

TRANSIENT VOLTAGE SUPPRESSOR

FEATURE

- ✧ Plastic package.
- ✧ Glass passivated chip junction in SMB Package
- ✧ Excellent clamping capability.
- ✧ Low zener impedance.
- ✧ 600W peak pulse power capability on 10/1000µs waveform.
- ✧ Typical IR less than 1µA above 13V.
- ✧ Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- ✧ High temperature soldering guaranteed: 265°C/10 seconds

MECHANICAL DATE

- ✧ Case: JEDEC SMB Molded Plastic.
- ✧ Terminals: Axial leads, solderable per MIL-STD-750, Method 2026.
- ✧ Polarity: Color band denoted cathode except bidirectional.
- ✧ Mounting Position: Any.

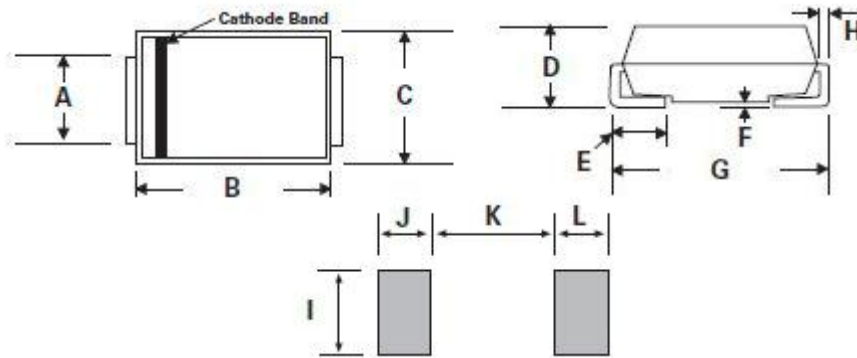
MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25c ambient temperature unless otherwise specified.

| RATING | SYMBOL | VALUE | UNITS |
|--|-----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation on 10/1000us waveform (Notel, Fig. 1). | P _{PPM} | Minimum 600 | Watts |
| Peak Pulse Current of on 10/1000us waveform. (Notel, Fig. 3) | I _{PPM} | See Table | Amps |
| Steady State Power Dissipation at TL =75°C, Lead lengths. 375", (9.5mm) (Fig. 5). | P _{M(AV)} | 5.0 | Watts |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2, Fig. 6). | I _{FSM} | 100 | Amps |
| 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. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.



| Item | Millimeters | | Inches | |
|------|-------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.95 | 2.2 | 0.077 | 0.086 |
| B | 4.06 | 4.57 | 0.16 | 0.18 |
| C | 3.3 | 3.94 | 0.13 | 0.155 |
| D | 2.13 | 2.44 | 0.084 | 0.096 |
| E | 0.76 | 1.52 | 0.03 | 0.06 |
| F | - | 0.203 | - | 0.008 |
| G | 5.21 | 5.59 | 0.205 | 0.22 |
| H | 0.152 | 0.305 | 0.006 | 0.012 |
| I | 2.26 | - | 0.089 | - |
| J | 2.16 | - | 0.085 | - |
| K | - | 2.74 | - | 0.107 |
| L | 2.16 | - | 0.085 | - |

ELECTRICAL CHARACTERISTICS

| Part Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage NIN.@IT | Breakdown Voltage MAX.@IT | Reverse Leakage @VRWM | Test Current | Peak Pulse Current | Maximum Clamping Voltage |
|-------------|------------|---------|----|---------------------------|---------------------------|---------------------------|-----------------------|--------------|--------------------|--------------------------|
| UNT | BI | UNT | BI | VR(V) | VBL(V) | VBH(V) | IR(uA) | IT(mA) | IPP(A) | VCH(V) |
| KSMBJ5.0A | KSMBJ5.0CA | KE | AE | 5.0 | 6.40 | 7.00 | 800 | 10 | 65.3 | 9.2 |
| KSMBJ6.0A | KSMBJ6.0CA | KG | AG | 6.0 | 6.67 | 7.37 | 800 | 10 | 58.3 | 10.3 |
| KSMBJ6.5A | KSMBJ6.5CA | KK | AK | 6.5 | 7.22 | 7.98 | 500 | 10 | 53.6 | 11.2 |
| KSMBJ7.0A | KSMBJ7.0CA | KM | AM | 7.0 | 7.78 | 8.60 | 200 | 10 | 50.0 | 12.0 |
| KSMBJ7.5A | KSMBJ7.5CA | KP | AP | 7.5 | 8.33 | 9.21 | 100 | 1 | 46.6 | 12.9 |
| KSMBJ8.0A | KSMBJ8.0CA | KR | AR | 8.0 | 8.89 | 9.83 | 50 | 1 | 44.2 | 13.6 |
| KSMBJ8.5A | KSMBJ8.5CA | KT | AT | 8.5 | 9.44 | 10.40 | 20 | 1 | 41.7 | 14.4 |
| KSMBJ9.0A | KSMBJ9.0CA | KV | AV | 9.0 | 10.00 | 11.10 | 10 | 1 | 39.0 | 15.4 |
| KSMBJ10A | KSMBJ10CA | KX | AX | 10 | 11.10 | 12.30 | 5 | 1 | 35.3 | 17.0 |
| KSMBJ11A | KSMBJ11CA | KZ | AZ | 11 | 12.20 | 13.50 | 1 | 1 | 33.0 | 18.2 |
| KSMBJ12A | KSMBJ12CA | LE | BE | 12 | 13.30 | 14.70 | 1 | 1 | 30.2 | 19.9 |
| KSMBJ13A | KSMBJ13CA | LG | BG | 13 | 14.40 | 15.90 | 1 | 1 | 28.0 | 21.5 |

