

VOLTAGE RANGE: 6.8 - 440V
POWER: 600Watts

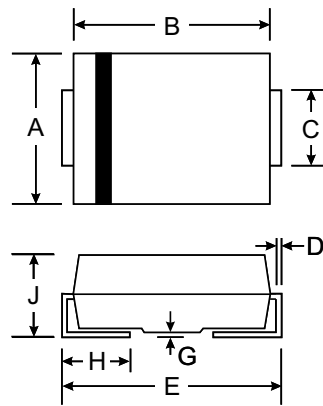
Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0



Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



| SMB(DO-214AA) | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 3.30 | 3.94 |
| B | 4.06 | 4.70 |
| C | 1.91 | 2.21 |
| D | 0.15 | 0.31 |
| E | 5.00 | 5.59 |
| G | 0.10 | 0.20 |
| H | 0.76 | 1.52 |
| J | 2.00 | 2.62 |
| All Dimensions in mm | | |

Maximum Ratings @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|--------|
| Peak Pulse Power Dissipation (Non repetitive current pulse derated above T _A = 25°C) (Note 1) | P _{PK} | 600 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3) | I _{FSM} | 100 | A |
| Instantaneous Forward Voltage @ I _{PP} = 35A (Notes 1, 2, & 3) | V _F | 3.5 5.0 | V V |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |

Notes:

1. Valid provided that terminals are kept at ambient temperature.
2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
3. Unidirectional units only.



