     | 5                                    | PFL          | HFL |
| SMLJ33A            | 33                              | 36.7                             | 40.6 | 1               | 53.3                                   | 56.2                     | 5                                    | PFM          | HFM |
| SMLJ36             | 36                              | 40.0                             | 48.9 | 1               | 64.3                                   | 46.6                     | 5                                    | PFN          | HFN |
| SMLJ36A            | 36                              | 40.0                             | 44.2 | 1               | 58.1                                   | 51.6                     | 5                                    | PFP          | HFP |
| SMLJ40             | 40                              | 44.4                             | 54.3 | 1               | 71.4                                   | 42.0                     | 5                                    | PFQ          | HFQ |
| SMLJ40A            | 40                              | 44.4                             | 49.1 | 1               | 64.5                                   | 46.4                     | 5                                    | PFR          | HFR |
| SMLJ43             | 43                              | 47.8                             | 58.4 | 1               | 76.7                                   | 39.2                     | 5                                    | PFS          | HFS |
| SMLJ43A            | 43                              | 47.8                             | 52.8 | 1               | 69.4                                   | 43.2                     | 5                                    | PFT          | HFT |
| SMLJ45             | 45                              | 50.0                             | 61.1 | 1               | 80.3                                   | 37.4                     | 5                                    | PFU          | HFU |
| SMLJ45A            | 45                              | 50.0                             | 55.3 | 1               | 72.7                                   | 41.2                     | 5                                    | PFV          | HFV |
| SMLJ48             | 48                              | 53.3                             | 65.1 | 1               | 85.5                                   | 35.0                     | 5                                    | PFW          | HFW |
| SMLJ48A            | 48                              | 53.3                             | 58.9 | 1               | 77.4                                   | 38.8                     | 5                                    | PFX          | HFX |
| SMLJ51             | 51                              | 56.7                             | 69.3 | 1               | 91.1                                   | 37.0                     | 5                                    | PFY          | HFY |
| SMLJ51A            | 51                              | 56.7                             | 62.7 | 1               | 82.4                                   | 36.4                     | 5                                    | PFZ          | HFZ |
| SMLJ54             | 54                              | 60.0                             | 73.3 | 1               | 96.3                                   | 31.2                     | 5                                    | RGD          | HGD |
| SMLJ54A            | 54                              | 60.0                             | 66.3 | 1               | 87.1                                   | 34.4                     | 5                                    | RGE          | HGE |
| SMLJ58             | 58                              | 64.4                             | 78.7 | 1               | 103                                    | 39.2                     | 5                                    | PGF          | HGF |
| SMLJ58A            | 58                              | 64.4                             | 71.2 | 1               | 93.6                                   | 32.0                     | 5                                    | PGG          | HGG |
| SMLJ60             | 60                              | 66.7                             | 81.5 | 1               | 107                                    | 28.0                     | 5                                    | PGH          | HGH |
| SMLJ60A            | 60                              | 66.7                             | 73.7 | 1               | 96.8                                   | 31.0                     | 5                                    | PGK          | HGK |
| SMLJ64             | 64                              | 71.1                             | 86.9 | 1               | 114                                    | 26.4                     | 5                                    | PGL          | HGL |
| SMLJ64A            | 64                              | 71.1                             | 78.6 | 1               | 103                                    | 29.2                     | 5                                    | PGM          | HGM |
| SMLJ70             | 70                              | 77.8                             | 95.1 | 1               | 125                                    | 24.0                     | 5                                    | PGN          | HGN |
| SMLJ70A            | 70                              | 77.8                             | 86.0 | 1               | 113                                    | 26.6                     | 5                                    | PGP          | HGP |
| SMLJ75             | 75                              | 83.3                             | 102  | 1               | 134                                    | 22.4                     | 5                                    | PGQ          | HGQ |
| SMLJ75A            | 75                              | 83.3                             | 92.1 | 1               | 121                                    | 24.8                     | 5                                    | PGR          | HGR |
| SMLJ78             | 78                              | 86.7                             | 106  | 1               | 139                                    | 21.6                     | 5                                    | PGS          | HGS |
| SMLJ78A            | 78                              | 86.7                             | 95.8 | 1               | 126                                    | 22.8                     | 5                                    | PGT          | HGT |
| SMLJ85             | 85                              | 94.4                             | 115  | 1               | 151                                    | 19.8                     | 5                                    | PGU          | HGU |
| SMLJ85A            | 85                              | 94.4                             | 104  | 1               | 137                                    | 20.8                     | 5                                    | PGV          | HGV |
| SMLJ90             | 90                              | 100                              | 122  | 1               | 160                                    | 18.8                     | 5                                    | PGW          | HGW |
| SMLJ90A            | 90                              | 100                              | 111  | 1               | 146                                    | 20.6                     | 5                                    | PGX          | HGX |
| SMLJ100            | 100                             | 111                              | 136  | 1               | 179                                    | 16.8                     | 5                                    | PGY          | HGY |
| SMLJ100A           | 100                             | 111                              | 123  | 1               | 162                                    | 18.6                     | 5                                    | PGZ          | HGZ |
| SMLJ110            | 110                             | 122                              | 149  | 1               | 196                                    | 15.4                     | 5                                    | PHD          | HHD |
| SMLJ110A           | 110                             | 122                              | 135  | 1               | 177                                    | 16.8                     | 5                                    | PHE          | HHE |