| Part Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage NIN.@IT | Breakdown Voltage MAX.@IT | Reverse Leakage @VRWM | Test Current | Peak Pulse Current | Maximum Clamping Voltage @IPP |
|-------------|------------|---------|----|---------------------------|---------------------------|---------------------------|-----------------------|--------------|--------------------|-------------------------------|
| UNT | BI | UNT | BI | VR(V) | VBL(V) | VBH(V) | IR(uA) | IT(mA) | IPP(A) | VCH(V) |
| KSMBJ14A | KSMBJ14CA | LK | BK | 14 | 15.60 | 17.20 | | 1 | 25.9 | 23.2 |
| KSMBJ15A | KSMBJ15CA | LM | BM | 15 | 16.70 | 18.50 | 1 | 1 | 24.6 | 24.4 |
| KSMBJ16A | KSMBJ16CA | LP | BP | 16 | 17.80 | 19.70 | 1 | 1 | 23.1 | 26.0 |
| KSMBJ17A | KSMBJ17CA | LR | BR | 17 | 18.90 | 20.90 | 1 | 1 | 21.8 | 27.6 |
| KSMBJ18A | KSMBJ18CA | LT | BT | 18 | 20.00 | 22.10 | 1 | 1 | 20.6 | 29.2 |
| KSMBJ20A | KSMBJ20CA | LV | BV | 20 | 22.20 | 24.50 | 1 | 1 | 18.6 | 32.4 |
| KSMBJ22A | KSMBJ22CA | LX | BX | 22 | 24.40 | 26.90 | 1 | 1 | 16.9 | 35.5 |
| KSMBJ24A | KSMBJ24CA | LZ | BZ | 24 | 26.70 | 29.50 | 1 | 1 | 15.5 | 38.9 |
| KSMBJ26A | KSMBJ26CA | ME | CE | 26 | 28.90 | 31.90 | 1 | 1 | 14.3 | 42.1 |
| KSMBJ28A | KSMBJ28CA | MG | CG | 28 | 31.10 | 34.40 | 1 | 1 | 13.3 | 45.4 |
| KSMBJ30A | KSMBJ30CA | MK | CK | 30 | 33.30 | 36.80 | 1 | 1 | 12.4 | 48.4 |
| KSMBJ33A | KSMBJ33CA | MM | CM | 33 | 36.70 | 40.60 | 1 | 1 | 11.3 | 53.3 |
| KSMBJ36A | KSMBJ36CA | MP | CP | 36 | 40.00 | 44.20 | 1 | 1 | 10.4 | 58.1 |
| KSMBJ40A | KSMBJ40CA | MR | CR | 40 | 44.40 | 49.10 | 1 | 1 | 9.3 | 64.5 |
| KSMBJ43A | KSMBJ43CA | MT | CT | 43 | 47.80 | 52.80 | 1 | 1 | 8.7 | 69.4 |
| KSMBJ45A | KSMBJ45CA | MV | CV | 45 | 50.00 | 55.30 | 1 | 1 | 8.3 | 72.7 |
| KSMBJ48A | KSMBJ48CA | MX | CX | 48 | 53.30 | 58.90 | 1 | 1 | 7.8 | 77.4 |
| KSMBJ51A | KSMBJ51CA | MZ | CZ | 51 | 56.70 | 62.70 | 1 | 1 | 7.3 | 82.4 |
