

VOLTAGE RANGE: 5.0 - 170V
POWER: 3000Watts

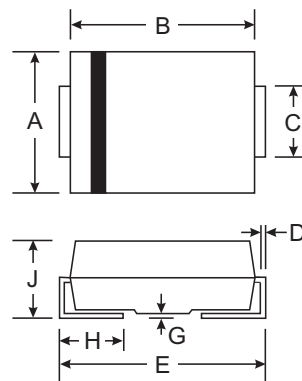
Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



Mechanical Data

- Case: SMC/DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)



| SMC/DO-214AB | | |
|----------------------|------|------|
| 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 | | |

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

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic | Symbol | Value | Unit |
|--|----------------|-------------|------------------|
| Peak Pulse Power Dissipation 10/1000 μS Waveform (Note 1, 2) Figure 3 | PPPM | 3000 | W |
| Peak Pulse Current on 10/1000 μS Waveform (Note 1) Figure 4 | IPPM | See Table 1 | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3) | IFSM | 100 | A |
| Operating and Storage Temperature Range | T_j, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Note:

1. Non-repetitive current pulse, per Figure 4 and derated above $T_A = 25^\circ\text{C}$ per Figure 1.
2. Mounted on 8.0mm² copper pads to each terminal.
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.



| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current | Reverse Leakage @V _{RMW} |
|-------------|-----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni) | (Bi) | (Uni) | (Bi) | V _{RMW} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (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 |
| 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 |



| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current | Reverse Leakage @V _{RMW} |
|-------------|----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni) | (Bi) | (Uni) | (Bi) | V _{RMW} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (uA) |
| 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 |
| 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 |

| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current | Reverse Leakage @V _{RMW} |
|-------------|-----------|---------|------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (Uni) | (Bi) | (Uni) | (Bi) | V _{RMW} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (uA) |
| 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 |

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)



Figure 1 -PeakPulsePower Rating Curve



Figure 2 -Pulse DeratingCurve

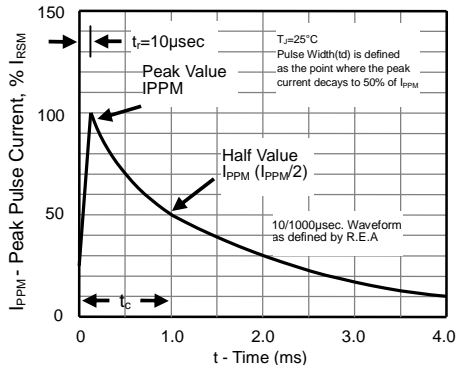


Figure 3 -Pulse Waveform

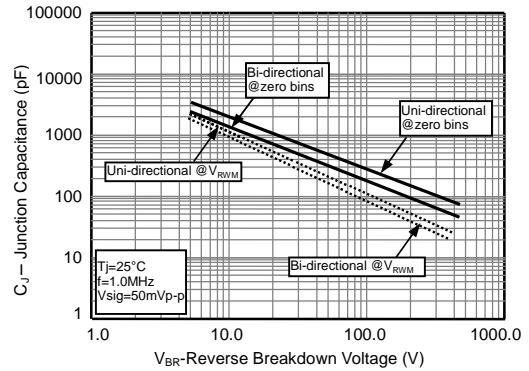


Figure 4 -TypicalJunction Capacitance



Figure 5-SteadyStatePower Derating Curve

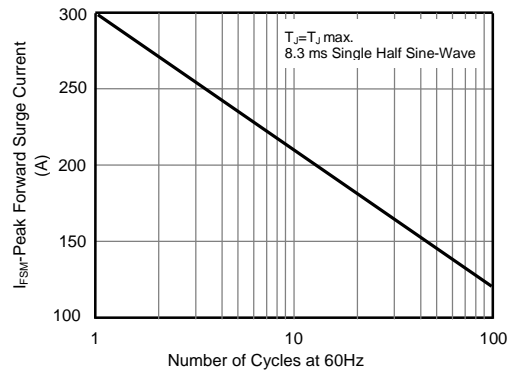


Figure 6 -Maximum Non-RepetitiveSurge Current

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