

**MSCD053RH**

● **FEATURES**

- \* Halogen-free type
- \* Compliance to RoHS product
- \* Lead less chip form, no lead damage
- \* Low power loss, High efficiency
- \* High current capability, low VF
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

● **APPLICATION**

- \* Switching mode power supply applications
- \* Portable equipment battery applications
- \* High frequency rectification
- \* DC / DC Converter
- \* Telecommunication

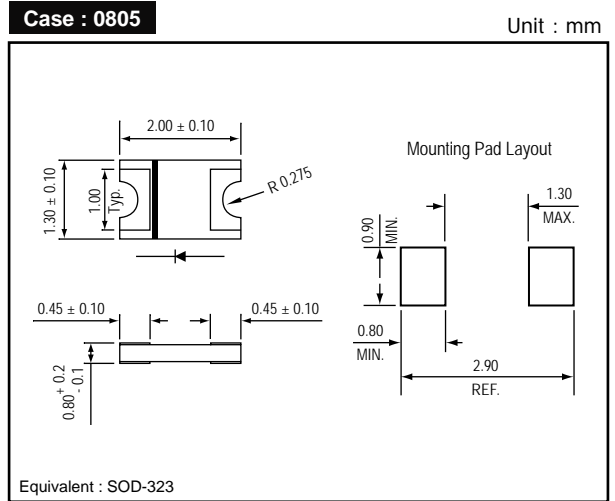
● **MECHANICAL DATA**

**Case** : Packed with FRP substrate and epoxy underfilled  
**Terminals** : Pure Tin plated (Lead-Free), solderable per MIL-STD-750, Method 2026.  
**Polarity** : Laser Cathode band marking  
**Weight** : 0.005 gram

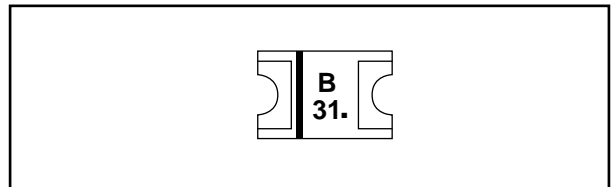
● **PACKING**

- \* 3,000 pieces per 7" (178mm ± 2mm) reel
- \* 5 reels per box
- \* 6 boxes per carton

● **OUTLINE DIMENSIONS**



● **MARKING**



**Absolute Maximum Ratings (Ta = 25 °C)**

| ITEM                            | Symbol | Conditions                  | Rating       |  | Unit |
|---------------------------------|--------|-----------------------------|--------------|--|------|
|                                 |        |                             | MSCD053RH    |  |      |
| Repetitive peak reverse voltage | VRRM   |                             | 30           |  | V    |
| Average forward current         | IF(AV) |                             | 0.5          |  | A    |
| Peak forward surge current      | IFSM   | 8.3ms single half sine-wave | 3.0          |  | A    |
| Junction temperature range      | Tj     |                             | 125          |  | °C   |
| Operating temperature range     | Topr   |                             | -40 to +125  |  | °C   |
| Storage temperature Range       | TSTG   |                             | - 40 to +125 |  | °C   |

**Electrical characteristics (Ta = 25 °C)**

| ITEM                            | Symbol  | Conditions                  | Min.   | Typ.         | Max.      | Unit |
|---------------------------------|---------|-----------------------------|--------|--------------|-----------|------|
| Forward voltage                 | VF      | IF = 0.1A<br>IF = 0.5A      | -<br>- | 0.35<br>0.46 | -<br>0.50 | V    |
| Repetitive peak reverse current | IRRM    | VR = Max. VRRM , Ta = 25 °C | -      | 2            | 5         | uA   |
| Junction capacitance            | Cj      | VR = 4V, f = 1.0 MHz        | -      | 28           | -         | pF   |
| Thermal resistance              | Rth(JA) | Junction to ambient         | -      | 120          | -         | °C/W |
|                                 | Rth(JL) | Junction to lead            | -      | 28           | -         | °C/W |

