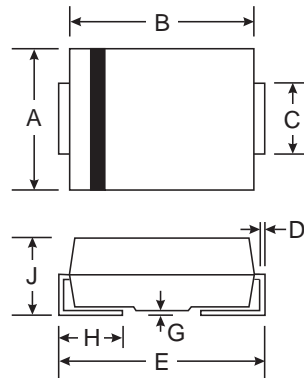


### Features

- Glass Passivated Die Construction
- 3000W Peak Pulse Power Dissipation
- 5.0V-170V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability

### Mechanical Data

- Case: SMC/DO-214AB Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Marking:  
Unidirectional – Device Code and Cathode Band  
Bidirectional – Device Code Only
- Weight: 0.21 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version**



| SMC/DO-214AC         |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.18 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

"C" Suffix Designates Bi-directional Devices  
 "A" Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic   | Symbol         | Value        | Unit             |
|--|----------------|--------------|------------------|
| Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ (Note 1, 2, 5) Figure 3 | PPPM           | 3000 Minimum | W                |
| Peak Forward Surge Current (Note 3)  | IFSM           | 200          | A                |
| Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 1           | IPPM           | See Table 1  | A                |
| Steady State Power Dissipation (Note 2, 4)                                       | PM(AV)         | 5.0          | W                |
| Operating and Storage Temperature Range  | $T_j, T_{STG}$ | -55 to +150  | $^\circ\text{C}$ |

- Note: 1. Non-repetitive current pulse, per Figure 1 and derated above  $T_A = 25^\circ\text{C}$  per Figure 4.  
 2. Mounted on 40mm<sup>2</sup> copper pad.  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.  
 4. Lead temperature at  $75^\circ\text{C} = T_L$ .  
 5. Peak pulse power waveform is 10/1000 $\mu\text{S}$ .

