

**SURFACE MOUNT
UNIDIRECTIONAL AND BIDIRECTIONAL
TRANSIENT VOLTAGE SUPPRESSORS**

STAND-OFF VOLTAGE - **5.0** to **170** Volts
POWER DISSIPATION - **3000** WATTS

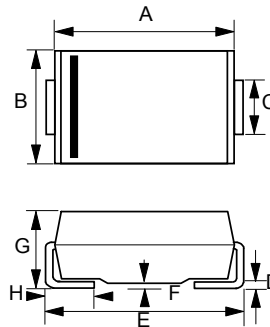
FEATURES

- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL flammability classification 94V-0
- Typical IR less than 1uA above 10V
- Fast response time: typically less than 1.0ns for Uni-direction, less than 5.0ns for Bi-direction, form 0 Volts to BV min

MECHANICAL DATA

- Case : Molded plastic
- Polarity : by cathode band denotes uni-directional device none cathode band denotes bi-directional device
- Weight : 0.007 ounces, 0.21 gram

SMC



| SMC | | |
|------|------|------|
| DIM. | MIN. | MAX. |
| A | 6.60 | 7.11 |
| B | 5.59 | 6.22 |
| C | 2.92 | 3.18 |
| D | 0.15 | 0.31 |
| E | 7.75 | 8.13 |
| F | 0.05 | 0.20 |
| G | 2.01 | 2.40 |
| H | 0.76 | 1.52 |

All Dimensions in millimeter

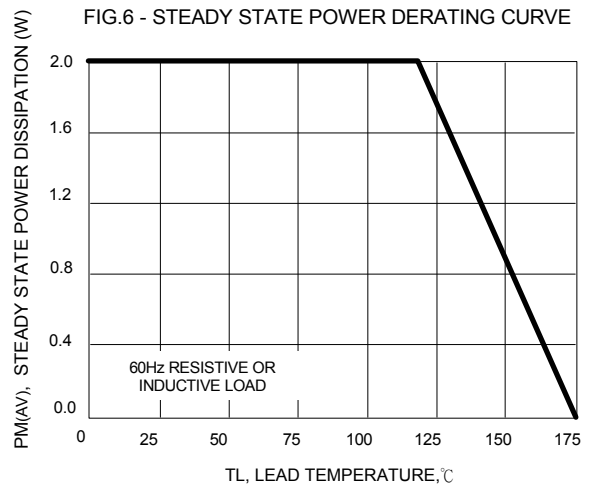
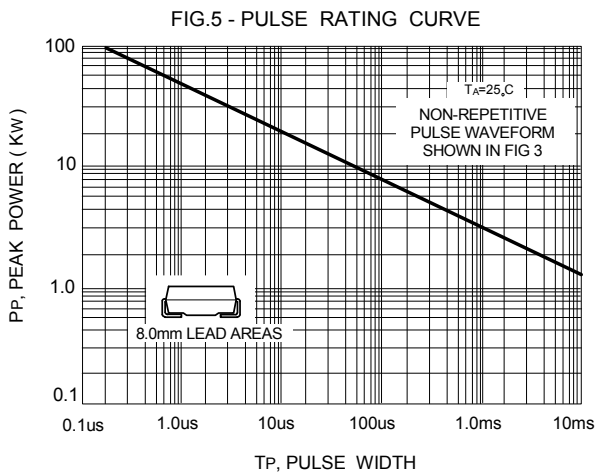
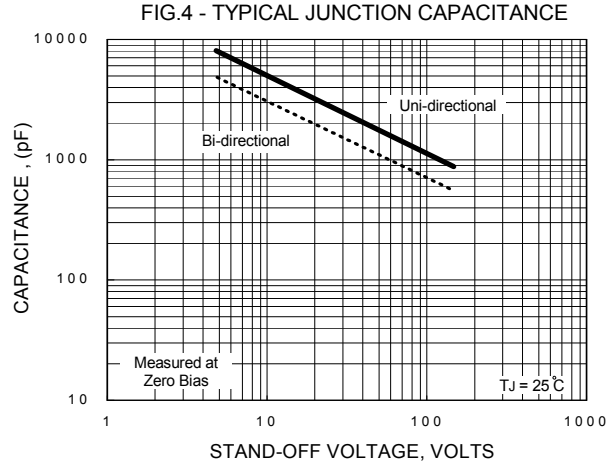
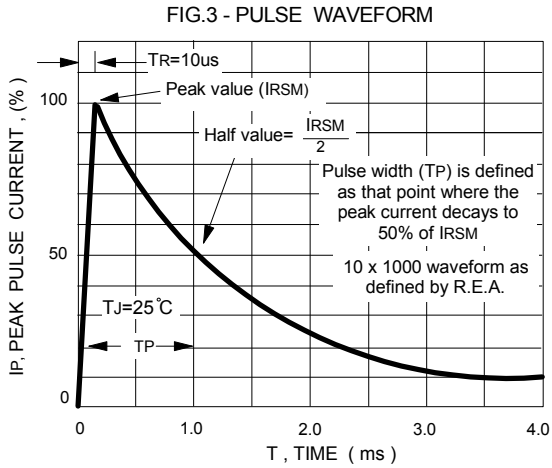
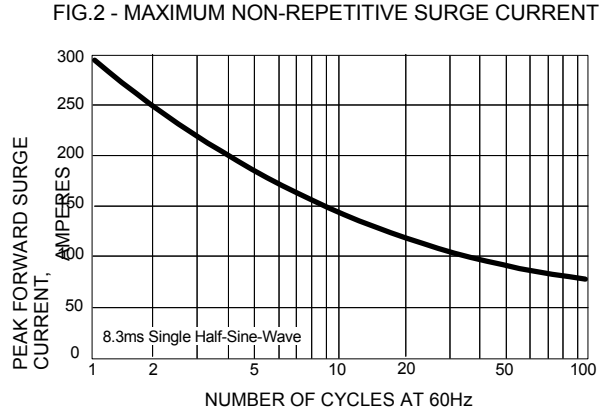
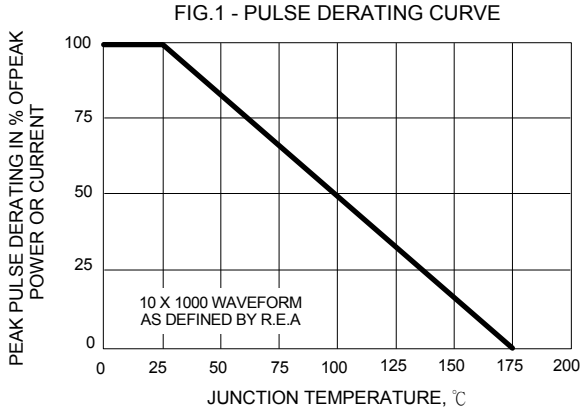
Datasheet.Wiki