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                     | 5                                    | PHF          | HHF |
| SMLJ120A           | 120                             | 133                              | 147 | 1               | 193                                    | 15.6                     | 5                                    | PHG          | HHG |
| SMLJ130            | 130                             | 144                              | 176 | 1               | 231                                    | 13.0                     | 5                                    | PHH          | HHH |
| SMLJ130A           | 130                             | 144                              | 159 | 1               | 209                                    | 14.4                     | 5                                    | PHK          | HHK |
| SMLJ150            | 150                             | 167                              | 204 | 1               | 268                                    | 11.2                     | 5                                    | PHL          | HHL |
| SMLJ150A           | 150                             | 167                              | 185 | 1               | 243                                    | 12.4                     | 5                                    | PHM          | HHM |
| SMLJ160            | 160                             | 178                              | 218 | 1               | 287                                    | 10.4                     | 5                                    | PHN          | HHN |
| SMLJ160A           | 160                             | 178                              | 197 | 1               | 259                                    | 11.6                     | 5                                    | PHP          | HHP |
| SMLJ170            | 170                             | 189                              | 231 | 1               | 304                                    | 9.8                      | 5                                    | PHQ          | HHQ |
| SMLJ170A           | 170                             | 189                              | 209 | 1               | 275                                    | 11.0                     | 5                                    | PHR          | HHR |
| 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

