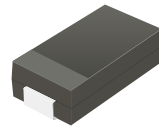


AUSMBJ10(C)A-HF Thru. AUSMBJ190(C)A-HF

Working Peak Reverse Voltage: 10 to 190 Volts

Power Dissipation: 600Watts

RoHS Device
Halogen Free

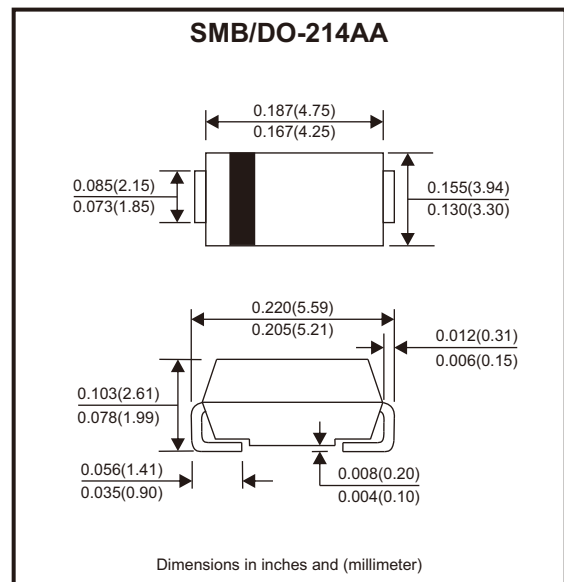


Features

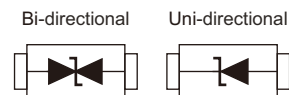
- Low profile package.
- Ideal for automated placement.
- Available in Uni-directional and Bi-directional.
- 600W peak pulse power capability with a 10/1000 μ s waveform.
- Excellent clamping capability.
- Very fast response time.
- Low incremental surge resistance.
- Meets MSL level 1, per J-STD-020C, LF maximum peak of 260°C.
- AEC-Q101 Qualified.

Mechanical Data

- Case: DO-214AA/SMB, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102.
- Polarity: For Uni-directional types the band denotes end, no marking on Bi-directional types.



Circuit Diagram



Maximum Ratings and Electrical Characteristics (TA=25°C unless otherwise specified)

| Characteristics | Symbol | Value | Units |
|--|-----------------------------------|----------------|-------|
| Peak power dissipation, with a 10/1000 μ s waveform (Note 1, 2) (Fig.1) | P _{PPM} | 600 | W |
| Peak pulse current, with a 10/1000 μ s waveform (Note 1) | I _{PPM} | See Next Table | A |
| Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 2) | I _{FSM} | 100 | A |
| Maximum instantaneous forward voltage at 50A for unidirectional only (Note 3) | V _F | 3.5 | V |
| Typical thermal resistance, junction to lead | R _{θJL} | 20 | °C/W |
| Typical thermal resistance, junction to ambient | R _{θJA} | 100 | °C/W |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | °C |

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above Ta = 25°C per Fig.2.

2. Mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pads to each terminal.

3. V_F < 3.5V for devices of V_{BR} < 190V.

SMD Transient Voltage Suppressor

Electrical Characteristics (TA=25°C unless otherwise specified)