| TYPE | | 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) | V _{RMW} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (uA) |
| P6SMBJ6.8 | P6SMBJ6.8C | 5.50 | 6.12 | 7.48 | 10.0 | 10.8 | 55.6 | 1000.0 |
| P6SMBJ6.8A | P6SMBJ6.8CA | 5.80 | 6.45 | 7.14 | 10.0 | 10.5 | 57.1 | 1000.0 |
| P6SMBJ7.5 | P6SMBJ7.5C | 6.05 | 6.75 | 8.25 | 10.0 | 11.7 | 51.3 | 500.0 |
| P6SMBJ7.5A | P6SMBJ7.5CA | 6.40 | 7.13 | 7.88 | 10.0 | 11.3 | 53.1 | 500.0 |
| P6SMBJ8.2 | P6SMBJ8.2C | 6.63 | 7.38 | 9.02 | 10.0 | 12.5 | 48.0 | 200.0 |
| P6SMBJ8.2A | P6SMBJ8.2CA | 7.02 | 7.79 | 8.61 | 10.0 | 12.1 | 49.6 | 200.0 |
| P6SMBJ9.1 | P6SMBJ9.1C | 7.37 | 8.19 | 10.0 | 1.0 | 13.8 | 43.5 | 50.0 |
| P6SMBJ9.1A | P6SMBJ9.1CA | 7.78 | 8.65 | 9.55 | 1.0 | 13.4 | 44.8 | 50.0 |
| P6SMBJ10 | P6SMBJ10C | 8.10 | 9.00 | 11.0 | 1.0 | 15.0 | 40.0 | 10.0 |
| P6SMBJ10A | P6SMBJ10CA | 8.55 | 9.50 | 10.5 | 1.0 | 14.5 | 41.4 | 10.0 |
| P6SMBJ11 | P6SMBJ11C | 8.92 | 9.90 | 12.1 | 1.0 | 16.2 | 37.0 | 5.0 |
| P6SMBJ11A | P6SMBJ11CA | 9.40 | 10.5 | 11.6 | 1.0 | 15.6 | 38.5 | 5.0 |
| P6SMBJ12 | P6SMBJ12C | 9.72 | 10.8 | 13.2 | 1.0 | 17.3 | 34.7 | 5.0 |
| P6SMBJ12A | P6SMBJ12CA | 10.2 | 11.4 | 12.6 | 1.0 | 16.7 | 35.9 | 5.0 |
| P6SMBJ13 | P6SMBJ13C | 10.5 | 11.7 | 14.3 | 1.0 | 19.0 | 31.6 | 5.0 |
| P6SMBJ13A | P6SMBJ13CA | 11.1 | 12.4 | 13.7 | 1.0 | 18.2 | 33.0 | 5.0 |
| P6SMBJ15 | P6SMBJ15C | 12.1 | 13.5 | 16.5 | 1.0 | 22.0 | 27.3 | 5.0 |
| P6SMBJ15A | P6SMBJ15CA | 12.8 | 14.3 | 15.8 | 1.0 | 21.2 | 28.3 | 5.0 |
| P6SMBJ16 | P6SMBJ16C | 12.9 | 14.4 | 17.6 | 1.0 | 23.5 | 25.5 | 5.0 |
| P6SMBJ16A | P6SMBJ16CA | 13.6 | 15.2 | 16.8 | 1.0 | 22.5 | 26.7 | 5.0 |
| P6SMBJ18 | P6SMBJ18C | 14.5 | 16.2 | 19.8 | 1.0 | 26.5 | 22.6 | 5.0 |
| P6SMBJ18A | P6SMBJ18CA | 15.3 | 17.1 | 18.9 | 1.0 | 25.2 | 23.8 | 5.0 |
| P6SMBJ20 | P6SMBJ20C | 16.2 | 18.0 | 22.0 | 1.0 | 29.1 | 20.6 | 5.0 |
| P6SMBJ20A | P6SMBJ20CA | 17.1 | 19.0 | 21.0 | 1.0 | 27.7 | 21.7 | 5.0 |
| P6SMBJ22 | P6SMBJ22C | 17.8 | 19.8 | 24.2 | 1.0 | 31.9 | 18.8 | 5.0 |
| P6SMBJ22A | P6SMBJ22CA | 18.8 | 20.9 | 23.1 | 1.0 | 30.6 | 19.6 | 5.0 |
| P6SMBJ24 | P6SMBJ24C | 19.4 | 21.6 | 26.4 | 1.0 | 34.7 | 17.3 | 5.0 |
| P6SMBJ24A | P6SMBJ24CA | 20.5 | 22.8 | 25.2 | 1.0 | 33.2 | 18.1 | 5.0 |
| P6SMBJ27 | P6SMBJ27C | 21.8 | 24.3 | 29.7 | 1.0 | 39.1 | 15.3 | 5.0 |
| P6SMBJ27A | P6SMBJ27CA | 23.1 | 25.7 | 28.4 | 1.0 | 37.5 | 16.0 | 5.0 |
| P6SMBJ30 | P6SMBJ30C | 24.3 | 27.0 | 33.0 | 1.0 | 43.5 | 13.8 | 5.0 |
| P6SMBJ30A | P6SMBJ30CA | 25.6 | 28.5 | 31.5 | 1.0 | 41.4 | 14.5 | 5.0 |
| P6SMBJ33 | P6SMBJ33C | 26.8 | 29.7 | 36.3 | 1.0 | 47.7 | 12.6 | 5.0 |
| P6SMBJ33A | P6SMBJ33CA | 28.2 | 31.4 | 34.7 | 1.0 | 45.7 | 13.1 | 5.0 |
| P6SMBJ36 | P6SMBJ36C | 29.1 | 32.4 | 39.6 | 1.0 | 52.0 | 11.5 | 5.0 |
| P6SMBJ36A | P6SMBJ36CA | 30.8 | 34.2 | 37.8 | 1.0 | 49.9 | 12.0 | 5.0 |
| P6SMBJ39 | P6SMBJ39C | 31.6 | 35.1 | 42.9 | 1.0 | 56.4 | 10.6 | 5.0 |
| P6SMBJ39A | P6SMBJ39CA | 33.3 | 37.1 | 41.0 | 1.0 | 53.9 | 11.1 | 5.0 |
| P6SMBJ43 | P6SMBJ43C | 34.8 | 38.7 | 47.3 | 1.0 | 61.9 | 9.7 | 5.0 |
| P6SMBJ43A | P6SMBJ43CA | 36.8 | 40.9 | 45.2 | 1.0 | 59.3 | 10.1 | 5.0 |
| P6SMBJ47 | P6SMBJ47C | 38.1 | 42.3 | 51.7 | 1.0 | 67.8 | 8.8 | 5.0 |
| P6SMBJ47A | P6SMBJ47CA | 40.2 | 44.7 | 49.4 | 1.0 | 64.8 | 9.3 | 5.0 |
| P6SMBJ51 | P6SMBJ51C | 41.3 | 45.9 | 56.1 | 1.0 | 73.5 | 8.2 | 5.0 |
| P6SMBJ51A | P6SMBJ51CA | 43.6 | 48.5 | 53.6 | 1.0 | 70.1 | 8.6 | 5.0 |
| P6SMBJ56 | P6SMBJ56C | 45.4 | 50.4 | 61.6 | 1.0 | 80.5 | 7.5 | 5.0 |
| P6SMBJ56A | P6SMBJ56CA | 47.8 | 53.2 | 58.8 | 1.0 | 77.0 | 7.8 | 5.0 |
| P6SMBJ62 | P6SMBJ62C | 50.2 | 55.8 | 68.2 | 1.0 | 89.0 | 6.7 | 5.0 |
| P6SMBJ62A | P6SMBJ62CA | 53.0 | 58.9 | 65.1 | 1.0 | 85.0 | 7.1 | 5.0 |
| P6SMBJ68 | P6SMBJ68C | 55.1 | 61.2 | 74.8 | 1.0 | 98.0 | 6.1 | 5.0 |
| P6SMBJ68A | P6SMBJ68CA | 58.1 | 64.6 | 71.4 | 1.0 | 92.0 | 6.5 | 5.0 |
| P6SMBJ75 | P6SMBJ75C | 60.7 | 67.5 | 82.5 | 1.0 | 108 | 5.6 | 5.0 |
| P6SMBJ75A | P6SMBJ75CA | 64.1 | 71.3 | 78.8 | 1.0 | 103 | 5.8 | 5.0 |

