



SMB TVS 瞬态电压抑制二极管

■ Features 特点

Excellent Clamping Capability 优秀的钳位能力

Fast Response Time 快速反应时间

Built-in Strain Relief 内应力释放

■ Applications 应用

Clamping Voltage 钳制电压

■ Internal Schematic Diagram 内部结构



■ Absolute Maximum Ratings 最大额定值

| Characteristic 特性参数 | Symbol 符号 | Rat 额定值 | Unit 单位 |
|---|-----------------|------------|---------------|
| Peak Power Dissipation 峰值功率 | P_{PK} | 600 | W |
| Reverse Stand-off Work Voltage 反向工作电压 | V_{RWM} | 5.0~440 | V |
| Peak Pulse Current 峰值脉冲电流 | I_{PP} | 65.2~0.9 | A |
| Peak Forward Surge Current 峰值正向浪涌电流(UNI) | I_{FSM} | 100 | A |
| Forward Voltage@ $I_F=35A$ 正向电压(UNI) | V_F | 3.5 | V |
| Thermal Resistance Junction-Ambient 结到环境热阻 | $R_{\theta JA}$ | 20 | $^{\circ}C/W$ |
| Junction/Storage Temperature 结温/储存温度 | T_J, T_{stg} | -55~150 | $^{\circ}C$ |

■ Electrical Characteristics 电特性

($T_A=25^{\circ}C$ unless otherwise noted 如无特殊说明, 温度为 $25^{\circ}C$)