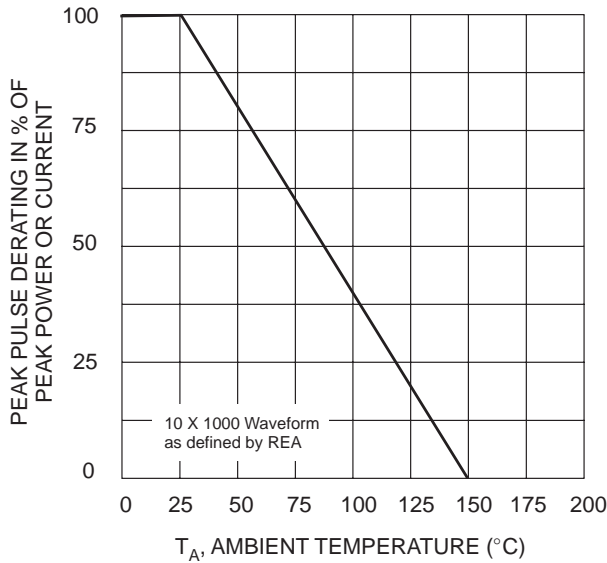


Fig. 1 Pulse Derating Curve

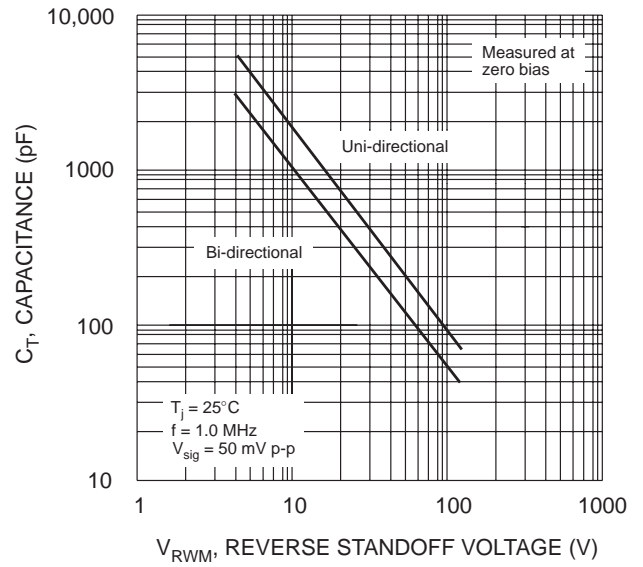


Fig. 2 Typical Total Capacitance

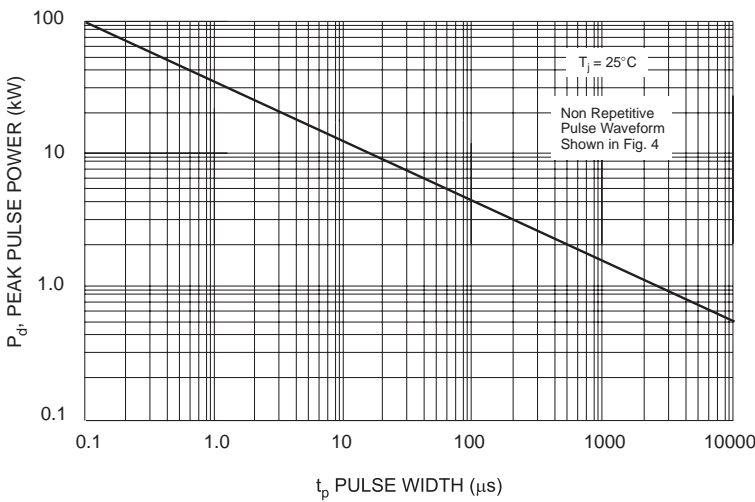


Fig. 3 Pulse Rating Curve

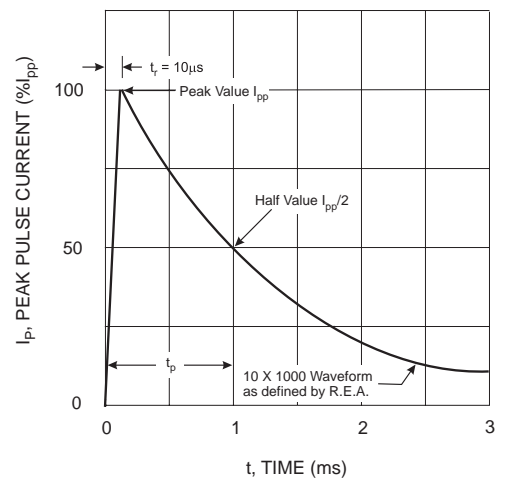


Fig. 4 Pulse Waveform

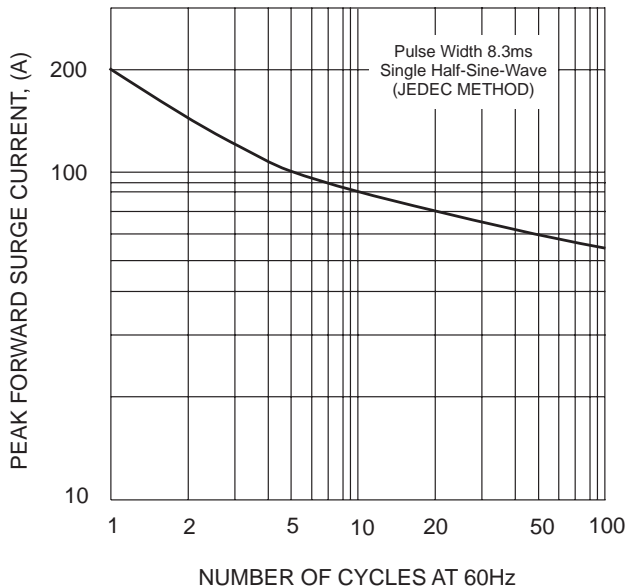


Fig. 5, Maximum Non-Repetitive Surge Current

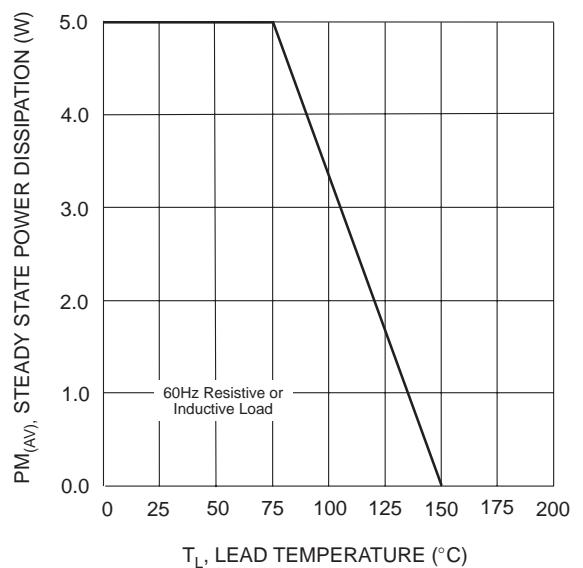


Fig. 6 Steady State Power Derating Curve

### UNI/BI-DIRECTIONAL 5.0 to 170Volts 3000W SMD TRANSIENT VOLTAGE SUPPRESSORS

| Type Number |           | Marking |      | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RMW</sub> |
|-------------|-----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni)       | (Bi)      | (Uni)   | (Bi) | V <sub>RMW</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> (uA)               |
| SMDJ5.0     | SMDJ5.0C  | HDD     | IDD  | 5.0                       | 6.40                                   | 7.55                                    | 10                  | 9.6                                       | 312.5               | 800.0                             |
| SMDJ5.0A    | SMDJ5.0CA | HDE     | IDE  | 5.0                       | 6.40                                   | 7.25                                    | 10                  | 9.2                                       | 326.1               | 800.0                             |
| SMDJ6.0     | SMDJ6.0C  | HDF     | IDF  | 6.0                       | 6.67                                   | 8.45                                    | 10                  | 11.4                                      | 263.2               | 800.0                             |
| SMDJ6.0A    | SMDJ6.0CA | HDG     | IDG  | 6.0                       | 6.67                                   | 7.67                                    | 10                  | 10.3                                      | 291.3               | 800.0                             |
| SMDJ6.5     | SMDJ6.5C  | HDH     | IDH  | 6.5                       | 7.22                                   | 9.14                                    | 10                  | 12.3                                      | 243.9               | 500.0                             |
| SMDJ6.5A    | SMDJ6.5CA | HDK     | IDK  | 6.5                       | 7.22                                   | 8.30                                    | 10                  | 11.2                                      | 267.9               | 500.0                             |
