



MSCD052 THRU MSCD054

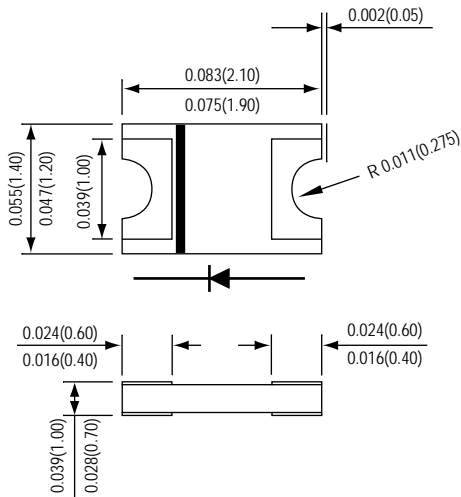
SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts

Forward Current - 500 mA

PATENTED

0805



*Dimensions in inches and (millimeters)

SuperChipTM



FEATURES

- * Lead free product
- * Leadless chip form , no lead damage
- * Lead-free solder joint , no wire bond & lead frame
- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * For surface mounted applications
- * Low profile package
- * Built-in strain relief
- * Metal to silicon rectifier , majority carrier conduction
- * Low power loss , High efficiency
- * High current capability , low VF
- * High surge capacity
- * For using in low voltage high frequency switching power supply, inverters , free wheeling , and polarity protection applications

MECHANICAL DATA

Case : Packed with FRP substrate and epoxy underfilled
Terminals : Pure Tin plated (Lead-Free),
solderable per MIL-STD-750, Method 2026.

Polarity : Cathode Band, Laser marking

Weight : 0.005 gram

Marking : MSCD052 = B2
MSCD053 = B3
MSCD054 = B4

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| <i>Ratings at 25 °C ambient temperature unless otherwise specified.</i> | SYMBOLS | MSCD052 | MSCD053 | MSCD054 | UNITS |
|---|---------|-------------|---------|---------|-------|
| Maximum repetitive peak reverse voltage | VRRM | 20 | 30 | 40 | Volts |
| Maximum RMS voltage | VRMS | 14 | 21 | 28 | Volts |
| Maximum DC blocking voltage | VDC | 20 | 30 | 40 | Volts |
| Maximum average forward rectified current | Io | 500 | | | mA |
| Peak forward surge current at 8.3ms single half sine-wave | IFSM | 5 | | | Amps |
| Maximum Instantaneous forward voltage at 0.5A | VF | 0.44 | 0.46 | 0.48 | Volts |
| Maximum DC reverse current at rated DC blocking voltage | IR | 100 | | | uA |
| Junction temperature | TJ | 125 | | | °C |
| Operating temperature range | Topr | -40 to +125 | | | |
| Storage temperature range | TSTG | -40 to +125 | | | |

RATINGS AND CHARACTERISTIC CURVES MSCD052 THRU MSCD054

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

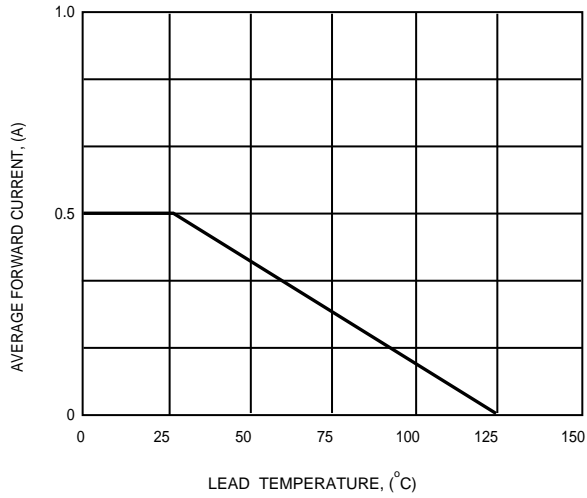


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

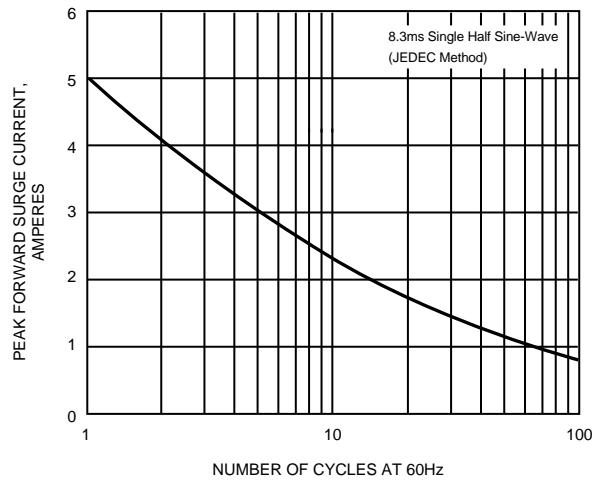


FIG. 3 - FORWARD CHARACTERISTICS

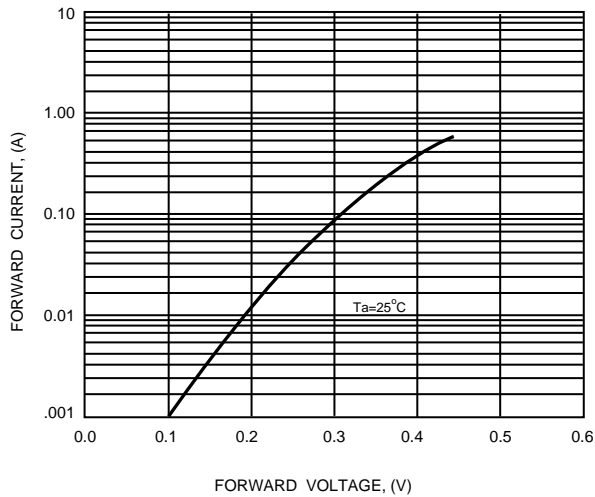


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

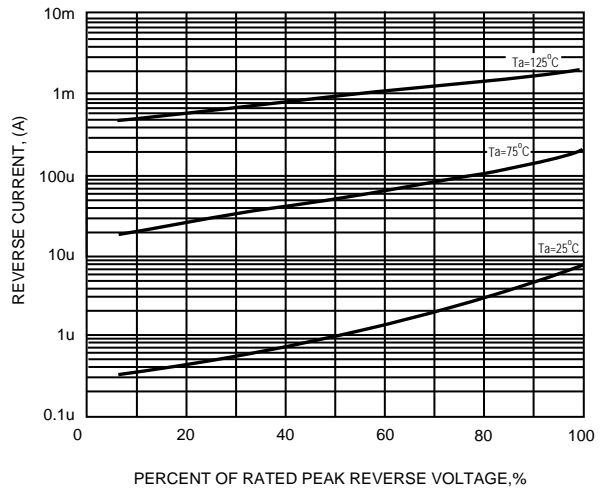


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