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

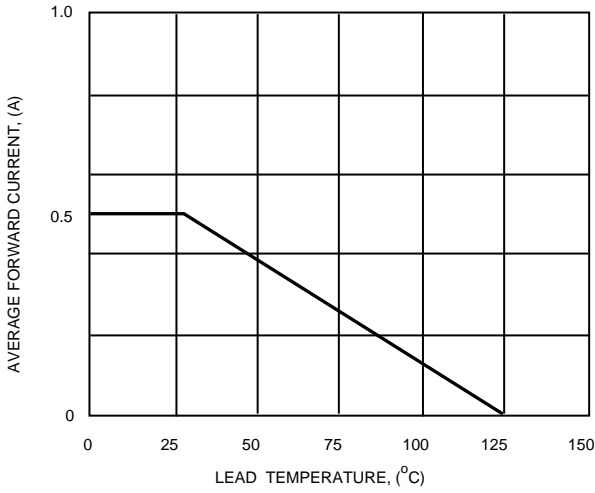


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

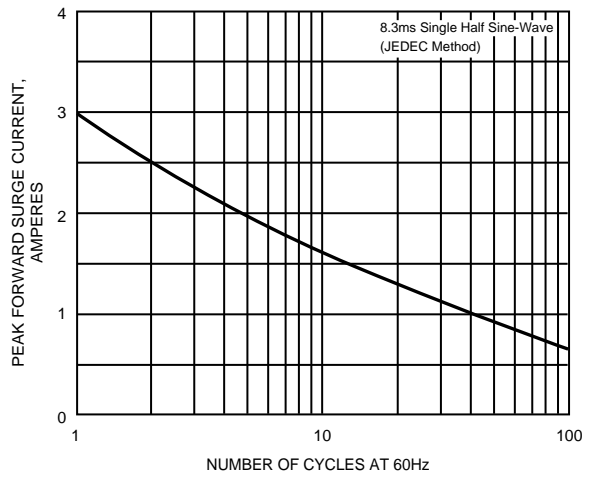


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

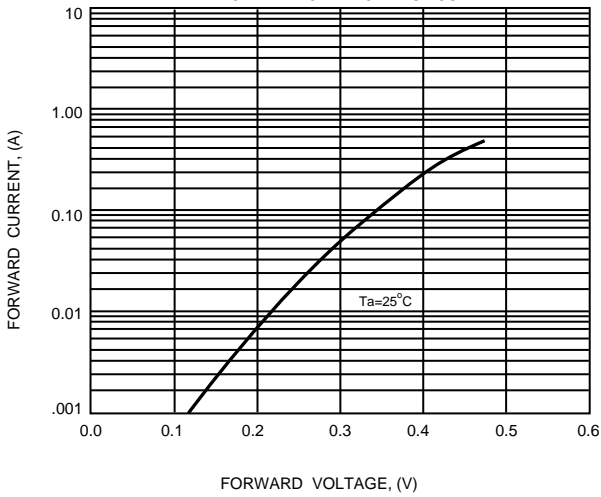


FIG. 4 - REVERSE CHARACTERISTICS

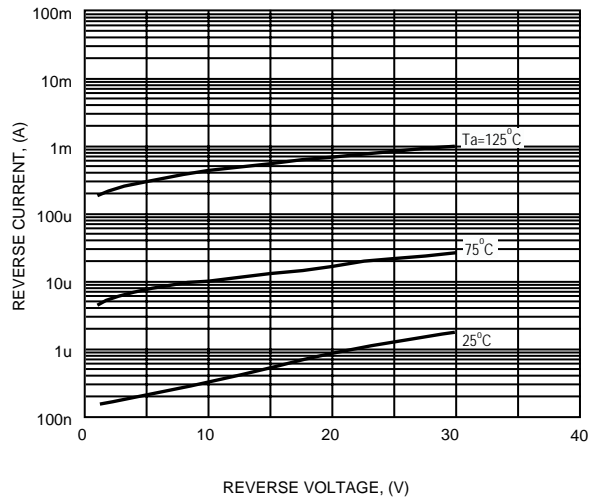


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