安徽富信半导体科技有限公司

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| Type Number | V _{RWM} (V) | V _{BR} (V)@I _T | | I _T (mA) | V _C (V) @I _{PP} | I _{PP} (A) | I _R (μA) @V _{RWM} | Marking | |
|-------------|-------------------------|------------------------------------|-------|------------------------|--|------------------------|--|---------|--------|
| | | Min. | Max. | | | | | A(UNI) | CA(BI) |
| SMBJ5.0(C)A | 5.0 | 6.40 | 7.25 | 10 | 9.2 | 65.2 | 800 | KE | AE |
| SMBJ6.0(C)A | 6.0 | 6.67 | 7.67 | 10 | 10.3 | 58.3 | 800 | KG | AG |
| SMBJ6.5(C)A | 6.5 | 7.22 | 8.30 | 10 | 11.2 | 53.6 | 500 | KK | AK |
| SMBJ7.0(C)A | 7.0 | 7.78 | 8.95 | 10 | 12.0 | 50.0 | 200 | KM | AM |
| SMBJ7.5(C)A | 7.5 | 8.33 | 9.58 | 1 | 12.9 | 46.5 | 100 | KP | AP |
| SMBJ8.0(C)A | 8.0 | 8.89 | 10.23 | 1 | 13.6 | 44.1 | 50 | KR | AR |
| SMBJ8.5(C)A | 8.5 | 9.44 | 10.82 | 1 | 14.4 | 41.7 | 10 | KT | AT |
| SMBJ9.0(C)A | 9.0 | 10.0 | 11.50 | 1 | 15.4 | 39.0 | 5 | KV | AV |
| SMBJ10(C)A | 10 | 11.1 | 12.80 | 1 | 17.0 | 35.3 | 5 | KX | AX |
| SMBJ11(C)A | 11 | 12.2 | 14.00 | 1 | 18.2 | 33.0 | 5 | KZ | AZ |
| SMBJ12(C)A | 12 | 13.3 | 15.30 | 1 | 19.9 | 30.2 | 5 | LE | BE |
| SMBJ13(C)A | 13 | 14.4 | 15.60 | 1 | 21.5 | 27.9 | 5 | LG | BG |
| SMBJ14(C)A | 14 | 15.6 | 17.90 | 1 | 23.2 | 25.8 | 5 | LK | BK |
| SMBJ15(C)A | 15 | 16.7 | 19.20 | 1 | 24.4 | 24.0 | 5 | LM | BM |
| SMBJ16(C)A | 16 | 17.8 | 20.50 | 1 | 26.0 | 23.1 | 5 | LP | BP |
| SMBJ17(C)A | 17 | 18.9 | 21.70 | 1 | 27.6 | 21.7 | 5 | LR | BR |
| SMBJ18(C)A | 18 | 20.0 | 23.30 | 1 | 29.2 | 20.5 | 5 | LT | BT |
| SMBJ20(C)A | 20 | 22.2 | 25.50 | 1 | 32.4 | 18.5 | 5 | LV | BV |
| SMBJ22(C)A | 22 | 24.4 | 28.00 | 1 | 35.5 | 16.9 | 5 | LX | BX |
| SMBJ24(C)A | 24 | 26.7 | 30.70 | 1 | 38.9 | 15.4 | 5 | LZ | BZ |
| SMBJ26(C)A | 26 | 28.9 | 33.20 | 1 | 42.1 | 14.2 | 5 | ME | CE |
| SMBJ28(C)A | 28 | 31.1 | 35.80 | 1 | 45.4 | 13.2 | 5 | MG | CG |
| SMBJ30(C)A | 30 | 33.3 | 38.30 | 1 | 48.4 | 12.4 | 5 | MK | CK |
| SMBJ33(C)A | 33 | 36.7 | 42.20 | 1 | 53.3 | 11.3 | 5 | MM | CM |
| SMBJ36(C)A | 36 | 40.0 | 46.00 | 1 | 58.1 | 10.3 | 5 | MP | CP |
| SMBJ40(C)A | 40 | 44.4 | 51.10 | 1 | 64.5 | 9.3 | 5 | MR | CR |
| SMBJ43(C)A | 43 | 47.8 | 54.90 | 1 | 69.4 | 8.6 | 5 | MT | CT |
| SMBJ45(C)A | 45 | 50.0 | 57.50 | 1 | 72.7 | 8.3 | 5 | MV | CV |
| SMBJ48(C)A | 48 | 53.3 | 61.30 | 1 | 77.4 | 7.7 | 5 | MX | CX |
| SMBJ51(C)A | 51 | 56.7 | 65.20 | 1 | 82.4 | 7.3 | 5 | MZ | CZ |
| SMBJ54(C)A | 54 | 60.0 | 69.00 | 1 | 87.1 | 6.9 | 5 | NE | DE |
| SMBJ58(C)A | 58 | 64.4 | 74.10 | 1 | 93.6 | 6.4 | 5 | NG | DG |
| SMBJ60(C)A | 60 | 66.7 | 76.70 | 1 | 96.8 | 6.2 | 5 | NK | DK |
| SMBJ64(C)A | 64 | 71.1 | 81.80 | 1 | 103 | 5.8 | 5 | NM | DM |
| SMBJ70(C)A | 70 | 77.8 | 89.50 | 1 | 113 | 5.3 | 5 | NP | DP |
| SMBJ75(C)A | 75 | 83.3 | 95.80 | 1 | 121 | 4.9 | 5 | NR | DR |
| SMBJ78(C)A | 78 | 86.7 | 99.70 | 1 | 126 | 4.7 | 5 | NT | DT |
| SMBJ85(C)A | 85 | 94.4 | 108.2 | 1 | 137 | 4.4 | 5 | NV | DV |
| SMBJ90(C)A | 90 | 100 | 115.5 | 1 | 146 | 4.1 | 5 | NX | DX |
| SMBJ100(C)A | 100 | 111 | 128.0 | 1 | 162 | 3.7 | 5 | NZ | DZ |
| SMBJ110(C)A | 110 | 122 | 140.5 | 1 | 177 | 3.4 | 5 | PE | EE |
| SMBJ120(C)A | 120 | 133 | 153.0 | 1 | 193 | 3.1 | 5 | PG | EG |
| SMBJ130(C)A | 130 | 144 | 165.5 | 1 | 209 | 2.9 | 5 | PK | EK |
| SMBJ150(C)A | 150 | 167 | 192.5 | 1 | 243 | 2.5 | 5 | PM | EM |
| SMBJ160(C)A | 160 | 178 | 205.0 | 1 | 259 | 2.3 | 5 | PP | EP |
| SMBJ170(C)A | 170 | 189 | 217.5 | 1 | 275 | 2.2 | 5 | PR | ER |
| SMBJ188(C)A | 188 | 209 | 231.0 | 1 | 328 | 2.0 | 5 | PT | ET |
| SMBJ200(C)A | 200 | 224 | 247.0 | 1 | 332 | 1.9 | 5 | PV | EV |
| SMBJ220(C)A | 220 | 246 | 272.0 | 1 | 352 | 1.5 | 5 | PX | EX |
| SMBJ250(C)A | 250 | 279 | 305.0 | 1 | 405 | 1.5 | 5 | PZ | EZ |
| SMBJ300(C)A | 300 | 335 | 371.0 | 1 | 486 | 1.3 | 5 | QE | FE |
| SMBJ350(C)A | 350 | 391 | 432.0 | 1 | 567 | 1.1 | 5 | QG | FG |
| SMBJ400(C)A | 400 | 447 | 494.0 | 1 | 648 | 0.9 | 5 | QK | FK |
| SMBJ440(C)A | 440 | 492 | 543.0 | 1 | 713 | 0.9 | 5 | QM | FM |