| KSMBJ54A | KSMBJ54CA | NE | DE | 54 | 60.00 | 66.30 | 1 | 1 | 6.9 | 87.1 |
| KSMBJ58A | KSMBJ58CA | NG | DG | 58 | 64.40 | 71.20 | 1 | 1 | 6.5 | 93.6 |
| KSMBJ60A | KSMBJ60CA | NK | DK | 60 | 66.70 | 73.70 | 1 | 1 | 6.2 | 96.8 |
| KSMBJ64A | KSMBJ64CA | NM | DM | 64 | 71.10 | 78.60 | 1 | 1 | 5.9 | 103 |
| KSMBJ70A | KSMBJ70CA | NP | DP | 70 | 77.80 | 86.00 | 1 | 1 | 5.3 | 113 |
| KSMBJ75A | KSMBJ75CA | NR | DR | 75 | 83.30 | 92.10 | 1 | 1 | 5.0 | 121 |
| KSMBJ78A | KSMBJ78CA | NT | DT | 78 | 86.70 | 95.80 | 1 | 1 | 4.8 | 126 |
| KSMBJ85A | KSMBJ85CA | NV | DV | 85 | 94.4 | 104.0 | 1 | 1 | 4.4 | 137 |
| KSMBJ90A | KSMBJ90CA | NX | DX | 90 | 100.0 | 111.0 | 1 | 1 | 4.1 | 146 |
| KSMBJ100A | KSMBJ100CA | NZ | DZ | 100 | 111.0 | 123.0 | 1 | 1 | 3.7 | 162 |
| KSMBJ110A | KSMBJ110CA | PE | EE | 110 | 122.0 | 135.0 | 1 | 1 | 3.4 | 177 |
| KSMBJ120A | KSMBJ120CA | PG | EG | 120 | 133.0 | 147.0 | 1 | 1 | 3.1 | 193 |
| KSMBJ130A | KSMBJ130CA | PK | EK | 130 | 144.0 | 159.0 | 1 | 1 | 2.9 | 209 |
| KSMBJ150A | KSMBJ150CA | PM | EM | 150 | 167.0 | 185.0 | 1 | 1 | 2.5 | 243 |
| KSMBJ160A | KSMBJ160CA | PP | EP | 160 | 178.0 | 197.0 | 1 | 1 | 2.3 | 259 |
| KSMBJ170A | KSMBJ170CA | PR | ER | 170 | 189.0 | 209.0 | 1 | 1 | 2.2 | 275 |
| KSMBJ180A | KSMBJ180CA | PT | ET | 180 | 201.0 | 222.0 | 1 | 1 | 2.1 | 292 |
| KSMBJ190A | KSMBJ190CA | PA | EC | 190 | 209.0 | 243.0 | 1 | 1 | 2.0 | 308 |
| KSMBJ200A | KSMBJ200CA | PV | EV | 200 | 224.0 | 247.0 | 1 | 1 | 1.9 | 324 |
| KSMBJ220A | KSMBJ220CA | PX | EX | 220 | 246.0 | 272.0 | 1 | 1 | 1.7 | 356 |
| KSMBJ250A | KSMBJ250CA | PZ | EZ | 250 | 279.0 | 309.0 | 1 | 1 | 1.5 | 405 |
| KSMBJ300A | KSMBJ300CA | QE | FE | 300 | 335.0 | 371.0 | 1 | 1 | 1.3 | 486 |
| KSMBJ350A | KSMBJ350CA | QG | FG | 350 | 391.0 | 432.0 | 1 | 1 | 1.1 | 567 |
| KSMBJ400A | KSMBJ400CA | QK | FK | 400 | 447.0 | 494.0 | 1 | 1 | 0.9 | 648 |
| KSMBJ440A | KSMBJ440CA | QM | FM | 440 | 492.0 | 543.0 | 1 | 1 | 0.9 | 713 |