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| CHARACTERISTICS | SYMBOLS | VALUE | UNIT |
|--|--------------------|-------------|-------|
| PEAK POWER DISSIPATION AT T _J = 25°C, T _P = 1ms (Note 1) | P _{PK} | 3000 | WATTS |
| Peak Forward Surge Current 8.3ms single half sine-wave @T _J =25 °C (Note 2) | I _{FSM} | 300 | AMPS. |
| Steady State Power Dissipation at T _L =120°C lead lengths 0.375" (9.5mm) , see fig. 6 | P _{M(AV)} | 2.0 | WATTS |
| Operating Temperature Range | T _J | -55 to +175 | °C |
| Storage Temperature Range | T _{STG} | -55 to +175 | °C |

NOTES : 1. Non-repetitive current pulse, per Fig. 3 and derated above T_J= 25°C per Fig.1.
2. Only for unidirectional units.



| Type Number | Type Number | Device Marking code | | Reverse Standoff Voltage | Breakdown Voltage BV Volts @It | | | Max. Reverse Leakage @VR | Max. Clamping Voltage @Ipp | Max. Peak Pulse Current |
|-------------|--------------|---------------------|------|--------------------------|--------------------------------|---------|---------|--------------------------|----------------------------|-------------------------|
| | | (UNI) | (BI) | | VR (V) | Min (V) | Max (V) | | | |
| 3.0SMCJ5.0 | 3.0SMCJ5.0C | HDD | IDD | 5.0 | 6.40 | 7.82 | 10 | 1000.0 | 9.6 | 312.5 |
| 3.0SMCJ5.0A | 3.0SMCJ5.0CA | HDE | IDE | 5.0 | 6.40 | 7.07 | 10 | 1000.0 | 9.2 | 326.1 |
| 3.0SMCJ6.0 | 3.0SMCJ6.0C | HDF | IDF | 6.0 | 6.67 | 8.15 | 10 | 1000.0 | 11.4 | 263.2 |
| 3.0SMCJ6.0A | 3.0SMCJ6.0CA | HDG | IDG | 6.0 | 6.67 | 7.37 | 10 | 1000.0 | 10.3 | 291.3 |
| 3.0SMCJ6.5 | 3.0SMCJ6.5C | HDH | IDH | 6.5 | 7.22 | 8.82 | 10 | 500.0 | 12.3 | 243.9 |
| 3.0SMCJ6.5A | 3.0SMCJ6.5CA | HDK | IDK | 6.5 | 7.22 | 7.98 | 10 | 500.0 | 11.2 | 267.9 |
| 3.0SMCJ7.0 | 3.0SMCJ7.0C | HDL | IDL | 7.0 | 7.78 | 9.51 | 10 | 200.0 | 13.3 | 225.6 |
| 3.0SMCJ7.0A | 3.0SMCJ7.0CA | HDM | IDM | 7.0 | 7.78 | 8.60 | 10 | 200.0 | 12.0 | 250.0 |
| 3.0SMCJ7.5 | 3.0SMCJ7.5C | HDN | IDN | 7.5 | 8.33 | 10.18 | 1 | 100.0 | 14.3 | 209.8 |
| 3.0SMCJ7.5A | 3.0SMCJ7.5CA | HDP | IDP | 7.5 | 8.33 | 9.21 | 1 | 100.0 | 12.9 | 232.6 |
| 3.0SMCJ8.0 | 3.0SMCJ8.0C | HDQ | IDQ | 8.0 | 8.89 | 10.86 | 1 | 50.0 | 15.0 | 200.0 |
| 3.0SMCJ8.0A | 3.0SMCJ8.0CA | HDR | IDR | 8.0 | 8.89 | 9.83 | 1 | 50.0 | 13.6 | 220.6 |
| 3.0SMCJ8.5 | 3.0SMCJ8.5C | HDS | IDS | 8.5 | 9.44 | 11.54 | 1 | 25.0 | 15.9 | 188.7 |
| 3.0SMCJ8.5A | 3.0SMCJ8.5CA | HDT | IDT | 8.5 | 9.44 | 10.43 | 1 | 25.0 | 14.4 | 208.3 |
