




**THE DATASHEET OF
SMB10J19CA-TP**



| | |
|---|----------------|
|  | E480232 |
|---|----------------|

Features

- Glass Passivated Chip
- 1000W Peak Pulse Power Capability with a 10/1000 us Waveform, Repetitive Rate(dutycycle):0.01%
- Low Inductance
- For Bidirectional Devices Add "C" To The Suffix of
- The Part Number: i.e.SMB10J5.0CA for 5% Tolerance
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Mechanical Data

- Terminals: Solderable Per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Positive End (cathode) Except Bidirectiona

Maximum Ratings

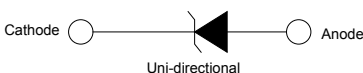
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|--|-----------|---------------|--------------------|
| Peak Pulse Power Surge Current on 10/1000µs Waveform | I_{PP} | See the Table | Note 3 |
| Peak Pulse Power Dissipation | P_{PP} | 1000W | Note 3 |
| Power Dissipation on infinite heat sink | P_D | 5.0W | $T_L = 75^\circ C$ |
| Peak forward surge current | I_{FSM} | 100A | Note 4 |
| Maximum instantaneous forward voltage at 25A for unidirectional only | V_F | 3.5V/5.0V | Note 5 |

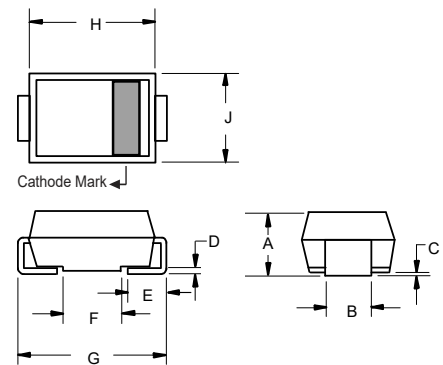
- Notes: 1.Halogen free "Green"products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 2.High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
 3.Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ C$ per Fig.4
 4.Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle =4 pulses per minute maximum.
 5. $V_F < 3.5V$ for devices of $V_{BR} < 50V$.

Pin Configuration:



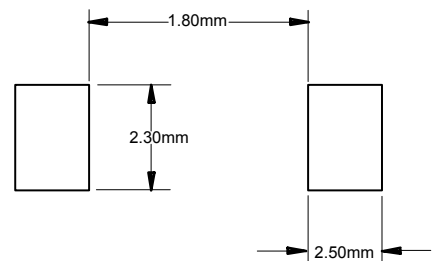
**1000 Watt TVS
5.0 to 120 Volts**

**SMB (DO-214AA)
(LEAD FRAME)**



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.079 | 0.103 | 2.00 | 2.62 | |
| B | 0.075 | 0.087 | 1.91 | 2.21 | |
| C | 0.002 | 0.008 | 0.05 | 0.20 | |
| D | 0.006 | 0.012 | 0.15 | 0.31 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.200 | 0.220 | 5.08 | 5.59 | |
| H | 0.160 | 0.191 | 4.06 | 4.85 | |
| J | 0.130 | 0.155 | 3.30 | 3.94 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | | Breakdown Voltage V_{BR} @ I_T | | | Maximum Reverse Leakage I_R @ V_{RWM} (μA) | Working Peak Reverse Voltage V_{RWM} (V) | Maximum Reverse Surge Current I_{PP} (A) | Maximum Clamping Voltage V_C @ I_{PP} (V) | Device Marking Code | |
|-----------------|-------------|------------------------------------|---------|------------|---|--|--|---|---------------------|-----|
| Uni | Bi | Min (V) | Max (V) | I_T (mA) | | | | | Uni | Bi |
| SMB10J5.0A | SMB10J5.0CA | 6.40 | 7.00 | 10 | 800 | 5.0 | 108.70 | 9.2 | AKE | AAE |
| SMB10J6.0A | SMB10J6.0CA | 6.67 | 7.37 | 10 | 800 | 6.0 | 97.09 | 10.3 | AKG | AAG |
| SMB10J6.5A | SMB10J6.5CA | 7.22 | 7.98 | 10 | 500 | 6.5 | 89.29 | 11.2 | AKK | AAK |
| SMB10J7.0A | SMB10J7.0CA | 7.78 | 8.60 | 10 | 200 | 7.0 | 83.33 | 12.0 | AKM | AAM |
| SMB10J7.5A | SMB10J7.5CA | 8.33 | 9.21 | 1 | 100 | 7.5 | 77.52 | 12.9 | AKP | AAP |
| SMB10J8.0A | SMB10J8.0CA | 8.89 | 9.83 | 1 | 50 | 8.0 | 73.53 | 13.6 | AKR | AAR |
| SMB10J8.5A | SMB10J8.5CA | 9.44 | 10.40 | 1 | 10 | 8.5 | 69.44 | 14.4 | AKT | AAT |
| SMB10J9.0A | SMB10J9.0CA | 10.00 | 11.10 | 1 | 5.0 | 9.0 | 64.94 | 15.4 | AKV | AAV |
| SMB10J10A | SMB10J10CA | 11.10 | 12.30 | 1 | 5.0 | 10.0 | 58.82 | 17.0 | AKX | AAX |
| SMB10J11A | SMB10J11CA | 12.20 | 13.50 | 1 | 5.0 | 11.0 | 54.95 | 18.2 | AKZ | AAZ |
| SMB10J12A | SMB10J12CA | 13.30 | 14.70 | 1 | 5.0 | 12.0 | 50.25 | 19.9 | ALE | ABE |
| SMB10J13A | SMB10J13CA | 14.40 | 15.90 | 1 | 1.0 | 13.0 | 46.51 | 21.5 | ALG | ABG |
| SMB10J14A | SMB10J14CA | 15.60 | 17.20 | 1 | 1.0 | 14.0 | 43.10 | 23.2 | ALK | ABK |
| SMB10J15A | SMB10J15CA | 16.70 | 18.50 | 1 | 1.0 | 15.0 | 40.98 | 24.4 | ALM | ABM |
| SMB10J16A | SMB10J16CA | 17.80 | 19.70 | 1 | 1.0 | 16.0 | 38.46 | 26.0 | ALP | ABP |
| SMB10J17A | SMB10J17CA | 18.90 | 20.90 | 1 | 1.0 | 17.0 | 36.23 | 27.6 | ALR | ABR |
| SMB10J18A | SMB10J18CA | 20.00 | 22.10 | 1 | 1.0 | 18.0 | 34.25 | 29.2 | ALT | ABT |