Notes: For bidirectional type having VRWM of 10 volts and less, the IR limit is double

RATINGS AND CHARACTERISTIC CURVES (TA=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

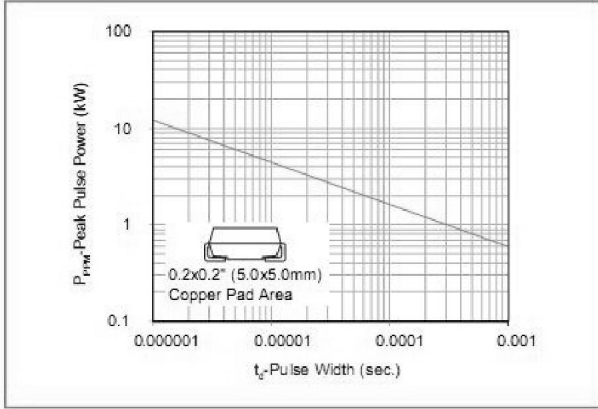


Figure 2 - Pulse Derating Curve

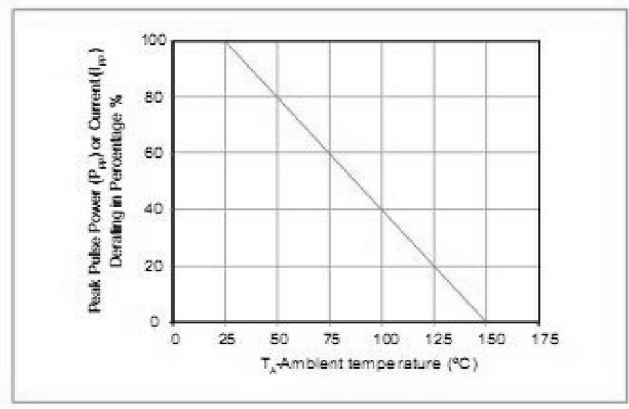


Figure 3 - Pulse Waveform

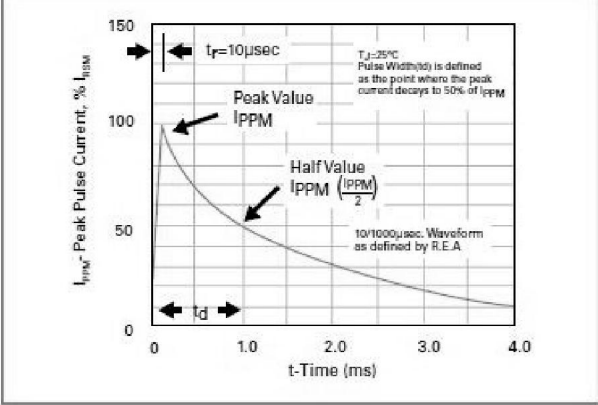


Figure 4 - Typical Junction Capacitance Uni-Directional

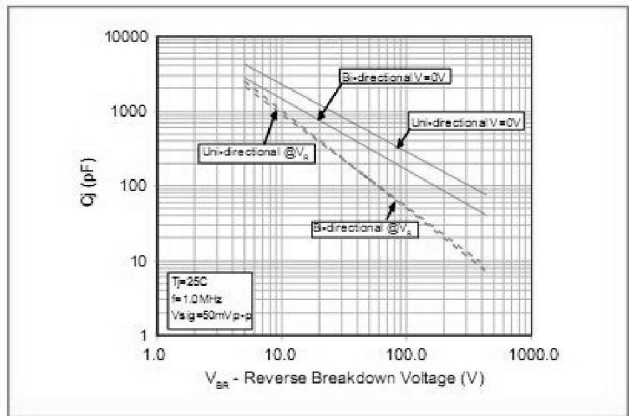


Figure 5 - Steady State Power Dissipation Derating Curve

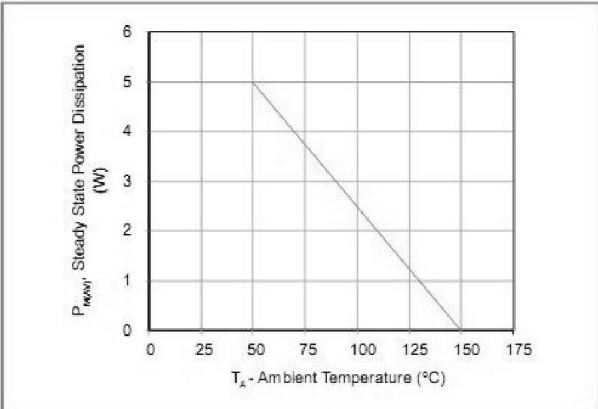
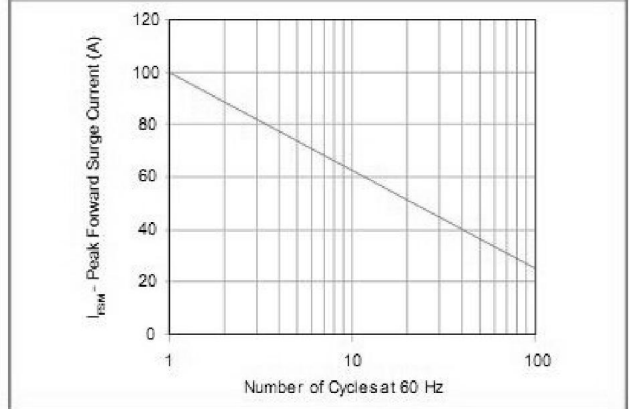


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



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[SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#) [VESD12A1A-HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#)
[CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL E6327](#) [824500181](#) [MMAD1108/TR13](#) [5KP100A](#)