| 3.0SMCJ9.0 | 3.0SMCJ9.0C | HDU | IDU | 9.0 | 10.0 | 12.22 | 1 | 10.0 | 16.9 | 177.5 |
| 3.0SMCJ9.0A | 3.0SMCJ9.0CA | HDV | IDV | 9.0 | 10.0 | 11.05 | 1 | 10.0 | 15.4 | 194.8 |
| 3.0SMCJ10 | 3.0SMCJ10C | HDW | IDW | 10.0 | 11.1 | 13.56 | 1 | 5.0 | 18.8 | 159.6 |
| 3.0SMCJ10A | 3.0SMCJ10CA | HDX | IDX | 10.0 | 11.1 | 12.27 | 1 | 5.0 | 17.0 | 176.5 |
| 3.0SMCJ11 | 3.0SMCJ11C | HDY | IDY | 11.0 | 12.2 | 14.9 | 1 | 5.0 | 20.1 | 149.3 |
| 3.0SMCJ11A | 3.0SMCJ11CA | HDZ | IDZ | 11.0 | 12.2 | 13.5 | 1 | 5.0 | 18.2 | 164.8 |
| 3.0SMCJ12 | 3.0SMCJ12C | HED | IED | 12.0 | 13.3 | 16.3 | 1 | 5.0 | 22.0 | 136.4 |
| 3.0SMCJ12A | 3.0SMCJ12CA | HEE | IEE | 12.0 | 13.3 | 14.7 | 1 | 5.0 | 19.9 | 150.8 |
| 3.0SMCJ13 | 3.0SMCJ13C | HEF | IEF | 13.0 | 14.4 | 17.6 | 1 | 5.0 | 23.8 | 126.1 |
| 3.0SMCJ13A | 3.0SMCJ13CA | HEG | IEG | 13.0 | 14.4 | 15.9 | 1 | 5.0 | 21.5 | 139.5 |
| 3.0SMCJ14 | 3.0SMCJ14C | HEH | IEH | 14.0 | 15.6 | 19.1 | 1 | 5.0 | 25.8 | 116.3 |
| 3.0SMCJ14A | 3.0SMCJ14CA | HEK | IEK | 14.0 | 15.6 | 17.2 | 1 | 5.0 | 23.2 | 129.3 |
| 3.0SMCJ15 | 3.0SMCJ15C | HEL | IEL | 15.0 | 16.7 | 20.4 | 1 | 5.0 | 26.9 | 111.5 |
| 3.0SMCJ15A | 3.0SMCJ15CA | HEM | IEM | 15.0 | 16.7 | 18.5 | 1 | 5.0 | 24.2 | 124.0 |
| 3.0SMCJ16 | 3.0SMCJ16C | HEN | IEN | 16.0 | 17.8 | 21.8 | 1 | 5.0 | 28.8 | 104.2 |
| 3.0SMCJ16A | 3.0SMCJ16CA | HEP | IEP | 16.0 | 17.8 | 19.7 | 1 | 5.0 | 26.0 | 115.4 |
| 3.0SMCJ17 | 3.0SMCJ17C | HEQ | IEQ | 17.0 | 18.9 | 23.1 | 1 | 5.0 | 30.5 | 98.4 |
| 3.0SMCJ17A | 3.0SMCJ17CA | HER | IER | 17.0 | 18.9 | 20.9 | 1 | 5.0 | 27.6 | 108.7 |
| 3.0SMCJ18 | 3.0SMCJ18C | HES | IES | 18.0 | 20.0 | 24.4 | 1 | 5.0 | 32.2 | 93.2 |
| 3.0SMCJ18A | 3.0SMCJ18CA | HET | IET | 18.0 | 20.0 | 22.1 | 1 | 5.0 | 29.2 | 102.7 |
| 3.0SMCJ20 | 3.0SMCJ20C | HEU | IEU | 20.0 | 22.2 | 27.1 | 1 | 5.0 | 35.8 | 83.8 |
| 3.0SMCJ20A | 3.0SMCJ20CA | HEV | IEV | 20.0 | 22.2 | 24.5 | 1 | 5.0 | 32.4 | 92.6 |
| 3.0SMCJ22 | 3.0SMCJ22C | HEW | IEW | 22.0 | 24.4 | 29.8 | 1 | 5.0 | 39.4 | 76.1 |
| 3.0SMCJ22A | 3.0SMCJ22CA | HEX | IEX | 22.0 | 24.4 | 27.0 | 1 | 5.0 | 35.5 | 84.5 |
| 3.0SMCJ24 | 3.0SMCJ24C | HEY | IEY | 24.0 | 26.7 | 32.6 | 1 | 5.0 | 43.0 | 69.8 |
| 3.0SMCJ24A | 3.0SMCJ24CA | HEZ | IEZ | 24.0 | 26.7 | 29.5 | 1 | 5.0 | 38.9 | 77.1 |
| 3.0SMCJ24A6 | | HEZ6 | --- | 24.5 | --- | 29.5 | 1 | 5.0 | 50.0 | 110.0 |
| 3.0SMCJ26 | 3.0SMCJ26C | HFD | IFD | 26.0 | 28.9 | 35.3 | 1 | 5 | 46.6 | 64.4 |
| 3.0SMCJ26A | 3.0SMCJ26CA | HFE | IFE | 26.0 | 28.9 | 31.9 | 1 | 5 | 42.1 | 71.3 |