| SMB10J19A | SMB10J19CA | 21.10 | 23.30 | 1 | 1.0 | 19.0 | 32.49 | 30.8 | ALB | ABB |
| SMB10J20A | SMB10J20CA | 22.20 | 24.50 | 1 | 1.0 | 20.0 | 30.86 | 32.4 | ALV | ABV |
| SMB10J22A | SMB10J22CA | 24.40 | 26.90 | 1 | 1.0 | 22.0 | 28.17 | 35.5 | ALX | ABX |
| SMB10J24A | SMB10J24CA | 26.70 | 29.50 | 1 | 1.0 | 24.0 | 25.71 | 38.9 | ALZ | ABZ |
| SMB10J26A | SMB10J26CA | 28.90 | 31.90 | 1 | 1.0 | 26.0 | 23.75 | 42.1 | AME | ACE |
| SMB10J28A | SMB10J28CA | 31.10 | 34.40 | 1 | 1.0 | 28.0 | 22.03 | 45.4 | AMG | ACG |
| SMB10J30A | SMB10J30CA | 33.30 | 36.80 | 1 | 1.0 | 30.0 | 20.66 | 48.4 | AMK | ACK |
| SMB10J33A | SMB10J33CA | 36.70 | 40.60 | 1 | 1.0 | 33.0 | 18.76 | 53.3 | AMM | ACM |
| SMB10J36A | SMB10J36CA | 40.00 | 44.20 | 1 | 1.0 | 36.0 | 17.21 | 58.1 | AMP | ACP |
| SMB10J40A | SMB10J40CA | 44.40 | 49.10 | 1 | 1.0 | 40.0 | 15.50 | 64.5 | AMR | ACR |
| SMB10J43A | SMB10J43CA | 47.80 | 52.80 | 1 | 1.0 | 43.0 | 14.41 | 69.4 | AMT | ACT |
| SMB10J45A | SMB10J45CA | 50.00 | 55.30 | 1 | 1.0 | 45.0 | 13.76 | 72.7 | AMV | ACV |
| SMB10J48A | SMB10J48CA | 53.30 | 58.90 | 1 | 1.0 | 48.0 | 12.92 | 77.4 | AMX | ACX |
| SMB10J51A | SMB10J51CA | 56.70 | 62.70 | 1 | 1.0 | 51.0 | 12.14 | 82.4 | AMZ | ACZ |
| SMB10J54A | SMB10J54CA | 60.00 | 66.30 | 1 | 1.0 | 54.0 | 11.48 | 87.1 | ANE | ADE |
| SMB10J58A | SMB10J58CA | 64.40 | 71.20 | 1 | 1.0 | 58.0 | 10.68 | 93.6 | ANG | ADG |
| SMB10J60A | SMB10J60CA | 66.70 | 73.70 | 1 | 1.0 | 60.0 | 10.33 | 96.8 | ANK | ADK |
| SMB10J64A | SMB10J64CA | 71.10 | 78.60 | 1 | 1.0 | 64.0 | 9.71 | 103.0 | ANM | ADM |
| SMB10J70A | SMB10J70CA | 77.80 | 86.00 | 1 | 1.0 | 70.0 | 8.85 | 113.0 | ANP | ADP |
| SMB10J75A | SMB10J75CA | 83.30 | 92.10 | 1 | 1.0 | 75.0 | 8.26 | 121.0 | ANR | ADR |
| SMB10J78A | SMB10J78CA | 86.70 | 95.80 | 1 | 1.0 | 78.0 | 7.94 | 126.0 | ANT | ADT |
| SMB10J80A | SMB10J80CA | 88.80 | 97.60 | 1 | 1.0 | 80.0 | 7.72 | 129.6 | ANB | ADB |
| SMB10J85A | SMB10J85CA | 94.40 | 104.00 | 1 | 1.0 | 85.0 | 7.30 | 137.0 | ANV | ADV |
| SMB10J90A | SMB10J90CA | 100.00 | 111.00 | 1 | 1.0 | 90.0 | 6.85 | 146.0 | ANX | ADX |
| SMB10J100A | SMB10J100CA | 111.00 | 123.00 | 1 | 1.0 | 100.0 | 6.17 | 162.0 | ANZ | ADZ |
| SMB10J110A | SMB10J110CA | 122.00 | 135.00 | 1 | 1.0 | 110.0 | 5.65 | 177.0 | APE | AEE |
| SMB10J120A | SMB10J120CA | 133.00 | 147.00 | 1 | 1.0 | 120.0 | 5.18 | 193.0 | APG | AEG |