| Part No. | Breakdown Voltage V _{BR} @ I _T | | | Maximum Reverse Leakage @V _{RWM} I _R (μA) | Working Peak Reverse Voltage V _{RWM} (V) | Maximum Reverse Surge Current (Note 1) I _{PP} (A) | Maximum Clamping Voltage @ I _{PP} V _C (V) | Device Marking Code | |
|------------------|---|----------|--|---|--|---|---|---------------------|-------|
| | Min. (V) | Max. (V) | I _T (mA) t _p ≤ 50ms | | | | | UNI | BI |
| AUSMBJ10(C)A-HF | 11.10 | 12.30 | 1 | 5.0 | 10.0 | 35.3 | 17.0 | 10A | 10CA |
| AUSMBJ11(C)A-HF | 12.20 | 13.50 | 1 | 5.0 | 11.0 | 33.0 | 18.2 | 11A | 11CA |
| AUSMBJ12(C)A-HF | 13.30 | 14.70 | 1 | 5.0 | 12.0 | 30.2 | 19.9 | 12A | 12CA |
| AUSMBJ13(C)A-HF | 14.40 | 15.90 | 1 | 1.0 | 13.0 | 27.9 | 21.5 | 13A | 13CA |
| AUSMBJ14(C)A-HF | 15.60 | 17.20 | 1 | 1.0 | 14.0 | 25.9 | 23.2 | 14A | 14CA |
| AUSMBJ15(C)A-HF | 16.70 | 18.50 | 1 | 1.0 | 15.0 | 24.6 | 24.4 | 15A | 15CA |
| AUSMBJ16(C)A-HF | 17.80 | 19.70 | 1 | 1.0 | 16.0 | 23.1 | 26.0 | 16A | 16CA |
| AUSMBJ17(C)A-HF | 18.90 | 20.90 | 1 | 1.0 | 17.0 | 21.7 | 27.6 | 17A | 17CA |
| AUSMBJ18(C)A-HF | 20.00 | 22.10 | 1 | 1.0 | 18.0 | 20.6 | 29.2 | 18A | 18CA |
| AUSMBJ19(C)A-HF | 21.10 | 23.30 | 1 | 1.0 | 19.0 | 19.5 | 30.8 | 19A | 19CA |
| AUSMBJ20(C)A-HF | 22.20 | 24.50 | 1 | 1.0 | 20.0 | 18.5 | 32.4 | 20A | 20CA |
| AUSMBJ22(C)A-HF | 24.40 | 26.90 | 1 | 1.0 | 22.0 | 16.9 | 35.5 | 22A | 22CA |
| AUSMBJ24(C)A-HF | 26.70 | 29.50 | 1 | 1.0 | 24.0 | 15.4 | 38.9 | 24A | 24CA |
| AUSMBJ26(C)A-HF | 28.90 | 31.90 | 1 | 1.0 | 26.0 | 14.3 | 42.1 | 26A | 26CA |
| AUSMBJ28(C)A-HF | 31.10 | 34.40 | 1 | 1.0 | 28.0 | 13.2 | 45.4 | 28A | 28CA |
| AUSMBJ30(C)A-HF | 33.30 | 36.80 | 1 | 1.0 | 30.0 | 12.4 | 48.4 | 30A | 30CA |
| AUSMBJ33(C)A-HF | 36.70 | 40.60 | 1 | 1.0 | 33.0 | 11.3 | 53.3 | 33A | 33CA |
| AUSMBJ36(C)A-HF | 40.00 | 44.20 | 1 | 1.0 | 36.0 | 10.3 | 58.1 | 36A | 36CA |
| AUSMBJ40(C)A-HF | 44.40 | 49.10 | 1 | 1.0 | 40.0 | 9.3 | 64.5 | 40A | 40CA |