| Type Number | Type Number | Device Marking code | | Reverse Standoff Voltage | Breakdown Voltage BV Volts @It | | | Max. Reverse Leakage @VR | Max. Clamping Voltage @Ipp | Max. Peak Pulse Current |
|-------------|--------------|---------------------|------|--------------------------|--------------------------------|---------|---------|--------------------------|----------------------------|-------------------------|
| | | (UNI) | (BI) | | VR (V) | Min (V) | Max (V) | | | |
| 3.0SMCJ28 | 3.0SMCJ28C | HFF | IFF | 28.0 | 31.1 | 38.0 | 1 | 5 | 50.0 | 60.0 |
| 3.0SMCJ28A | 3.0SMCJ28CA | HFG | IFG | 28.0 | 31.1 | 34.4 | 1 | 5 | 45.4 | 66.1 |
| 3.0SMCJ30 | 3.0SMCJ30C | HFH | IFH | 30.0 | 33.3 | 40.7 | 1 | 5 | 53.5 | 56.1 |
| 3.0SMCJ30A | 3.0SMCJ30CA | HFK | IFK | 30.0 | 33.3 | 36.8 | 1 | 5 | 48.4 | 62.0 |
| 3.0SMCJ33 | 3.0SMCJ33C | HFL | IFL | 33.0 | 36.7 | 44.8 | 1 | 5 | 59.0 | 50.8 |
| 3.0SMCJ33A | 3.0SMCJ33CA | HFM | IFM | 33.0 | 36.7 | 40.6 | 1 | 5 | 53.3 | 56.3 |
| 3.0SMCJ36 | 3.0SMCJ36C | HFN | IFN | 36.0 | 40.0 | 48.9 | 1 | 5 | 64.3 | 46.7 |
| 3.0SMCJ36A | 3.0SMCJ36CA | HFP | IFP | 36.0 | 40.0 | 44.2 | 1 | 5 | 58.1 | 51.6 |
| 3.0SMCJ40 | 3.0SMCJ40C | HFQ | IFQ | 40.0 | 44.4 | 54.3 | 1 | 5 | 71.4 | 42.0 |
| 3.0SMCJ40A | 3.0SMCJ40CA | HFR | IFR | 40.0 | 44.4 | 49.1 | 1 | 5 | 64.5 | 46.5 |
| 3.0SMCJ43 | 3.0SMCJ43C | HFS | IFS | 43.0 | 47.8 | 58.4 | 1 | 5 | 76.7 | 39.1 |
| 3.0SMCJ43A | 3.0SMCJ43CA | HFT | IFT | 43.0 | 47.8 | 52.8 | 1 | 5 | 69.4 | 43.2 |
| 3.0SMCJ45 | 3.0SMCJ45C | HFU | IFU | 45.0 | 50.0 | 61.1 | 1 | 5 | 80.3 | 37.4 |
| 3.0SMCJ45A | 3.0SMCJ45CA | HFV | IFV | 45.0 | 50.0 | 55.3 | 1 | 5 | 72.7 | 41.3 |
| 3.0SMCJ48 | 3.0SMCJ48C | HFW | IFW | 48.0 | 53.3 | 65.1 | 1 | 5 | 85.5 | 35.1 |
| 3.0SMCJ48A | 3.0SMCJ48CA | HFX | IFX | 48.0 | 53.3 | 58.9 | 1 | 5 | 77.4 | 38.8 |
| 3.0SMCJ51 | 3.0SMCJ51C | HFY | IFY | 51.0 | 56.7 | 69.3 | 1 | 5 | 91.1 | 32.9 |
| 3.0SMCJ51A | 3.0SMCJ51CA | HFZ | IFZ | 51.0 | 56.7 | 62.7 | 1 | 5 | 82.4 | 36.4 |
| 3.0SMCJ54 | 3.0SMCJ54C | HGD | IGD | 54.0 | 60.0 | 73.3 | 1 | 5 | 96.3 | 31.2 |
| 3.0SMCJ54A | 3.0SMCJ54CA | HGE | IGE | 54.0 | 60.0 | 66.3 | 1 | 5 | 87.1 | 34.4 |