1. Add suffix ' CA ' after part number to specify Bi-directional devices
 2. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

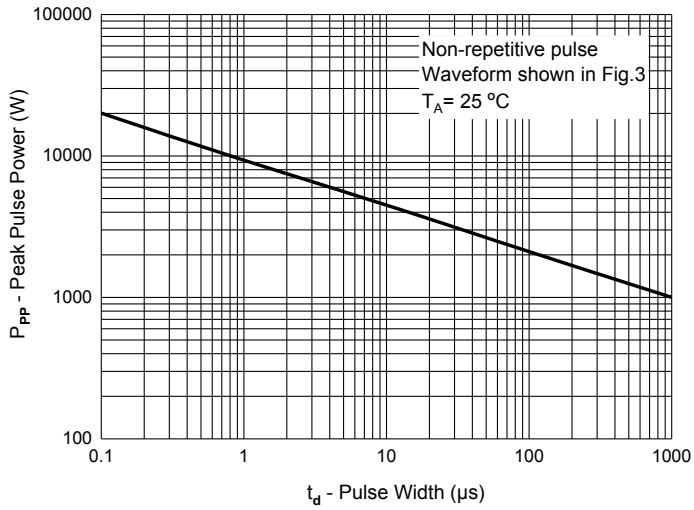


Fig. 2 - Typical Junction Capacitance

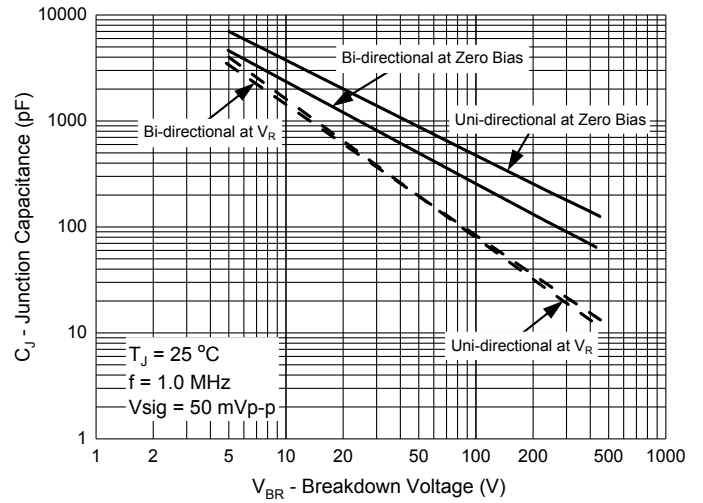


Fig. 3 - Pulse Waveform

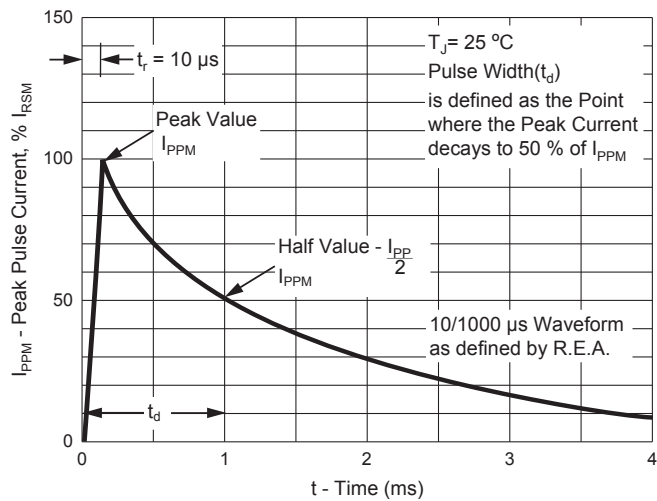
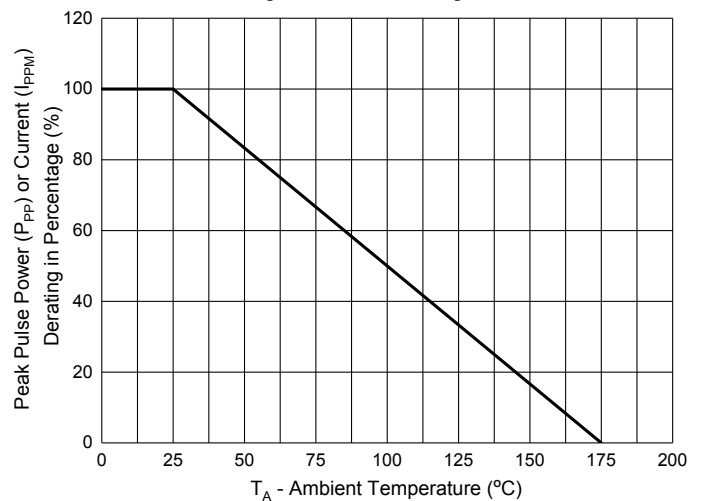


Fig. 4 - Pulse Derating Curve



Ordering Information

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

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