

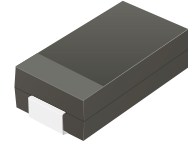
ASMBJ5.0(C)A-HF Thru. ASMBJ440(C)A-HF

Working Peak Reverse Voltage: 5.0 to 440 Volts

Power Dissipation: 600 Watts

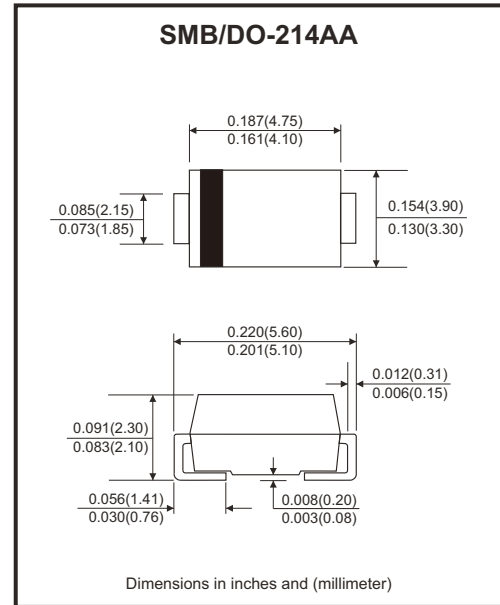
RoHS Device

Halogen Free



Features

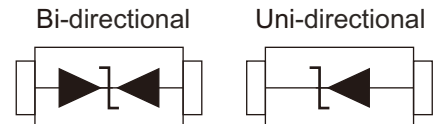
- 600W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01%
- For surface mounted applications to optimize board space
- Low incremental surge impedance
- Excellent clamping capability
- Very fast response time
- Uni and Bidirectional unit
- Plastic package has underwriters laboratory flammability 94V-0
- Meet Halogen free and RoHS compliant
- Comply with AEC-Q101



Mechanical data

- Case: SMB/DO-214AA, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes positive end (cathode) except bi-directional models.

Circuit Diagram



Maximum Ratings and Electrical Characteristics

Rating 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 | Symbol | Value | Units |
|---|-----------------------------------|----------------|-------|
| Peak power dissipation on a 10/1000 μ s waveform (Note 1) | P _{PP} | 600 | W |
| Peak pulse current on a 10/1000 μ s waveform (Note 1) | I _{PP} | See Next Table | A |
| Steady state power dissipation at T _L =50°C | P _D | 5.0 | W |
| Peak forward surge current, 8.3ms single half sine-wave uni-directional only (Note 2) | I _{FSM} | 100 | A |
| Maximum instantaneous forward voltage at 50A for uni-directional only | V _F | 3.5/5.0 | V |
| Operation junction and storage temperature range | T _J , T _{STG} | -55 to +150 | °C |

- Notes: 1. Non-repetitive current pulse, and derated above T_A=25°C
2. Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal
3. V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

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SMD Transient Voltage Suppressor

