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## High Power Unidirectional TVS

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### **Compliance Standard**

- ◆ IEC 61000-4-2
- ◆ IEC 61000-4-4
- ◆ IEC 61000-4-5
- ◆ EN 50121

### **Applications**

- ◆ Industrial
- ◆ Railway Application
- ◆ Surveillance
- ◆ Measurement

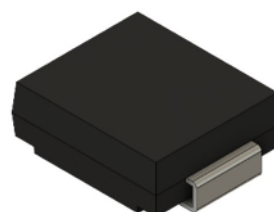
### **Features**

- ◆ 3000W Peak Pulse Power
- ◆ Quick Response
- ◆ Low Clamping Voltage
- ◆ Low Leakage Current

### **Mechanical Characteristics**

- ◆ SMC Package
- ◆ Weight 270 Milligram (Approximate)
- ◆ Flammability Rating UL94V-0
- ◆ Lead Free Plating
- ◆ Reel Size 13"
- ◆ 3,000 PCS Per Reel

### **Package**



SMC

### **Device Symbol**



## DEVICE CHARACTERISTICS

| Maximum Rating              |           |           |      |
|-----------------------------|-----------|-----------|------|
| Parameter                   | Symbol    | Value     | Unit |
| Peak Pulse Power            | $P_{PP}$  | 3000      | Watt |
| Lead Soldering Temperature  | $T_L$     | 260 (10s) | °C   |
| Operating Temperature Range | $T_J$     | -55~150   | °C   |
| Storage Temperature Range   | $T_{STG}$ | -55~150   | °C   |

| ELECTRICAL CHARACTERISTICS @ 25°C |         |                                       |            |               |                      |           |          |                     |
|-----------------------------------|---------|---------------------------------------|------------|---------------|----------------------|-----------|----------|---------------------|
| Part Number                       | Marking | Breakdown Voltage $V_{BR}$<br>@ $I_T$ |            |               | $I_R$ @<br>$V_{RWM}$ | $V_{RWM}$ | $I_{PP}$ | $V_C$ @<br>$I_{PP}$ |
|                                   |         | Min<br>(V)                            | Max<br>(V) | $I_T$<br>(mA) | ( $\mu A$ )          | (V)       | (A)      | (V)                 |
| SMDJ12A                           | PEE     | 13.3                                  | 14.7       | 1             | 5                    | 12.0      | 150.6    | 19.9                |

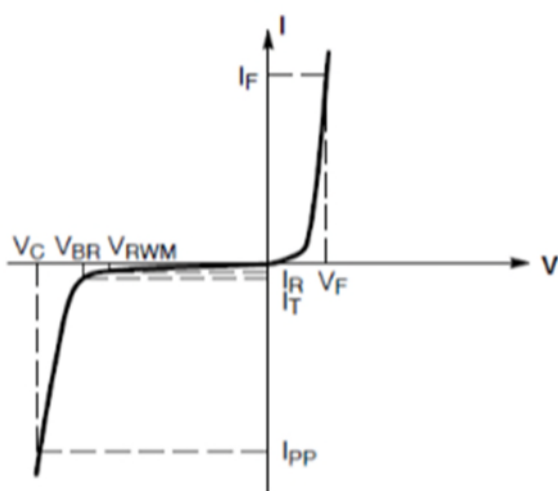


Figure1. I-V Characteristics



Figure2. Power Derating Curve

## DEVICE OUTLINE

| <i>Outline Dimension</i> |             |      |        |       |
|--------------------------|-------------|------|--------|-------|
| Symbol                   | Millimeters |      | Inches |       |
|                          | Min         | Max  | Min    | Max   |
| A                        | 5.52        | 6.15 | 0.220  | 0.245 |
| B                        | 6.52        | 7.02 | 0.260  | 0.280 |
| C                        | 2.86        | 3.16 | 0.114  | 0.126 |
| D                        | 1.98        | 2.59 | 0.079  | 0.103 |
| E                        | 7.64        | 8.02 | 0.305  | 0.320 |
| F                        | 0.75        | 1.51 | 0.030  | 0.060 |
|                          |             |      |        |       |



## LAYOUT PAD DIMENSION

| <i>Layout PAD Dimension</i> |             |      |        |       |
|-----------------------------|-------------|------|--------|-------|
| Symbol                      | Millimeters |      | Inches |       |
|                             | Min         | Max  | Min    | Max   |
| A                           | 8.10        | 8.30 | 0.318  | 0.327 |
| B                           | 1.90        | 2.10 | 0.074  | 0.083 |
| C                           | 3.00        | 3.20 | 0.118  | 0.126 |



| <i>Revision History</i> | <i>Description</i>           |
|-------------------------|------------------------------|
| v2.0                    | Re-organize datasheet layout |
|                         |                              |
|                         |                              |
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