| 3.0SMCJ58 | 3.0SMCJ58C | HGF | IGF | 58.0 | 64.4 | 78.7 | 1 | 5 | 103.0 | 29.1 |
| 3.0SMCJ58A | 3.0SMCJ58CA | HGG | IGG | 58.0 | 64.4 | 71.2 | 1 | 5 | 93.6 | 32.1 |
| 3.0SMCJ60 | 3.0SMCJ60C | HGH | IGH | 60.0 | 66.7 | 81.5 | 1 | 5 | 107.0 | 28.0 |
| 3.0SMCJ60A | 3.0SMCJ60CA | HGK | IGK | 60.0 | 66.7 | 73.7 | 1 | 5 | 96.8 | 31.0 |
| 3.0SMCJ64 | 3.0SMCJ64C | HGL | IGL | 64.0 | 71.1 | 86.9 | 1 | 5 | 114.0 | 26.3 |
| 3.0SMCJ64A | 3.0SMCJ64CA | HGM | IGM | 64.0 | 71.1 | 78.6 | 1 | 5 | 103.0 | 29.1 |
| 3.0SMCJ70 | 3.0SMCJ70C | HGN | IGN | 70.0 | 77.8 | 95.1 | 1 | 5 | 125.0 | 24.0 |
| 3.0SMCJ70A | 3.0SMCJ70CA | HGP | IGP | 70.0 | 77.8 | 86.0 | 1 | 5 | 113.0 | 26.5 |
| 3.0SMCJ75 | 3.0SMCJ75C | HGQ | IGQ | 75.0 | 83.3 | 101.8 | 1 | 5 | 134.0 | 22.4 |
| 3.0SMCJ75A | 3.0SMCJ75CA | HGR | IGR | 75.0 | 83.3 | 92.1 | 1 | 5 | 121.0 | 24.8 |
| 3.0SMCJ78 | 3.0SMCJ78C | HGS | IGS | 78.0 | 86.7 | 105.9 | 1 | 5 | 139.0 | 21.6 |
| 3.0SMCJ78A | 3.0SMCJ78CA | HGT | IGT | 78.0 | 86.7 | 95.8 | 1 | 5 | 126.0 | 23.8 |
| 3.0SMCJ85 | 3.0SMCJ85C | HGU | IGU | 85.0 | 94.4 | 115.4 | 1 | 5 | 151.0 | 19.9 |
| 3.0SMCJ85A | 3.0SMCJ85CA | HGV | IGV | 85.0 | 94.4 | 104.3 | 1 | 5 | 137.0 | 21.9 |
| 3.0SMCJ90 | 3.0SMCJ90C | HGW | IGW | 90.0 | 100.0 | 122.2 | 1 | 5 | 160.0 | 18.8 |
| 3.0SMCJ90A | 3.0SMCJ90CA | HGX | IGX | 90.0 | 100.0 | 110.5 | 1 | 5 | 146.0 | 20.5 |
| 3.0SMCJ100 | 3.0SMCJ100C | HGY | IGY | 100.0 | 111.0 | 135.6 | 1 | 5 | 179.0 | 16.8 |
| 3.0SMCJ100A | 3.0SMCJ100CA | HGZ | IGZ | 100.0 | 111.0 | 122.7 | 1 | 5 | 162.0 | 18.5 |
| 3.0SMCJ110 | 3.0SMCJ110C | HHD | IHD | 110.0 | 122.0 | 149.1 | 1 | 5 | 196.0 | 15.3 |
| 3.0SMCJ110A | 3.0SMCJ110CA | HHE | IHE | 110.0 | 122.0 | 134.8 | 1 | 5 | 177.0 | 16.9 |
| 3.0SMCJ120 | 3.0SMCJ120C | HHF | IHF | 120.0 | 133.0 | 162.5 | 1 | 5 | 214.0 | 14.0 |
| 3.0SMCJ120A | 3.0SMCJ120CA | HHG | IHG | 120.0 | 133.0 | 147.0 | 1 | 5 | 193.0 | 15.5 |
| 3.0SMCJ130 | 3.0SMCJ130C | HHH | IHH | 130.0 | 144.0 | 176.0 | 1 | 5 | 231.0 | 13.0 |
| 3.0SMCJ130A | 3.0SMCJ130CA | HHK | IHK | 130.0 | 144.0 | 159.2 | 1 | 5 | 209.0 | 14.4 |