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

| Part No. | Breakdown voltage VBR @ IT | | | Maximum Reverse Leakage @VRWM IR (µA) | Working Peak Reverse Voltage VRWM (V) | Maximum Reverse Surge Current IPP (A) | Maximum Clamping Voltage @IPP Vc (V) | Marking Code | |
|-----------------|-------------------------------|----------|---------|---|--|--|--|--------------|----|
| | Min. (V) | Max. (V) | IT (mA) | | | | | UNI | BI |
| ASMBJ5.0(C)A-HF | 6.40 | 7.25 | 10 | 800 | 5.0 | 65.2 | 9.2 | KE | AE |
| ASMBJ6.0(C)A-HF | 6.67 | 7.37 | 10 | 800 | 6.0 | 58.3 | 10.3 | KG | AG |
| ASMBJ6.5(C)A-HF | 7.22 | 7.98 | 10 | 500 | 6.5 | 53.6 | 11.2 | KK | AK |
| ASMBJ7.0(C)A-HF | 7.78 | 8.60 | 10 | 200 | 7.0 | 50.0 | 12.0 | KM | AM |
| ASMBJ7.5(C)A-HF | 8.33 | 9.21 | 1 | 100 | 7.5 | 46.5 | 12.9 | KP | AP |
| ASMBJ8.0(C)A-HF | 8.89 | 9.83 | 1 | 50 | 8.0 | 44.1 | 13.6 | KR | AR |
| ASMBJ8.5(C)A-HF | 9.44 | 10.40 | 1 | 10 | 8.5 | 41.7 | 14.4 | KT | AT |
| ASMBJ9.0(C)A-HF | 10.00 | 11.10 | 1 | 5 | 9.0 | 39.0 | 15.4 | KV | AV |
| ASMBJ10(C)A-HF | 11.10 | 12.30 | 1 | 5 | 10.0 | 35.3 | 17.0 | KX | AX |
| ASMBJ11(C)A-HF | 12.20 | 13.50 | 1 | 5 | 11.0 | 33.0 | 18.2 | KZ | AZ |
| ASMBJ12(C)A-HF | 13.30 | 14.70 | 1 | 5 | 12.0 | 30.2 | 19.9 | LE | BE |
| ASMBJ13(C)A-HF | 14.40 | 15.90 | 1 | 5 | 13.0 | 27.9 | 21.5 | LG | BG |
| ASMBJ14(C)A-HF | 15.60 | 17.20 | 1 | 5 | 14.0 | 25.9 | 23.2 | LK | BK |
| ASMBJ15(C)A-HF | 16.70 | 18.50 | 1 | 5 | 15.0 | 24.6 | 24.4 | LM | BM |
| ASMBJ16(C)A-HF | 17.80 | 19.70 | 1 | 5 | 16.0 | 23.1 | 26.0 | LP | BP |
| ASMBJ17(C)A-HF | 18.90 | 20.90 | 1 | 5 | 17.0 | 21.7 | 27.6 | LR | BR |
| ASMBJ18(C)A-HF | 20.00 | 22.10 | 1 | 5 | 18.0 | 20.5 | 29.2 | LT | BT |
| ASMBJ20(C)A-HF | 22.20 | 24.50 | 1 | 5 | 20.0 | 18.5 | 32.4 | LV | BV |
| ASMBJ22(C)A-HF | 24.40 | 26.90 | 1 | 5 | 22.0 | 16.9 | 35.5 | LX | BX |
| ASMBJ24(C)A-HF | 26.70 | 29.50 | 1 | 5 | 24.0 | 15.4 | 38.9 | LZ | BZ |
| ASMBJ26(C)A-HF | 28.90 | 31.90 | 1 | 5 | 26.0 | 14.3 | 42.1 | ME | CE |
| ASMBJ28(C)A-HF | 31.10 | 34.40 | 1 | 5 | 28.0 | 13.2 | 45.4 | MG | CG |
| ASMBJ30(C)A-HF | 33.30 | 36.80 | 1 | 5 | 30.0 | 12.4 | 48.4 | MK | CK |
| ASMBJ33(C)A-HF | 36.70 | 40.60 | 1 | 5 | 33.0 | 11.3 | 53.3 | MM | CM |
| ASMBJ36(C)A-HF | 40.00 | 44.20 | 1 | 5 | 36.0 | 10.3 | 58.1 | MP | CP |
| ASMBJ40(C)A-HF | 44.40 | 49.10 | 1 | 5 | 40.0 | 9.3 | 64.5 | MR | CR |
| ASMBJ43(C)A-HF | 47.80 | 52.80 | 1 | 5 | 43.0 | 8.6 | 69.4 | MT | CT |
| ASMBJ45(C)A-HF | 50.00 | 55.30 | 1 | 5 | 45.0 | 8.3 | 72.7 | MV | CV |
| ASMBJ48(C)A-HF | 53.30 | 58.90 | 1 | 5 | 48.0 | 7.8 | 77.4 | MX | CX |
| ASMBJ51(C)A-HF | 56.70 | 62.70 | 1 | 5 | 51.0 | 7.3 | 82.4 | MZ | CZ |
| ASMBJ54(C)A-HF | 60.00 | 66.30 | 1 | 5 | 54.0 | 6.9 | 87.1 | NE | DE |
| ASMBJ58(C)A-HF | 64.40 | 71.20 | 1 | 5 | 58.0 | 6.4 | 93.6 | NG | DG |
| ASMBJ60(C)A-HF | 66.70 | 73.70 | 1 | 5 | 60.0 | 6.2 | 96.8 | NK | DK |
| ASMBJ64(C)A-HF | 71.10 | 78.60 | 1 | 5 | 64.0 | 5.8 | 103.0 | NM | DM |
| ASMBJ70(C)A-HF | 77.80 | 86.00 | 1 | 5 | 70.0 | 5.3 | 113.0 | NP | DP |
| ASMBJ75(C)A-HF | 83.30 | 92.10 | 1 | 5 | 75.0 | 5.0 | 121.0 | NR | DR |
| ASMBJ78(C)A-HF | 86.70 | 95.80 | 1 | 5 | 78.0 | 4.8 | 126.0 | NT | DT |
| ASMBJ85(C)A-HF | 94.40 | 104.00 | 1 | 5 | 85.0 | 4.4 | 137.0 | NV | DV |
| ASMBJ90(C)A-HF | 100.00 | 111.00 | 1 | 5 | 90.0 | 4.1 | 146.0 | NX | DX |
| ASMBJ100(C)A-HF | 111.00 | 123.00 | 1 | 5 | 100.0 | 3.7 | 162.0 | NZ | DZ |

