

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet



SMB

### Features

- Low capacitance
- Cannot be damaged by voltage
- Will not fatigue
- Eliminate voltage overshoot
- Glass passivated junction
- Halogen free and RoHS compliant

### Mechanical Data

- CASE: SMB(DO-214AA) Molded Plastic
- UL Flammability Classification Rating 94V0
- Mounting Position:Any

### Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter                                      | Symbol          | Value      | Units | Remarks   |
|--|-----------------|------------|-------|-----------|
| Peak Pulse Voltage                             | $V_{PP}$        | 4000       | V     | 10/700us  |
| Peak Pulse Current                             | $I_{PP}$        | 80         | A     | 10/1000us |
| Peak Pulse Current                             | $I_{PK}$        | 250        | A     | 8/20us    |
| Peak One-cycle Surge Current                   | $I_{TSM}$       | 25         | A     | 60Hz      |
| Rate of Rise of Current                        | di/dt           | 500        | A/us  |           |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta JL}$ | 20         | °C/W  |           |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 100        | °C/W  |           |
| Operating Temperature Range                    | $T_J$           | -40 to 150 | °C    |           |
| Storage Temperature Range                      | $T_{STG}$       | -55 to 150 | °C    |           |

## Electrical Characteristics

(Ratings at 25 °C ambient temperature unless otherwise specified).

| P/N        | Mark          | V <sub>S</sub> @100KV/S<br>V<br>MAX | I <sub>S_LMT</sub><br>mA | V <sub>T</sub> @ I <sub>T</sub><br>V<br>MAX | I <sub>T</sub><br>A | I <sub>D</sub> @ V <sub>D</sub><br>uA<br>MAX | V <sub>D</sub><br>V | C <sub>O</sub> @1MHz,2V <sub>DC</sub><br>pF<br>TYP | I <sub>H</sub><br>mA<br>TYP |
|------------|---------------|-------------------------------------|--------------------------|---|---------------------|--|---------------------|--|-----------------------------|
| P0080SB-MS | P008B<br>XXXX | 25                                  | 500                      | 4   | 2.2                 | 5  | 6                   | 84   | 40                          |
| P0220SB-MS | P02B<br>XXXX  | 30                                  | 500                      | 4   | 2.2                 | 5  | 15                  | 84   | 40                          |
| P0300SB-MS | P03B<br>XXXX  | 40                                  | 500                      | 4   | 2.2                 | 5  | 25                  | 80   | 40                          |
| P0640SB-MS | P06B<br>XXXX  | 77                                  | 800                      | 4   | 2.2                 | 5  | 58                  | 76   | 120                         |
| P0720SB-MS | P07B<br>XXXX  | 88                                  | 800                      | 4   | 2.2                 | 5  | 65                  | 76   | 120                         |
| P0900SB-MS | P09B<br>XXXX  | 98                                  | 800                      | 4   | 2.2                 | 5  | 75                  | 76   | 120                         |
| P1100SB-MS | P11B<br>XXXX  | 130                                 | 800                      | 4   | 2.2                 | 5  | 90                  | 72   | 120                         |
| P1300SB-MS | P13B<br>XXXX  | 160                                 | 800                      | 4   | 2.2                 | 5  | 120                 | 72   | 120                         |
| P1500SB-MS | P15B<br>XXXX  | 180                                 | 800                      | 4   | 2.2                 | 5  | 140                 | 68   | 120                         |
| P1800SB-MS | P18B<br>XXXX  | 220                                 | 800                      | 4   | 2.2                 | 5  | 170                 | 64   | 120                         |
| P2300SB-MS | P23B<br>XXXX  | 260                                 | 800                      | 4   | 2.2                 | 5  | 190                 | 60   | 120                         |
| P2600SB-MS | P26B<br>XXXX  | 300                                 | 800                      | 4   | 2.2                 | 5  | 220                 | 56   | 120                         |
| P3100SB-MS | P31B<br>XXX   | 350                                 | 800                      | 4   | 2.2                 | 5  | 275                 | 52   | 120                         |
| P3500SB-MS | P35B<br>XXXX  | 400                                 | 800                      | 4   | 2.2                 | 5  | 320                 | 48   | 120                         |
| P4500SB-MS | P45B<br>XXXX  | 530                                 | 800                      | 4   | 2.2                 | 5  | 400                 | 36   | 120                         |

## Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

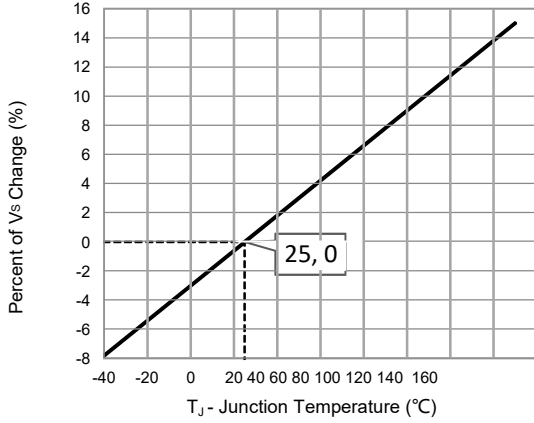


Fig. 1 - Peak Pulse Current Rating

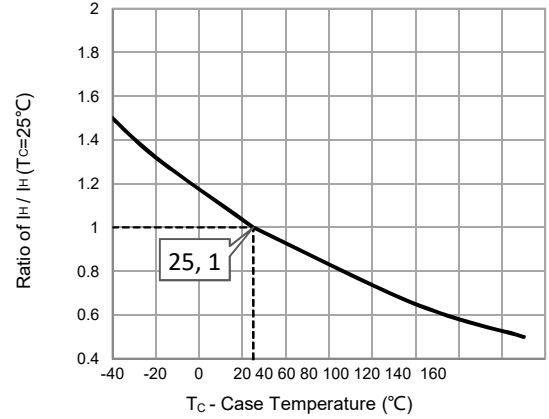


Fig. 2 - Normalized DC Holding Current vs. Case Temperature

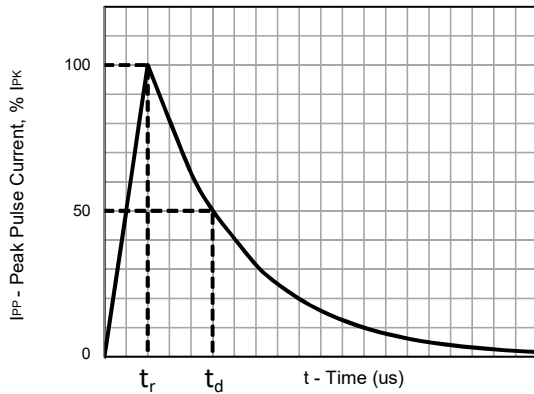


Fig. 3 - tr/td us Pulse Waveform

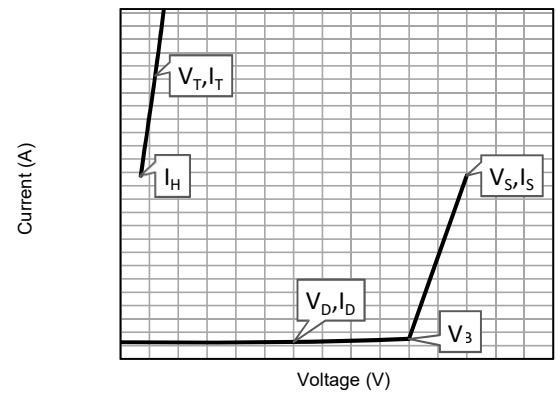


Fig. 4 - VI Curve

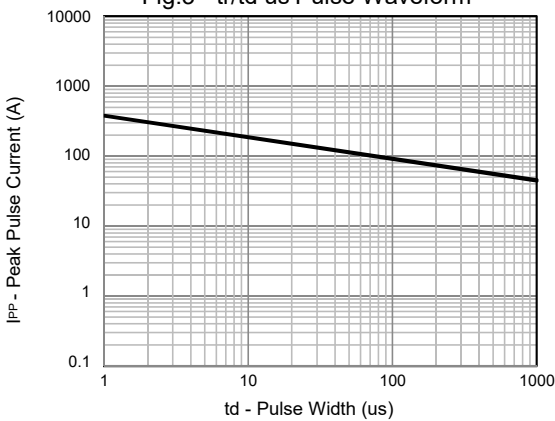


Fig. 5 - Peak Pulse Current Rating

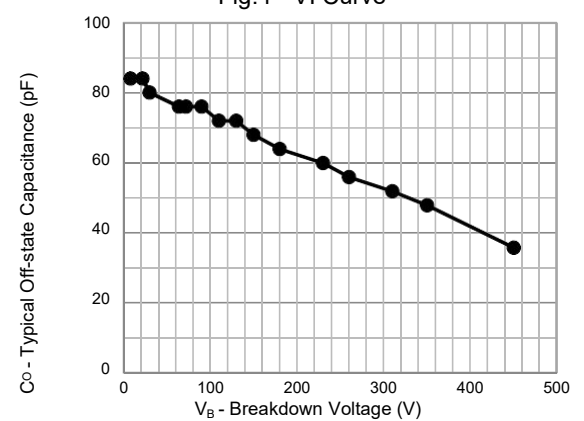
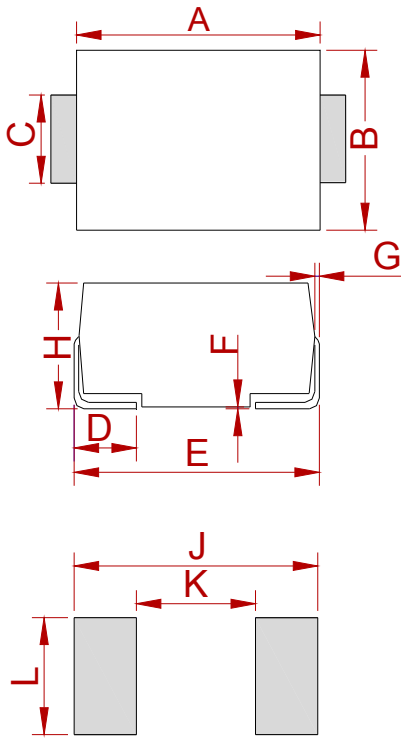


Fig. 6 - Typical Off-state Capacitance

**PACKAGE MECHANICAL DATA**



DO-214AA (SMB)

| Ref. | Dimensions  |       |        |       |
|------|-------------|-------|--------|-------|
|      | Millimeters |       | Inches |       |
|      | Min.        | Max.  | Min.   | Max.  |
| A    | 4.25        | 4.75  | 0.167  | 0.187 |
| B    | 3.30        | 3.94  | 0.130  | 0.155 |
| C    | 1.85        | 2.21  | 0.073  | 0.087 |
| D    | 0.76        | 1.52  | 0.030  | 0.060 |
| E    | 5.08        | 5.59  | 0.200  | 0.220 |
| F    | 0.051       | 0.203 | 0.002  | 0.008 |
| G    | 0.15        | 0.31  | 0.006  | 0.012 |
| H    | 2.11        | 2.44  | 0.083  | 0.096 |
| J    | 6.80        |       | 0.270  |       |
| K    |             | 2.60  |        | 0.100 |
| L    | 2.40        |       | 0.090  |       |

**REEL SPECIFICATION**

| P/N        | PKG | QTY  |
|------------|-----|------|
| PxxxxSB-MS | SMB | 3000 |

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