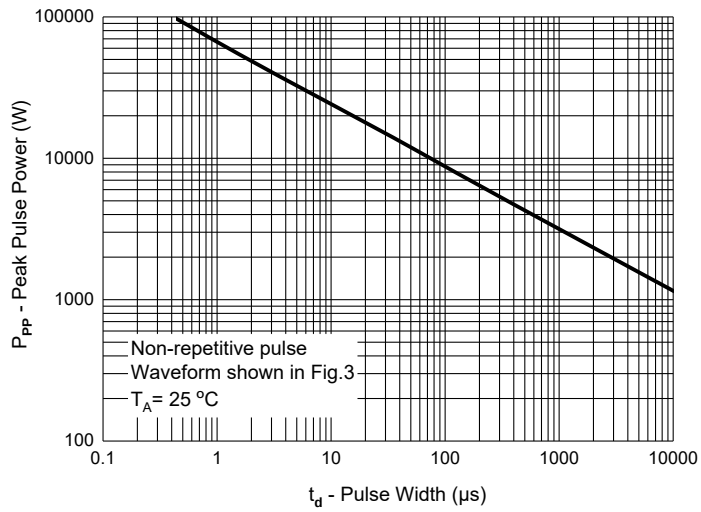


Fig. 2 - Typical Junction Capacitance

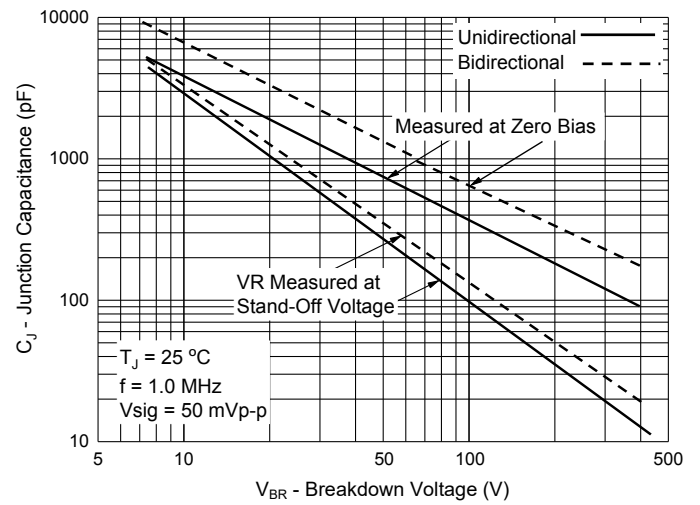


Fig. 3 - Pulse Waveform

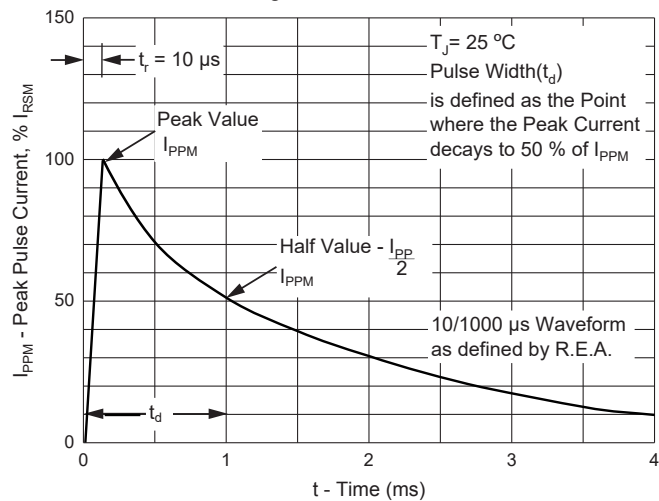
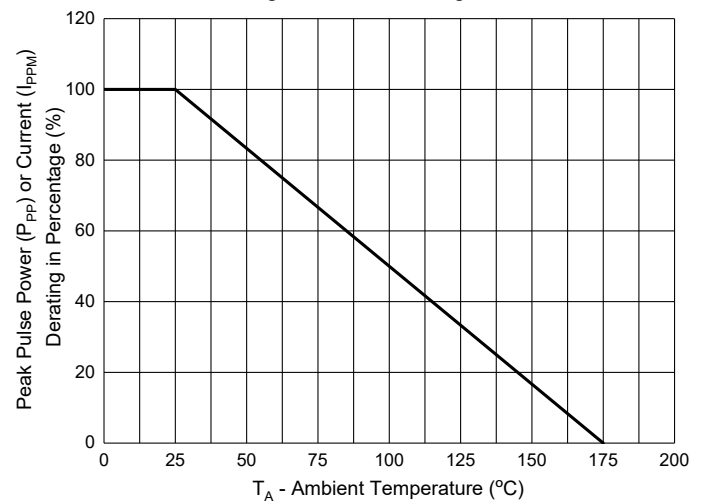


Fig. 4 - Pulse Derating Curve



## Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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ВЧ соединители, коаксиальные кабели,  
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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А