| SMDJ7.0     | SMDJ7.0C  | HDL     | IDL  | 7.0                       | 7.78                                   | 9.86                                    | 10                  | 13.3                                      | 225.6               | 200.0                             |
| SMDJ7.0A    | SMDJ7.0CA | HDM     | IDM  | 7.0                       | 7.78                                   | 8.95                                    | 10                  | 12.0                                      | 250.0               | 200.0                             |
| SMDJ7.5     | SMDJ7.5C  | HDN     | IDN  | 7.5                       | 8.33                                   | 10.67                                   | 1.0                 | 14.3                                      | 209.8               | 100.0                             |
| SMDJ7.5A    | SMDJ7.5CA | HDP     | IDP  | 7.5                       | 8.33                                   | 9.58                                    | 1.0                 | 12.9                                      | 232.6               | 100.0                             |
| SMDJ8.0     | SMDJ8.0C  | HDQ     | IDQ  | 8.0                       | 8.89                                   | 11.3                                    | 1.0                 | 15.0                                      | 200.0               | 50.0                              |
| SMDJ8.0A    | SMDJ8.0CA | HDR     | IDR  | 8.0                       | 8.89                                   | 10.23                                   | 1.0                 | 13.6                                      | 220.6               | 50.0                              |
| SMDJ8.5     | SMDJ8.5C  | HDS     | IDS  | 8.5                       | 9.44                                   | 11.92                                   | 1.0                 | 15.9                                      | 188.7               | 20.0                              |
| SMDJ8.5A    | SMDJ8.5CA | HDT     | IDT  | 8.5                       | 9.44                                   | 10.82                                   | 1.0                 | 14.4                                      | 208.3               | 20.0                              |
| SMDJ9.0     | SMDJ9.0C  | HDU     | IDU  | 9.0                       | 10.0                                   | 12.6                                    | 1.0                 | 16.9                                      | 177.5               | 10.0                              |
