

Thin flat package
MSCD052SH THRU MSCD054SH

● **FEATURES**

- * Halogen-free type
- * Lead free product , compliance to RoHs
- * Lead less chip form , no lead damage
- * Lead-free solder joint , no wire bond & lead frame
- * 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

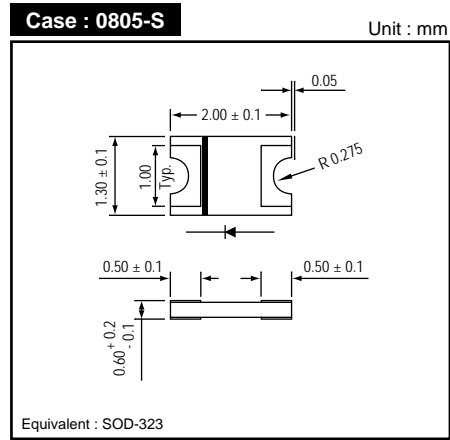
● **MECHANICAL DATA**

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 : 0.004 gram

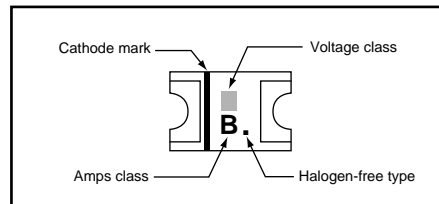
● **PACKING**

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

● **OUTLINE DIMENSIONS**



● **MARKING**

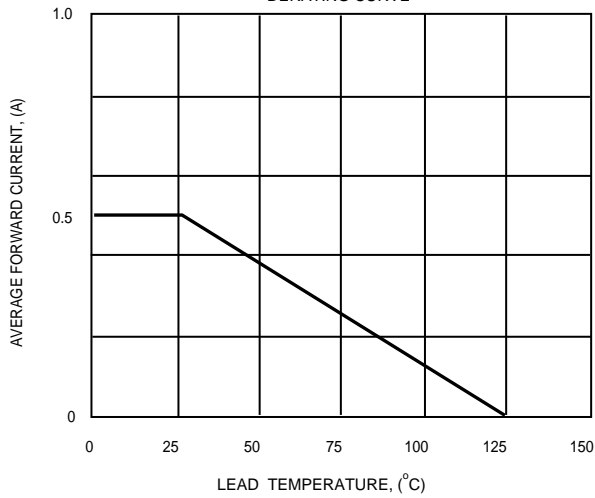
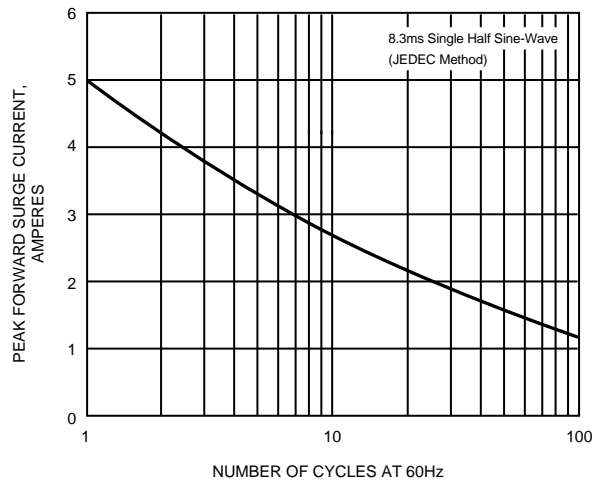
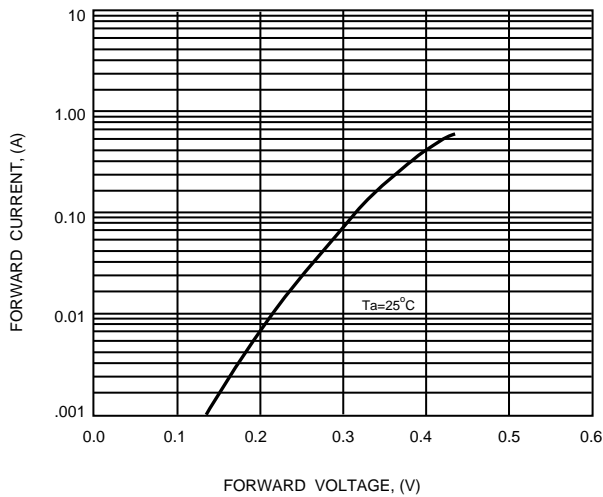
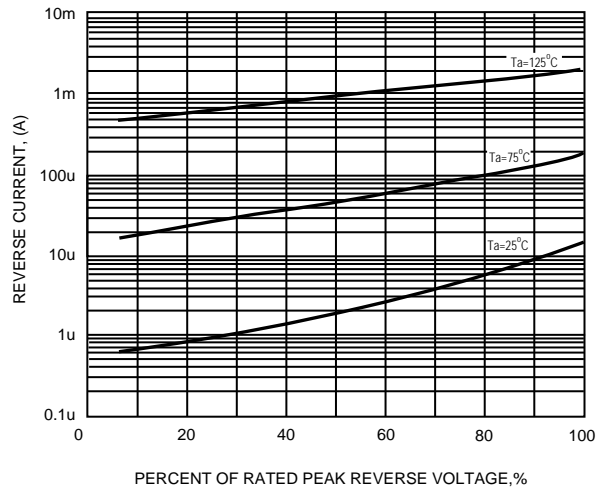


Absolute Maximum Ratings (Ta = 25 °C)

| ITEM | Symbol | Conditions | Rating | | | Unit |
|---------------------------------|--------|-----------------------------|--------------|-----------|-----------|------|
| | | | MSCD052SH | MSCD053SH | MSCD054SH | |
| Repetitive peak reverse voltage | VRRM | | 20 | 30 | 40 | V |
| Average forward current | IF(AV) | | 0.5 | | | A |
| Peak forward surge current | IFSM | 8.3ms single half sine-wave | 5 | | | A |
| Junction temperature | Tj | | 125 | | | °C |
| Operating temperature range | Topr | | - 40 to +125 | | | |
| Storage temperature range | TSTG | | - 40 to +125 | | | |

Electrical characteristics (Ta = 25 °C)

| ITEM | Symbol | Conditions | Type | Min. | Typ. | Max. | Unit |
|---------------------------------|---------|-----------------------------|-----------|------|------|------|------|
| Forward voltage | VF | IF = 0.1A | MSCD052SH | - | 0.32 | - | V |
| | | IF = 0.5A | MSCD052SH | - | 0.40 | 0.44 | V |
| | | IF = 0.1A | MSCD053SH | - | 0.32 | - | V |
| | | IF = 0.5A | MSCD053SH | - | 0.40 | 0.46 | V |
| | | IF = 0.1A | MSCD054SH | - | 0.32 | - | V |
| | | IF = 0.5A | MSCD054SH | - | 0.40 | 0.48 | V |
| Repetitive peak reverse current | IRRM | VR = Max. VRRM , Ta = 25 °C | | - | 15 | 100 | 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 - TYPICAL REVERSE CHARACTERISTICS

FIG. 5 - TYPICAL JUNCTION CAPACITANCE
