



MSCD102 THRU MSCD106

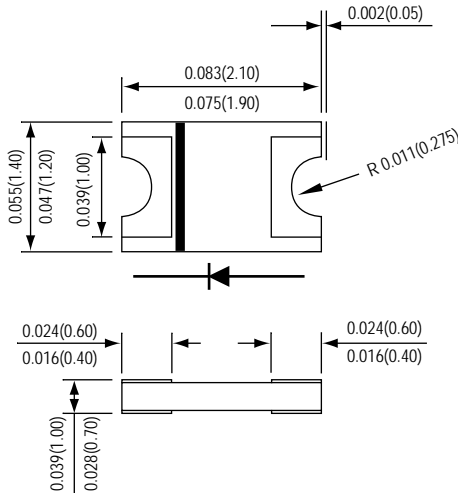
SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 60 Volts

Forward Current - 1.0 Ampere

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 : MSCD102 = A2
MSCD104 = A4
MSCD106 = A6

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| <i>Ratings at 25 °C ambient temperature unless otherwise specified.</i> | SYMBOLS | MSCD102 | MSCD104 | MSCD106 | UNITS |
|--|----------------|-------------|---------|-------------|--------|
| Maximum repetitive peak reverse voltage | VRRM | 20 | 40 | 60 | Volts |
| Maximum RMS voltage | VRMS | 14 | 28 | 42 | Volts |
| Maximum DC blocking voltage | VDC | 20 | 40 | 60 | Volts |
| Maximum average forward rectified current (SEE FIG.1) | Io | 1.0 | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | IFSM | 10 | | | Amps |
| Maximum instantaneous forward voltage at 1.0 A (NOTE 1) | VF | 0.45 | 0.50 | 0.65 | Volts |
| Maximum DC reverse current (NOTE 1) @Tj=25°C at rated DC blocking voltage @Tj=100°C | IR | 0.2 | | | mA |
| | | 10 | | | |
| Typical thermal resistance (NOTE 2) | R θJA R θJL | 88 28 | | | °C / W |
| Operating junction temperature range | TJ | -55 to +125 | | -55 to +150 | °C |
| Storage temperature range | TSTG | -55 to +150 | | | °C |

NOTES : (1) Pulse test width PW=300usec , 1% duty cycle.

(2) Mounted on P.C. board with 0.2 x 0.2"(5.0 x5.0mm) copper pad areas.

RATINGS AND CHARACTERISTIC CURVES MSCD102 THRU MSCD106

FIG.1 - FORWARD CURRENT DERATING CURVE

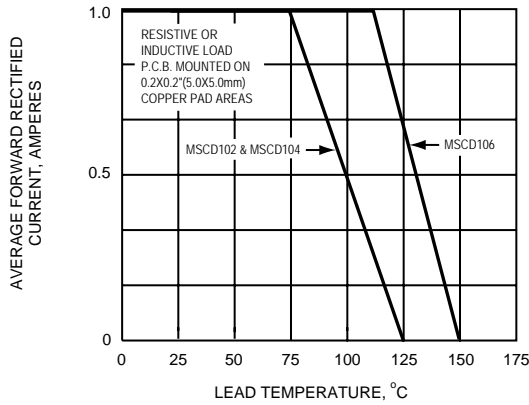


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

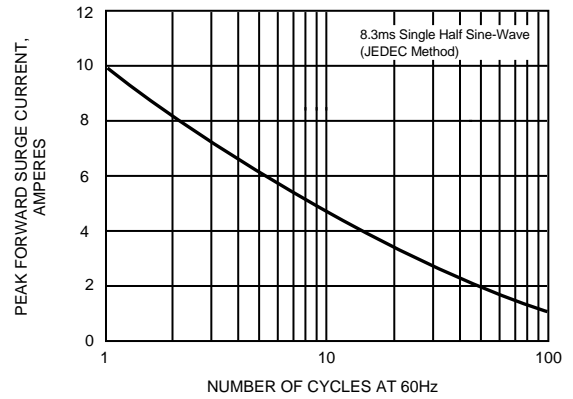


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

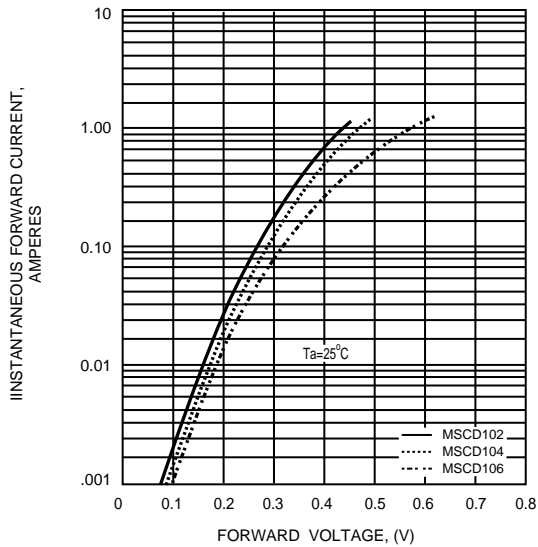


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

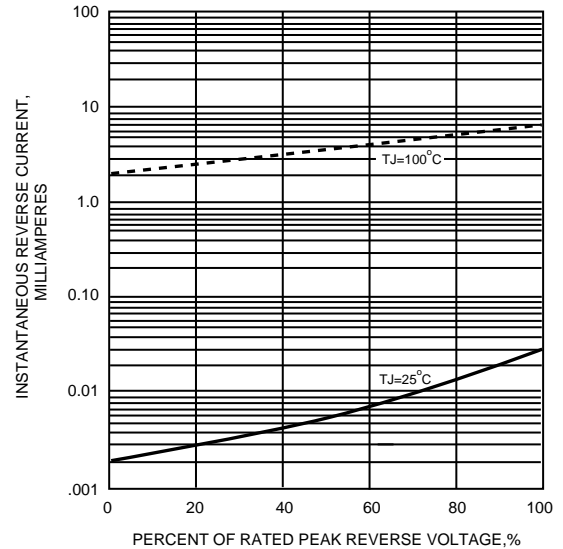


FIG.5 - TYPICAL JUNCTION CAPACITANCE