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SMD Transient Voltage Suppressor

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

| Part No. | Breakdown voltage VBR @ IT | | | Maximum Reverse Leakage @VRWM IR (µA) | Working Peak Reverse Voltage VRWM (V) | Maximum Reverse Surge Current IPP (A) | Maximum Clamping Voltage @IPP Vc (V) | Marking Code | |
|-----------------|-------------------------------|-------------|------------|---|---|---|--|-----------------|----|
| | Min. (V) | Max. (V) | IT (mA) | | | | | UNI | BI |
| ASMBJ110(C)A-HF | 122.0 | 135.0 | 1 | 5 | 110.0 | 3.4 | 177.0 | PE | EE |
| ASMBJ120(C)A-HF | 133.0 | 147.0 | 1 | 5 | 120.0 | 3.1 | 193.0 | PG | EG |
| ASMBJ130(C)A-HF | 144.0 | 159.0 | 1 | 5 | 130.0 | 2.9 | 209.0 | PK | EK |
| ASMBJ150(C)A-HF | 167.0 | 185.0 | 1 | 5 | 150.0 | 2.5 | 243.0 | PM | EM |
| ASMBJ160(C)A-HF | 178.0 | 197.0 | 1 | 5 | 160.0 | 2.3 | 259.0 | PP | EP |
| ASMBJ170(C)A-HF | 189.0 | 209.0 | 1 | 5 | 170.0 | 2.2 | 275.0 | PR | ER |
| ASMBJ180(C)A-HF | 200.0 | 220.0 | 1 | 5 | 180.0 | 2.1 | 291.6 | PT | ET |
| ASMBJ190(C)A-HF | 211.0 | 232.0 | 1 | 5 | 190.0 | 1.9 | 307.8 | PA | EC |
| ASMBJ200(C)A-HF | 224.0 | 247.0 | 1 | 5 | 200.0 | 1.8 | 324.0 | PV | EV |
| ASMBJ220(C)A-HF | 246.0 | 272.0 | 1 | 5 | 220.0 | 1.7 | 356.0 | PX | EX |
| ASMBJ250(C)A-HF | 279.0 | 309.0 | 1 | 5 | 250.0 | 1.5 | 405.0 | PZ | EZ |
| ASMBJ300(C)A-HF | 335.0 | 371.0 | 1 | 5 | 300.0 | 1.2 | 486.0 | QE | FE |
| ASMBJ350(C)A-HF | 391.0 | 432.0 | 1 | 5 | 350.0 | 1.0 | 567.0 | QG | FG |
| ASMBJ400(C)A-HF | 447.0 | 494.0 | 1 | 5 | 400.0 | 0.9 | 648.0 | QK | FK |
| ASMBJ440(C)A-HF | 492.0 | 543.0 | 1 | 5 | 440.0 | 0.8 | 713.0 | QM | FM |

Notes: 1. For Bi-directional type having VRWM of 10V and less, the IR Limit is double.
2. For Bi-directional devices, use suffix CA.