■ Typical Characteristic Curve 典型特性曲线

FIG.1-PEAK PULSE POWER DERATING CURVE

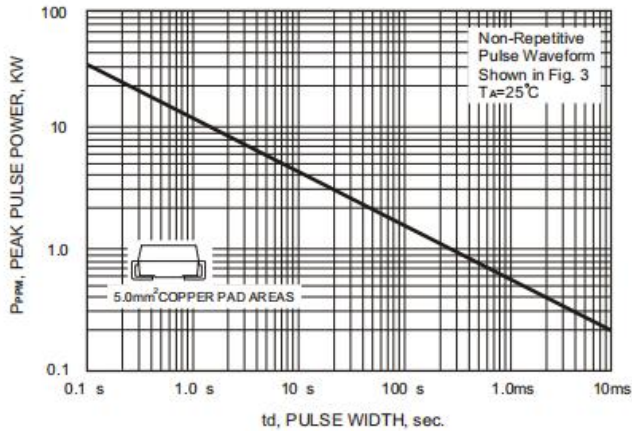


FIG.2-PULSE DERATING CURVE

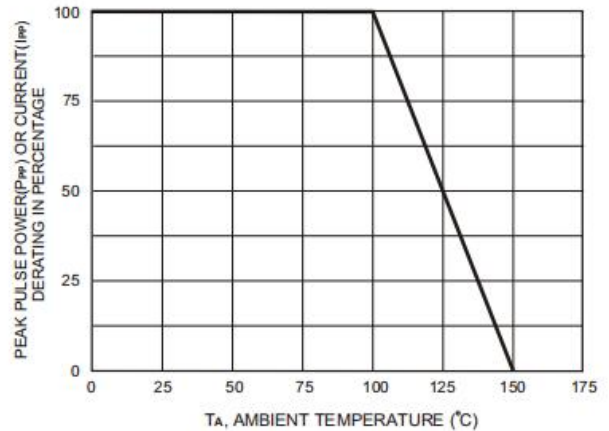


FIG.3-PULSE WAVE FORM

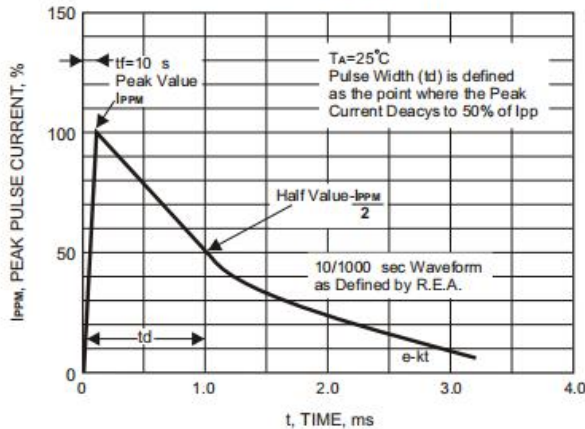


FIG.4-TYPICAL JUNCTION CAPACITANCE

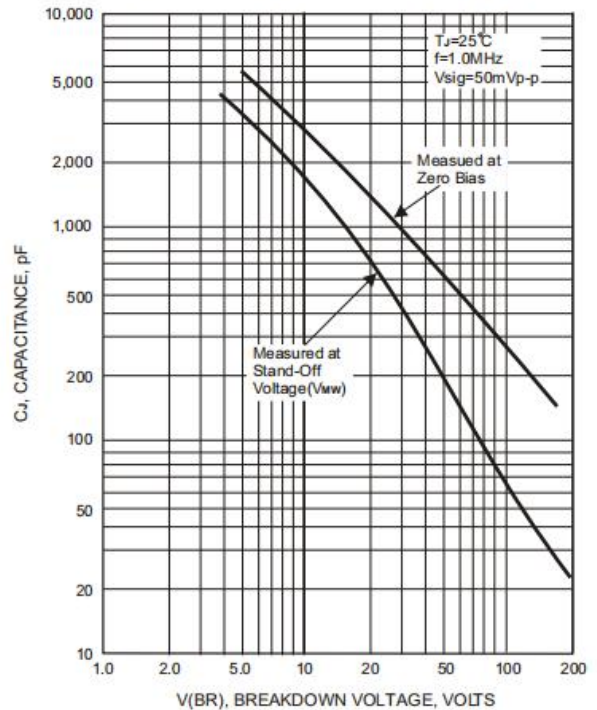
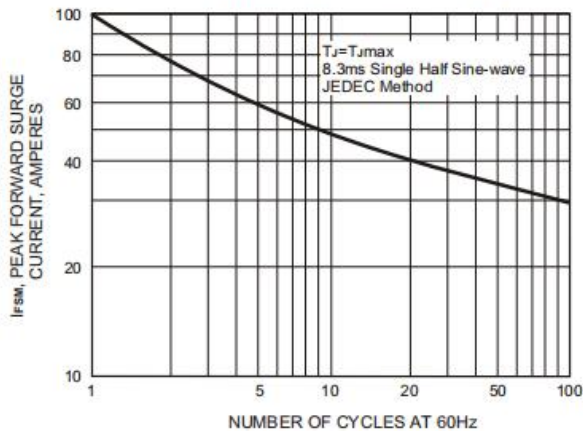
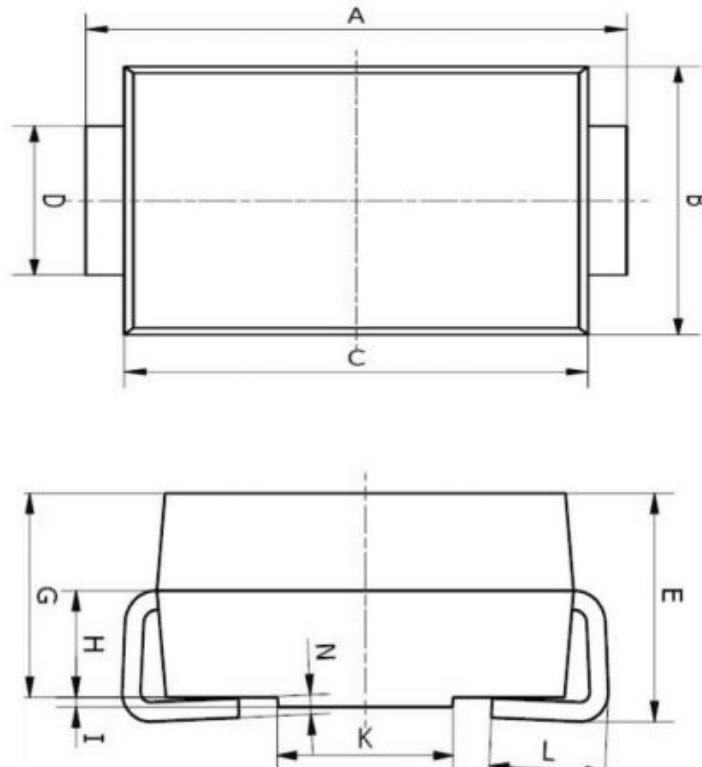


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



■Dimension 外形封装尺寸



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 5.00 | 5.45 | 0.197 | 0.215 |
| B | 3.20 | 4.00 | 0.126 | 0.157 |
| C | 4.30 | 4.70 | 0.169 | 0.185 |
| D | 1.80 | 2.20 | 0.071 | 0.087 |
| E | 2.20 | 2.50 | 0.087 | 0.098 |
| G | 1.90 | 2.30 | 0.075 | 0.090 |
| H | 0.95 | 1.25 | 0.037 | 0.049 |
| I | 0.05 | 0.15 | 0.002 | 0.006 |
| K | 1.70 | 2.10 | 0.067 | 0.083 |
| L | 0.90 | 1.60 | 0.035 | 0.063 |
| N | 0.10 | 0.30 | 0.004 | 0.012 |

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