| TYPE | | 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) | V _{RMW} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (μ A) |
| P6SMBJ82 | P6SMBJ82C | 66.4 | 73.8 | 90.2 | 1.0 | 118 | 5.1 | 5.0 |
| P6SMBJ82A | P6SMBJ82CA | 70.1 | 77.9 | 86.1 | 1.0 | 113 | 5.3 | 5.0 |
| P6SMBJ91 | P6SMBJ91C | 73.7 | 81.9 | 100 | 1.0 | 131 | 4.6 | 5.0 |
| P6SMBJ91A | P6SMBJ91CA | 77.8 | 86.5 | 95.5 | 1.0 | 125 | 4.8 | 5.0 |
| P6SMBJ100 | P6SMBJ100C | 81.0 | 90.0 | 110 | 1.0 | 144 | 4.2 | 5.0 |
| P6SMBJ100A | P6SMBJ100CA | 85.5 | 95.0 | 105 | 1.0 | 137 | 4.4 | 5.0 |
| P6SMBJ110 | P6SMBJ110C | 89.2 | 99.0 | 121 | 1.0 | 158 | 3.8 | 5.0 |
| P6SMBJ110A | P6SMBJ110CA | 94.0 | 105 | 116 | 1.0 | 152 | 3.9 | 5.0 |
| P6SMBJ120 | P6SMBJ120C | 97.2 | 108 | 132 | 1.0 | 173 | 3.5 | 5.0 |
| P6SMBJ120A | P6SMBJ120CA | 102 | 114 | 126 | 1.0 | 165 | 3.6 | 5.0 |
| P6SMBJ130 | P6SMBJ130C | 105 | 117 | 143 | 1.0 | 187 | 3.2 | 5.0 |
| P6SMBJ130A | P6SMBJ130CA | 111 | 124 | 137 | 1.0 | 179 | 3.4 | 5.0 |
| P6SMBJ150 | P6SMBJ150C | 121 | 135 | 165 | 1.0 | 215 | 2.8 | 5.0 |
| P6SMBJ150A | P6SMBJ150CA | 128 | 143 | 158 | 1.0 | 207 | 2.9 | 5.0 |
| P6SMBJ160 | P6SMBJ160C | 130 | 144 | 176 | 1.0 | 230 | 2.6 | 5.0 |
| P6SMBJ160A | P6SMBJ160CA | 136 | 152 | 168 | 1.0 | 219 | 2.7 | 5.0 |
| P6SMBJ170 | P6SMBJ170C | 138 | 153 | 187 | 1.0 | 244 | 2.5 | 5.0 |
| P6SMBJ170A | P6SMBJ170CA | 145 | 162 | 179 | 1.0 | 234 | 2.6 | 5.0 |
| P6SMBJ180 | P6SMBJ180C | 146 | 162 | 198 | 1.0 | 258 | 2.3 | 5.0 |
| P6SMBJ180A | P6SMBJ180CA | 154 | 171 | 189 | 1.0 | 246 | 2.4 | 5.0 |
| P6SMBJ200 | P6SMBJ200C | 162 | 180 | 220 | 1.0 | 287 | 2.1 | 5.0 |
| P6SMBJ200A | P6SMBJ200CA | 171 | 190 | 210 | 1.0 | 274 | 2.2 | 5.0 |
| P6SMBJ220 | P6SMBJ220C | 175 | 198 | 242 | 1.0 | 344 | 1.7 | 5.0 |
| P6SMBJ220A | P6SMBJ220CA | 185 | 209 | 231 | 1.0 | 328 | 1.8 | 5.0 |
| P6SMBJ250 | P6SMBJ250C | 202 | 225 | 275 | 1.0 | 360 | 1.7 | 5.0 |
| P6SMBJ250A | P6SMBJ250CA | 214 | 237 | 263 | 1.0 | 344 | 1.7 | 5.0 |
| P6SMBJ300 | P6SMBJ300C | 243 | 270 | 330 | 1.0 | 430 | 1.4 | 5.0 |
| P6SMBJ300A | P6SMBJ300CA | 256 | 285 | 315 | 1.0 | 414 | 1.4 | 5.0 |
| P6SMBJ350 | P6SMBJ350C | 284 | 315 | 385 | 1.0 | 504 | 1.2 | 5.0 |
| P6SMBJ350A | P6SMBJ350CA | 300 | 333 | 368 | 1.0 | 482 | 1.2 | 5.0 |
| P6SMBJ400 | P6SMBJ400C | 324 | 360 | 440 | 1.0 | 574 | 1.0 | 5.0 |
| P6SMBJ400A | P6SMBJ400CA | 342 | 380 | 420 | 1.0 | 548 | 1.1 | 5.0 |
| P6SMBJ440 | P6SMBJ440C | 356 | 396 | 484 | 1.0 | 631 | 0.95 | 5.0 |
| P6SMBJ440A | P6SMBJ440CA | 376 | 418 | 462 | 1.0 | 602 | 1.0 | 5.0 |