| SMDJ9.0A    | SMDJ9.0CA | HDV     | IDV  | 9.0                       | 10.0                                   | 11.5                                    | 1.0                 | 15.4                                      | 194.8               | 10.0                              |
| SMDJ10      | SMDJ10C   | HDW     | IDW  | 10                        | 11.1                                   | 14.1                                    | 1.0                 | 18.8                                      | 159.6               | 5.0                               |
| SMDJ10A     | SMDJ10CA  | HDX     | IDX  | 10                        | 11.1                                   | 12.8                                    | 1.0                 | 17.0                                      | 176.5               | 5.0                               |
| SMDJ11      | SMDJ11C   | HDY     | IDY  | 11                        | 12.2                                   | 15.4                                    | 1.0                 | 20.1                                      | 149.3               | 5.0                               |
| SMDJ11A     | SMDJ11CA  | HDZ     | IDZ  | 11                        | 12.2                                   | 14.0                                    | 1.0                 | 18.2                                      | 164.8               | 5.0                               |
| SMDJ12      | SMDJ12C   | HED     | IED  | 12                        | 13.3                                   | 16.9                                    | 1.0                 | 22.0                                      | 136.4               | 5.0                               |
| SMDJ12A     | SMDJ12CA  | HEE     | IEE  | 12                        | 13.3                                   | 15.3                                    | 1.0                 | 19.9                                      | 150.8               | 5.0                               |
| SMDJ13      | SMDJ13C   | HEF     | IEF  | 13                        | 14.4                                   | 18.2                                    | 1.0                 | 23.8                                      | 126.1               | 5.0                               |
| SMDJ13A     | SMDJ13CA  | HEG     | IEG  | 13                        | 14.4                                   | 16.5                                    | 1.0                 | 21.5                                      | 139.5               | 5.0                               |