Rating and Characteristic Curves (ASMBJ5.0(C)A-HF Thru. ASMBJ440(C)A-HF)

Fig.1 - Pulse Derating Curve

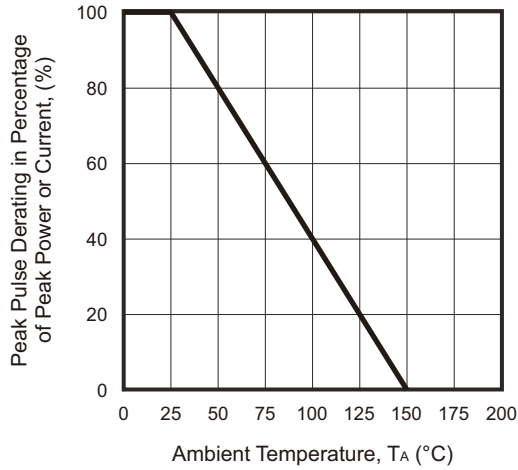


Fig.2 - Maximum Non-Repetitive Surge Current

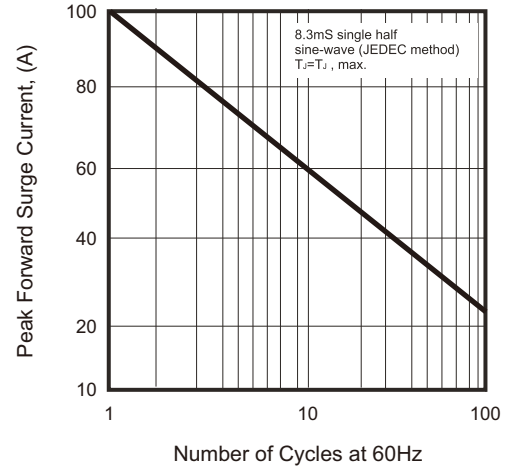


Fig.3 - Steady State Power Derating Curve

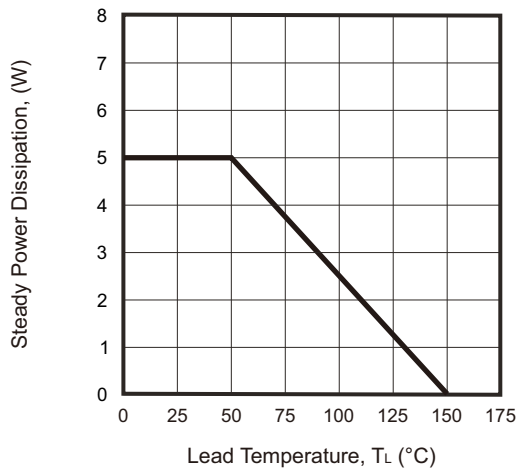


Fig.4 - Peak Pulse Power Rating Curve

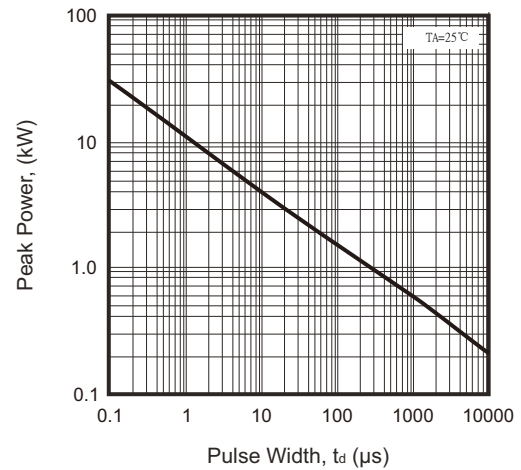
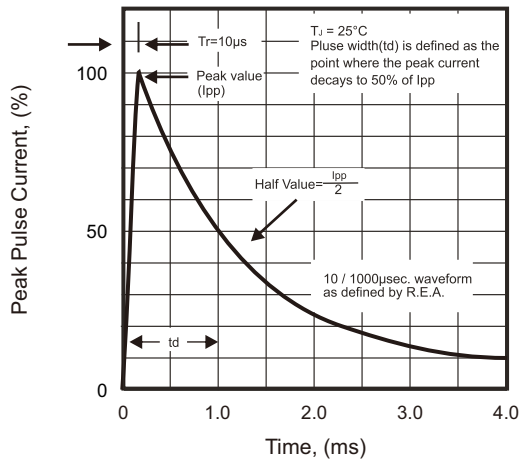
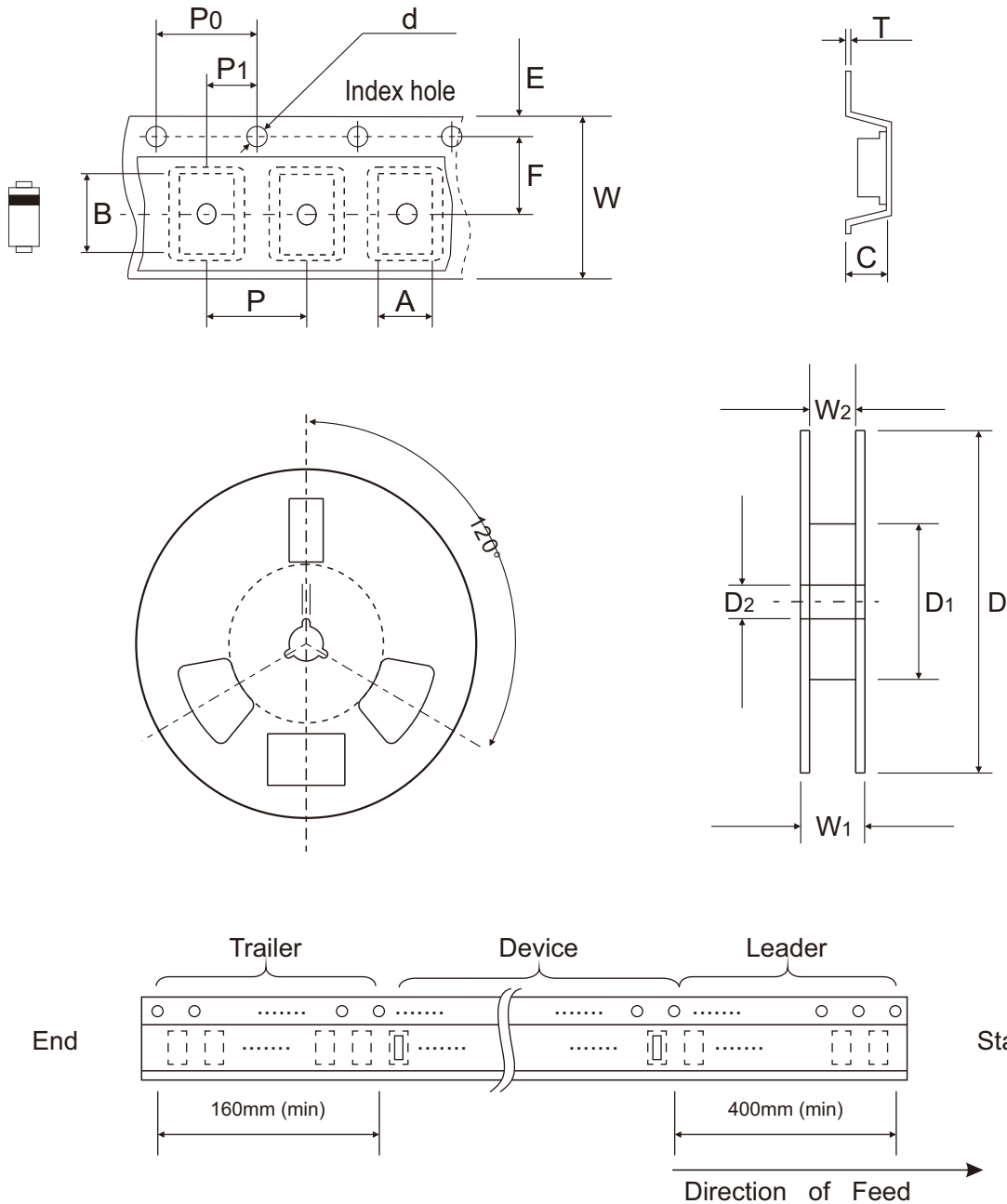


Fig.5 - Pulse Waveform



Reel Taping Specification



| DO-214AA (SMB) | SYMBOL | A | B | C | d | D | D1 | D2 |
|-------------------|--------|-------------------|-------------------|-------------|-------------------|--------|-------------|-------------------|
| | (mm) | 3.67 ± 0.10 | 5.69 ± 0.10 | 4.50 (max) | 1.55 ± 0.10 | 330.00 | 50.00 (min) | 13.00 ± 0.20 |
| | (inch) | 0.144 ± 0.004 | 0.224 ± 0.004 | 0.177 (max) | 0.061 ± 0.004 | 13.000 | 1.969 (min) | 0.512 ± 0.008 |

| DO-214AA (SMB) | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 12.00 ± 0.30 | 18.40 (max) |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.472 ± 0.012 | 0.724 (max) |

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