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

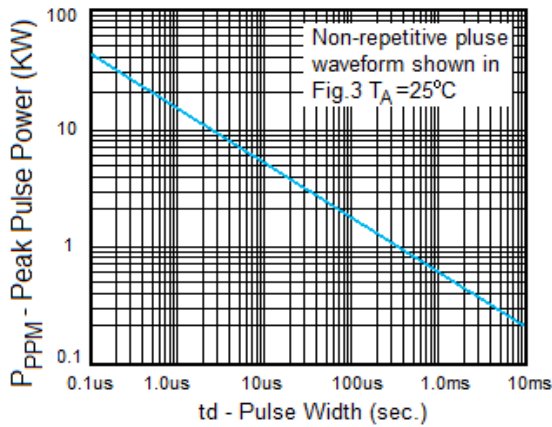


Fig. 1 Peak Pulse Power Rating

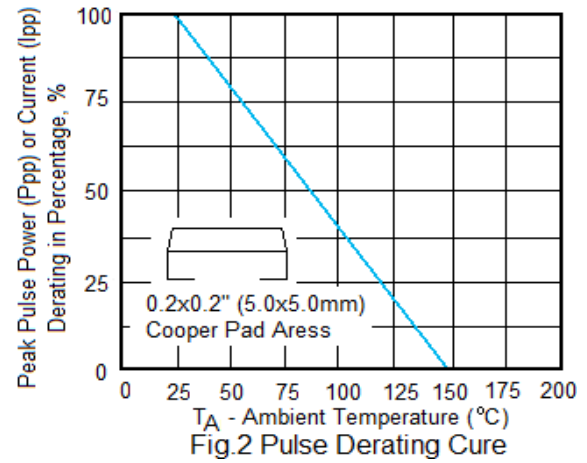


Fig.2 Pulse Derating Cure

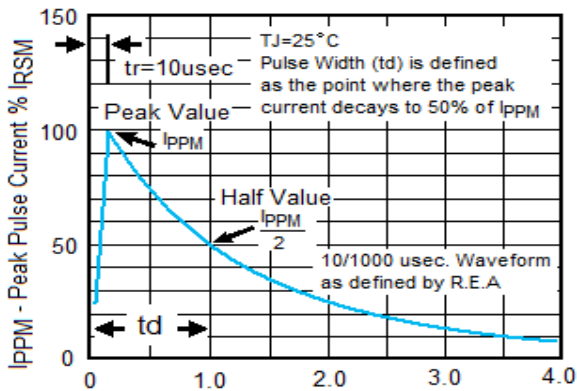


Fig.3 Pulse Waveform

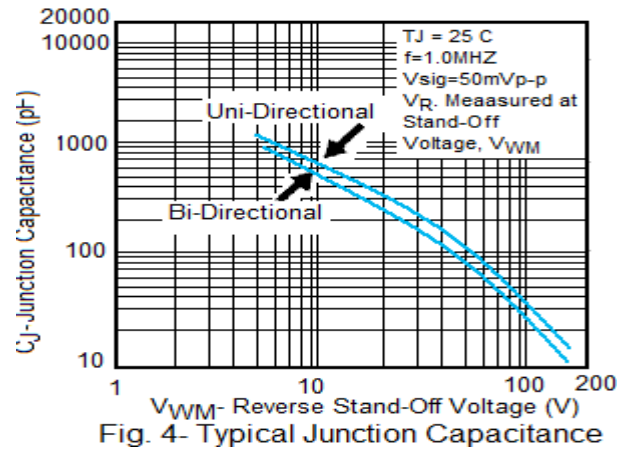


Fig. 4- Typical Junction Capacitance