- Notes:
1. Suffix C denotes Bi-directional device.
  2. V<sub>BR</sub> measured with I<sub>T</sub> current pulse = 300μs.
  3. For Bi-Directional devices having V<sub>RMW</sub> of 10V and under, the I<sub>R</sub> is doubled.

### UNI/BI-DIRECTIONAL 5.0 to 170Volts 3000W SMD TRANSIENT VOLTAGE SUPPRESSORS

| Type Number |          | Marking |      | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RMW</sub> |
|-------------|----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni)       | (Bi)     | (Uni)   | (Bi) | V <sub>RMW</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> ( $\mu$ A)         |
| SMDJ14      | SMDJ14C  | HEH     | IEH  | 14                        | 15.6                                   | 19.8                                    | 1.0                 | 25.8                                      | 116.3               | 5.0                               |
| SMDJ14A     | SMDJ14CA | HEK     | IEK  | 14                        | 15.6                                   | 17.9                                    | 1.0                 | 23.2                                      | 129.3               | 5.0                               |
| SMDJ15      | SMDJ15C  | HEL     | IEL  | 15                        | 16.7                                   | 21.1                                    | 1.0                 | 26.9                                      | 111.5               | 5.0                               |
| SMDJ15A     | SMDJ15CA | HEM     | IEM  | 15                        | 16.7                                   | 19.2                                    | 1.0                 | 24.4                                      | 123.0               | 5.0                               |
| SMDJ16      | SMDJ16C  | HEN     | IEN  | 16                        | 17.8                                   | 22.6                                    | 1.0                 | 28.8                                      | 104.2               | 5.0                               |
| SMDJ16A     | SMDJ16CA | HEP     | IEP  | 16                        | 17.8                                   | 20.5                                    | 1.0                 | 26.0                                      | 115.4               | 5.0                               |
| SMDJ17      | SMDJ17C  | HEQ     | IEQ  | 17                        | 18.9                                   | 23.9                                    | 1.0                 | 30.5                                      | 98.4                | 5.0                               |
| SMDJ17A     | SMDJ17CA | HER     | IER  | 17                        | 18.9                                   | 21.7                                    | 1.0                 | 27.6                                      | 108.7               | 5.0                               |
| SMDJ18      | SMDJ18C  | HES     | IES  | 18                        | 20.0                                   | 25.3                                    | 1.0                 | 32.2                                      | 93.2                | 5.0                               |
| SMDJ18A     | SMDJ18CA | HET     | IET  | 18                        | 20.0                                   | 23.3                                    | 1.0                 | 29.2                                      | 102.7               | 5.0                               |
| SMDJ20      | SMDJ20C  | HEU     | IEU  | 20                        | 22.2                                   | 28.1                                    | 1.0                 | 35.8                                      | 83.8                | 5.0                               |
| SMDJ20A     | SMDJ20CA | HEV     | IEV  | 20                        | 22.2                                   | 25.5                                    | 1.0                 | 32.4                                      | 92.6                | 5.0                               |
| SMDJ22      | SMDJ22C  | HEW     | IEW  | 22                        | 24.4                                   | 30.9                                    | 1.0                 | 39.4                                      | 76.1                | 5.0                               |
| SMDJ22A     | SMDJ22CA | HEX     | IEX  | 22                        | 24.4                                   | 28.0                                    | 1.0                 | 35.5                                      | 84.5                | 5.0                               |
| SMDJ24      | SMDJ24C  | HEY     | IEY  | 24                        | 26.7                                   | 33.8                                    | 1.0                 | 43.0                                      | 69.8                | 5.0                               |
| SMDJ24A     | SMDJ24CA | HEZ     | IEZ  | 24                        | 26.7                                   | 30.7                                    | 1.0                 | 38.9                                      | 77.1                | 5.0                               |
| SMDJ26      | SMDJ26C  | HFD     | IFD  | 26                        | 28.9                                   | 36.6                                    | 1.0                 | 46.6                                      | 64.4                | 5.0                               |