| Type Number | Type Number | Device Marking code | | Reverse Standoff Voltage | Breakdown Voltage BV Volts @It | | | Max. Reverse Leakage @VR | Max. Clamping Voltage @Ipp | Max. Peak Pulse Current |
|-------------|--------------|---------------------|------|--------------------------|--------------------------------|---------|---------|--------------------------|----------------------------|-------------------------|
| | | (UNI) | (BI) | | VR (V) | Min (V) | Max (V) | | | |
| 3.0SMCJ150 | 3.0SMCJ150C | HHL | IHL | 150.0 | 167.0 | 204.1 | 1 | 5 | 268.0 | 11.2 |
| 3.0SMCJ150A | 3.0SMCJ150CA | HHM | IHM | 150.0 | 167.0 | 184.6 | 1 | 5 | 243.0 | 12.3 |
| 3.0SMCJ160 | 3.0SMCJ160C | HHN | IHN | 160.0 | 178.0 | 217.5 | 1 | 5 | 287.0 | 10.5 |
| 3.0SMCJ160A | 3.0SMCJ160CA | HHP | IHP | 160.0 | 178.0 | 196.7 | 1 | 5 | 259.0 | 11.6 |
| 3.0SMCJ170 | 3.0SMCJ170C | HHQ | IHQ | 170.0 | 189.0 | 231.0 | 1 | 5 | 304.0 | 9.9 |
| 3.0SMCJ170A | 3.0SMCJ170CA | HHR | IHR | 170.0 | 189.0 | 208.9 | 1 | 5 | 275.0 | 10.9 |

NOTES:

Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes 10% tolerance device .

For bidirectional devices having VR of 10 volts and under, the IR limit is doubled .

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