| AUSMBJ43(C)A-HF | 47.80 | 52.80 | 1 | 1.0 | 43.0 | 8.7 | 69.4 | 43A | 43CA |
| AUSMBJ45(C)A-HF | 50.00 | 55.30 | 1 | 1.0 | 45.0 | 8.3 | 72.7 | 45A | 45CA |
| AUSMBJ48(C)A-HF | 53.30 | 58.90 | 1 | 1.0 | 48.0 | 7.8 | 77.4 | 48A | 48CA |
| AUSMBJ51(C)A-HF | 56.70 | 62.70 | 1 | 1.0 | 51.0 | 7.3 | 82.4 | 51A | 51CA |
| AUSMBJ54(C)A-HF | 60.00 | 66.30 | 1 | 1.0 | 54.0 | 6.9 | 87.1 | 54A | 54CA |
| AUSMBJ58(C)A-HF | 64.40 | 71.20 | 1 | 1.0 | 58.0 | 6.4 | 93.6 | 58A | 58CA |
| AUSMBJ60(C)A-HF | 66.70 | 73.70 | 1 | 1.0 | 60.0 | 6.2 | 96.8 | 60A | 60CA |
| AUSMBJ64(C)A-HF | 71.10 | 78.60 | 1 | 1.0 | 64.0 | 5.8 | 103.0 | 64A | 64CA |
| AUSMBJ70(C)A-HF | 77.80 | 86.00 | 1 | 1.0 | 70.0 | 5.3 | 113.0 | 70A | 70CA |
| AUSMBJ75(C)A-HF | 83.30 | 92.10 | 1 | 1.0 | 75.0 | 5.0 | 121.0 | 75A | 75CA |
| AUSMBJ78(C)A-HF | 86.70 | 95.80 | 1 | 1.0 | 78.0 | 4.8 | 126.0 | 78A | 78CA |
| AUSMBJ80(C)A-HF | 88.80 | 97.60 | 1 | 1.0 | 80.0 | 4.6 | 129.6 | 80A | 80CA |
| AUSMBJ85(C)A-HF | 94.40 | 104.00 | 1 | 1.0 | 85.0 | 4.4 | 137.0 | 85A | 85CA |
| AUSMBJ90(C)A-HF | 100.00 | 111.00 | 1 | 1.0 | 90.0 | 4.1 | 146.0 | 90A | 90CA |
| AUSMBJ100(C)A-HF | 111.00 | 123.00 | 1 | 1.0 | 100.0 | 3.7 | 162.0 | 100A | 100CA |
| AUSMBJ110(C)A-HF | 122.00 | 135.00 | 1 | 1.0 | 110.0 | 3.4 | 177.0 | 110A | 110CA |
| AUSMBJ120(C)A-HF | 133.00 | 147.00 | 1 | 1.0 | 120.0 | 3.1 | 193.0 | 120A | 120CA |
| AUSMBJ130(C)A-HF | 144.0 | 159.0 | 1 | 1.0 | 130.0 | 2.9 | 209.0 | 130A | 130CA |
| AUSMBJ140(C)A-HF | 155.0 | 171.0 | 1 | 1.0 | 140.0 | 2.7 | 226.8 | 140A | 140CA |
| AUSMBJ150(C)A-HF | 167.0 | 185.0 | 1 | 1.0 | 150.0 | 2.5 | 243.0 | 150A | 150CA |
| AUSMBJ160(C)A-HF | 178.0 | 197.0 | 1 | 1.0 | 160.0 | 2.3 | 259.0 | 160A | 160CA |
| AUSMBJ170(C)A-HF | 189.0 | 209.0 | 1 | 1.0 | 170.0 | 2.2 | 275.0 | 170A | 170CA |
| AUSMBJ180(C)A-HF | 200.0 | 220.0 | 1 | 1.0 | 180.0 | 2.1 | 291.6 | 180A | 180CA |
| AUSMBJ190(C)A-HF | 211.0 | 232.0 | 1 | 1.0 | 190.0 | 2.0 | 307.8 | 190A | 190CA |