| SMDJ26A     | SMDJ26CA | HFE     | IFE  | 26                        | 28.9                                   | 33.2                                    | 1.0                 | 42.1                                      | 71.3                | 5.0                               |
| SMDJ28      | SMDJ28C  | HFF     | IFF  | 28                        | 31.1                                   | 39.4                                    | 1.0                 | 50.0                                      | 60.0                | 5.0                               |
| SMDJ28A     | SMDJ28CA | HFG     | IFG  | 28                        | 31.1                                   | 35.8                                    | 1.0                 | 45.4                                      | 66.1                | 5.0                               |
| SMDJ30      | SMDJ30C  | HFH     | IFH  | 30                        | 33.3                                   | 42.2                                    | 1.0                 | 53.5                                      | 56.1                | 5.0                               |
| SMDJ30A     | SMDJ30CA | HFK     | IFK  | 30                        | 33.3                                   | 38.3                                    | 1.0                 | 48.4                                      | 62.0                | 5.0                               |
| SMDJ33      | SMDJ33C  | HFL     | IFL  | 33                        | 36.7                                   | 46.5                                    | 1.0                 | 59.0                                      | 50.8                | 5.0                               |
| SMDJ33A     | SMDJ33CA | HFM     | IFM  | 33                        | 36.7                                   | 42.2                                    | 1.0                 | 53.3                                      | 56.3                | 5.0                               |
| SMDJ36      | SMDJ36C  | HFN     | IFN  | 36                        | 40.0                                   | 50.7                                    | 1.0                 | 64.3                                      | 46.7                | 5.0                               |
| SMDJ36A     | SMDJ36CA | HFP     | IFP  | 36                        | 40.0                                   | 46.0                                    | 1.0                 | 58.1                                      | 51.6                | 5.0                               |
| SMDJ40      | SMDJ40C  | HFQ     | IFQ  | 40                        | 44.4                                   | 56.3                                    | 1.0                 | 71.4                                      | 42.0                | 5.0                               |
| SMDJ40A     | SMDJ40CA | HFR     | IFR  | 40                        | 44.4                                   | 51.1                                    | 1.0                 | 64.5                                      | 46.5                | 5.0                               |
| SMDJ43      | SMDJ43C  | HFS     | IFS  | 43                        | 47.8                                   | 60.5                                    | 1.0                 | 76.7                                      | 39.1                | 5.0                               |
| SMDJ43A     | SMDJ43CA | HFT     | IFT  | 43                        | 47.8                                   | 54.9                                    | 1.0                 | 69.4                                      | 43.2                | 5.0                               |
| SMDJ45      | SMDJ45C  | HFU     | IFU  | 45                        | 50.0                                   | 63.3                                    | 1.0                 | 80.3                                      | 37.4                | 5.0                               |
| SMDJ45A     | SMDJ45CA | HFV     | IFV  | 45                        | 50.0                                   | 57.5                                    | 1.0                 | 72.7                                      | 41.3                | 5.0                               |
| SMDJ48      | SMDJ48C  | HFV     | IFV  | 48                        | 53.3                                   | 67.5                                    | 1.0                 | 85.5                                      | 35.1                | 5.0                               |
| SMDJ48A     | SMDJ48CA | HFX     | IFX  | 48                        | 53.3                                   | 61.3                                    | 1.0                 | 77.4                                      | 38.8                | 5.0                               |
| SMDJ51      | SMDJ51C  | HFY     | IFY  | 51                        | 56.7                                   | 71.8                                    | 1.0                 | 91.1                                      | 32.9                | 5.0                               |
| SMDJ51A     | SMDJ51CA | HFZ     | IFZ  | 51                        | 56.7                                   | 65.2                                    | 1.0                 | 82.4                                      | 36.4                | 5.0                               |