Notes: 1. Surge current waveform per Fig.3 and derated per Fig.2.
2. For Bi-directional devices, use suffix CA.

Ratings and Characteristics Curve (AUSMBJ-HF Series)

Fig.1 - Peak Pulse Power Rating Curve

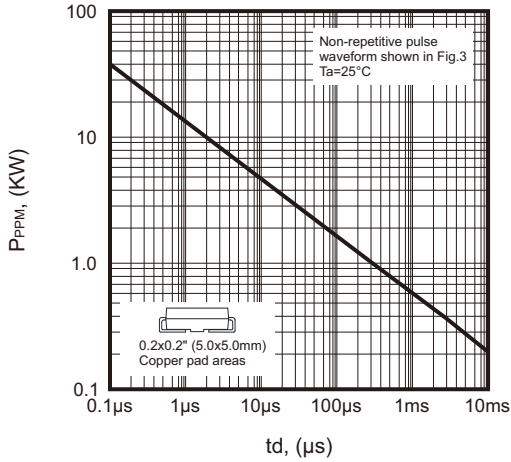


Fig.2 - Pulse Power or Current vs. Initial Junction Temperature

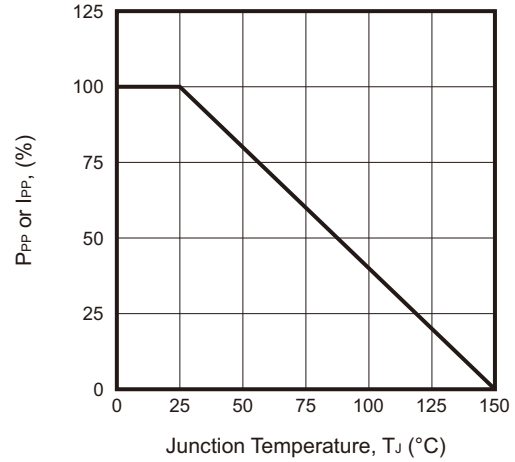


Fig.3 - Pulse Waveform

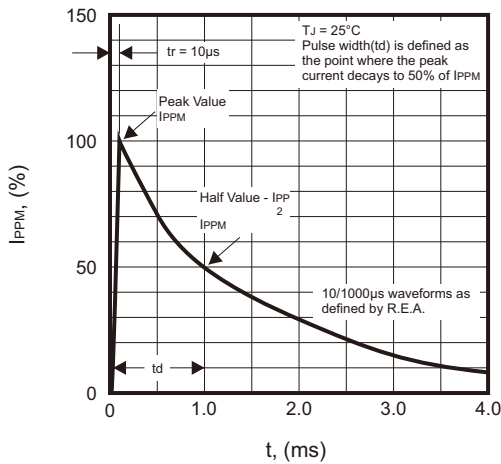


Fig.4 - Typical Transient Thermal Impedance

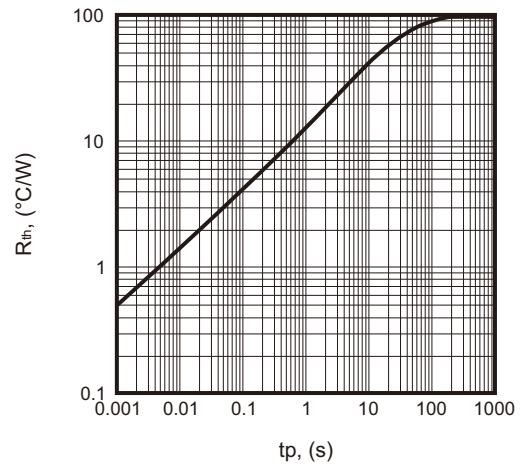
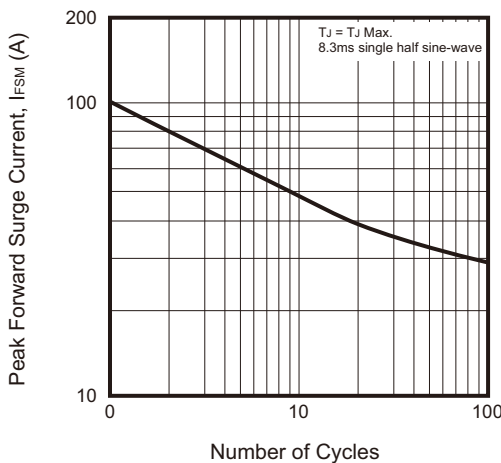
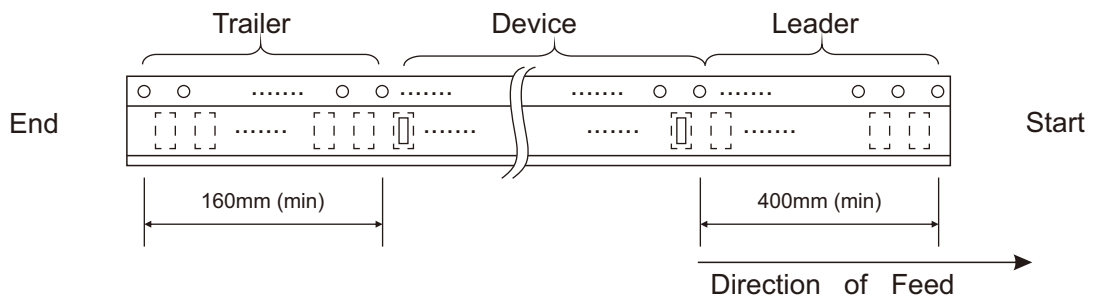
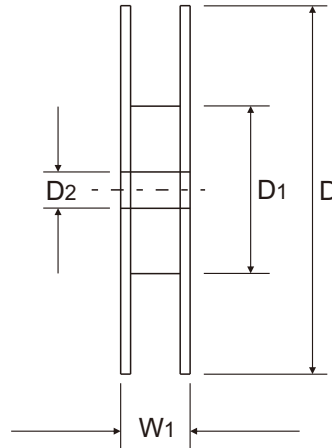
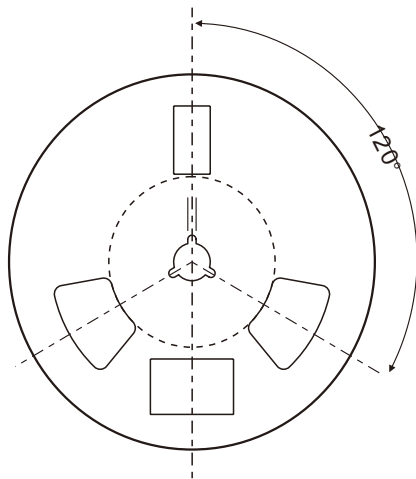
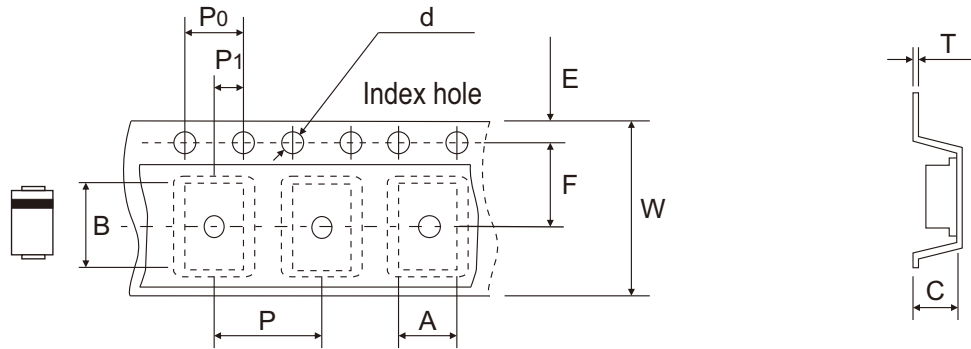


Fig.5 - Maximum Non-Repetitive Surge Current



Reel Taping Specification



| DO-214AA (SMB) | SYMBOL | A | B | C | d | D | D1 | D2 | |
|-------------------|--------|------------|---|---|---|---------------|------------|------------|---------------|
| | (mm) | See Note 1 | | | | 1.50 ± 0.05 | 330.00 Max | 100.00 Min | 14.00 ± 0.50 |
| | (inch) | See Note 1 | | | | 0.059 ± 0.002 | 12.992 Max | 3.937 Min | 0.551 ± 0.020 |

| DO-214AA (SMB) | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.23 ± 0.10 | 12.00 ± 0.30 | 18.00 Max |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.004 | 0.472 ± 0.012 | 0.709 Max |

Note: 1. A, B, and C the clearance between the component and the cavity must be within 0.5mm max. for 8mm tape and 12mm tape, 1.0mm max. for 16mm tape and 24mm tape.

Company reserves the right to improve product design, functions and reliability without notice. REV:A