- Notes:
1. Suffix C denotes Bi-directional device.
  2. V<sub>BR</sub> measured with I<sub>T</sub> current pulse = 300 $\mu$ s.
  3. For Bi-Directional devices having V<sub>RMW</sub> of 10V and under, the I<sub>R</sub> is doubled.

### UNI/BI-DIRECTIONAL 5.0 to 170Volts 3000W SMD TRANSIENT VOLTAGE SUPPRESSORS

| Type Number |           | Marking |      | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RMW</sub> |
|-------------|-----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni)       | (Bi)      | (Uni)   | (Bi) | V <sub>RMW</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> ( $\mu$ A)         |
| SMDJ54      | SMDJ54C   | HGD     | IGD  | 54                        | 60.0                                   | 76.0                                    | 1.0                 | 96.3                                      | 31.2                | 5.0                               |
| SMDJ54A     | SMDJ54CA  | HGE     | IGE  | 54                        | 60.0                                   | 69.0                                    | 1.0                 | 87.1                                      | 34.4                | 5.0                               |
| SMDJ58      | SMDJ58C   | HGF     | IGF  | 58                        | 64.4                                   | 81.6                                    | 1.0                 | 103                                       | 29.1                | 5.0                               |
| SMDJ58A     | SMDJ58CA  | HGG     | IGG  | 58                        | 64.4                                   | 74.1                                    | 1.0                 | 93.6                                      | 32.1                | 5.0                               |
| SMDJ60      | SMDJ60C   | HGH     | IGH  | 60                        | 66.7                                   | 84.5                                    | 1.0                 | 107                                       | 28.0                | 5.0                               |
| SMDJ60A     | SMDJ60CA  | HGK     | IGK  | 60                        | 66.7                                   | 76.7                                    | 1.0                 | 96.8                                      | 31.0                | 5.0                               |
| SMDJ64      | SMDJ64C   | HGL     | IGL  | 64                        | 71.1                                   | 90.1                                    | 1.0                 | 114                                       | 26.3                | 5.0                               |
| SMDJ64A     | SMDJ64CA  | HGM     | IGM  | 64                        | 71.1                                   | 81.8                                    | 1.0                 | 103                                       | 29.1                | 5.0                               |
| SMDJ70      | SMDJ70C   | HGN     | IGN  | 70                        | 77.8                                   | 98.6                                    | 1.0                 | 125                                       | 24.0                | 5.0                               |
| SMDJ70A     | SMDJ70CA  | HGP     | IGP  | 70                        | 77.8                                   | 89.5                                    | 1.0                 | 113                                       | 26.5                | 5.0                               |
| SMDJ75      | SMDJ75C   | HGQ     | IGQ  | 75                        | 83.0                                   | 105.7                                   | 1.0                 | 134                                       | 22.4                | 5.0                               |
| SMDJ75A     | SMDJ75CA  | HGR     | IGR  | 75                        | 83.0                                   | 95.8                                    | 1.0                 | 121                                       | 24.8                | 5.0                               |
| SMDJ78      | SMDJ78C   | HGS     | IGS  | 78                        | 86.0                                   | 109.8                                   | 1.0                 | 139                                       | 21.6                | 5.0                               |
| SMDJ78A     | SMDJ78CA  | HGT     | IGT  | 78                        | 86.0                                   | 99.7                                    | 1.0                 | 126                                       | 23.8                | 5.0                               |
| SMDJ85      | SMDJ85C   | HGU     | IGU  | 85                        | 94.0                                   | 119.2                                   | 1.0                 | 151                                       | 19.9                | 5.0                               |
| SMDJ85A     | SMDJ85CA  | HGV     | IGV  | 85                        | 94.0                                   | 108.2                                   | 1.0                 | 137                                       | 21.9                | 5.0                               |
| SMDJ90      | SMDJ90C   | HGW     | IGW  | 90                        | 100                                    | 126.5                                   | 1.0                 | 160                                       | 18.8                | 5.0                               |
| SMDJ90A     | SMDJ90CA  | HGX     | IGX  | 90                        | 100                                    | 115.5                                   | 1.0                 | 146                                       | 20.5                | 5.0                               |
| SMDJ100     | SMDJ100C  | HGY     | IGY  | 100                       | 111                                    | 141.0                                   | 1.0                 | 179                                       | 16.8                | 5.0                               |
| SMDJ100A    | SMDJ100CA | HGZ     | IGZ  | 100                       | 111                                    | 128.0                                   | 1.0                 | 162                                       | 18.5                | 5.0                               |
| SMDJ110     | SMDJ110C  | HHD     | IHD  | 110                       | 122                                    | 154.5                                   | 1.0                 | 196                                       | 15.3                | 5.0                               |
| SMDJ110A    | SMDJ110CA | HHE     | IHE  | 110                       | 122                                    | 140.5                                   | 1.0                 | 177                                       | 16.9                | 5.0                               |
| SMDJ120     | SMDJ120C  | HHF     | IHF  | 120                       | 133                                    | 169.0                                   | 1.0                 | 214                                       | 14.0                | 5.0                               |
| SMDJ120A    | SMDJ120CA | HHG     | IHG  | 120                       | 133                                    | 153.0                                   | 1.0                 | 193                                       | 15.5                | 5.0                               |
| SMDJ130     | SMDJ130C  | HHH     | IHH  | 130                       | 144                                    | 182.5                                   | 1.0                 | 231                                       | 13.0                | 5.0                               |
| SMDJ130A    | SMDJ130CA | HHK     | IHK  | 130                       | 144                                    | 165.5                                   | 1.0                 | 209                                       | 14.4                | 5.0                               |
| SMDJ150     | SMDJ150C  | HHL     | IHL  | 150                       | 167                                    | 211.5                                   | 1.0                 | 268                                       | 11.2                | 5.0                               |
| SMDJ150A    | SMDJ150CA | HHM     | IHM  | 150                       | 167                                    | 192.5                                   | 1.0                 | 243                                       | 12.3                | 5.0                               |
| SMDJ160     | SMDJ160C  | HHN     | IHN  | 160                       | 178                                    | 226.0                                   | 1.0                 | 287                                       | 10.5                | 5.0                               |
| SMDJ160A    | SMDJ160CA | HHP     | IHP  | 160                       | 178                                    | 205.0                                   | 1.0                 | 259                                       | 11.6                | 5.0                               |
| SMDJ170     | SMDJ170C  | HHQ     | IHQ  | 170                       | 189                                    | 239.5                                   | 1.0                 | 304                                       | 9.9                 | 5.0                               |
| SMDJ170A    | SMDJ170CA | HHR     | IHR  | 170                       | 189                                    | 217.5                                   | 1.0                 | 275                                       | 10.9                | 5.0                               |

- Notes:
1. Suffix C denotes Bi-directional device.
  2. V<sub>BR</sub> measured with I<sub>T</sub> current pulse = 300 $\mu$ s.
  3. For Bi-Directional devices having V<sub>RMW</sub> of 10V and under, the I<sub>R</sub> is doubled.