

RoHS Compliant Product
A suffix of "-C" specifies halogen free

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free type
- 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 V_F

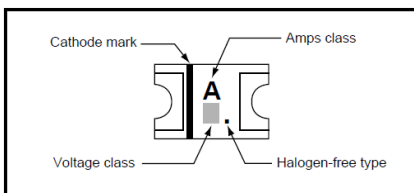
APPLICATION

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

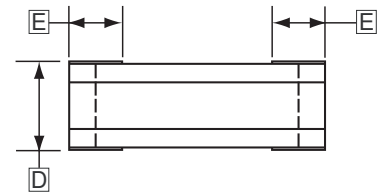
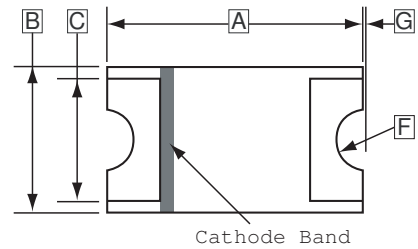
MECHANICAL DATA

- 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 grams (approximate)

MARKING



0805



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 1.90 | 2.10 | E | 0.40 | 0.60 |
| B | 1.20 | 1.40 | F | R 0.275 | |
| C | 1.00 TYP. | | G | 0.05 REF. | |
| D | 0.85 | 1.05 | | | |

PACKAGE INFORMATION

| PACKAGE | MPQ | Leader Size |
|---------|------|-------------|
| 0805 | 3000 | 7 inch |

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

| Type Number | Symbol | Part Number | | | Unit |
|---|-------------|-------------|---------|---------|--------------------|
| | | MSCD102 | MSCD104 | MSCD106 | |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 20 | 40 | 60 | V |
| Maximum Average Forward Current | $I_{F(AV)}$ | 1 | | | A |
| Peak Forward Surge Current @ 8.3 ms single half sine-wave | I_{FSM} | 10 | | | A |
| Junction Temperature Range T_J | T_J | -55~125 | | -55~150 | $^{\circ}\text{C}$ |
| Storage Temperature Range T_{STG} | T_{STG} | -55~150 | | | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Type Number | | Symbol | Min. | Typ. | Max. | Unit | |
|---|---------|-----------------|-------------------|-------|------|-----------------------------|---|
| Forward Voltage ¹ | MSCD102 | V_F | $I_F=0.5\text{A}$ | - | 0.39 | - | V |
| | | | $I_F=1\text{A}$ | - | 0.42 | 0.45 | |
| | MSCD104 | | $I_F=0.5\text{A}$ | - | 0.4 | - | |
| | | | $I_F=1\text{A}$ | - | 0.47 | 0.5 | |
| | MSCD106 | | $I_F=0.5\text{A}$ | - | 0.5 | - | |
| | | | $I_F=1\text{A}$ | - | 0.62 | 0.65 | |
| Repetitive peak reverse current ¹ @ $V_R=\text{Max. } V_{RRM}, T_A=25^\circ\text{C}$ | | I_{RRM} | - | 0.028 | 0.2 | mA | |
| Junction capacitance @ $V_R=4\text{V}, f=1.0\text{MHz}$ | | C_J | - | 115 | - | pF | |
| Typical Thermal Resistance Junction to ambient | | $R_{\theta JA}$ | - | 120 | - | $^\circ\text{C} / \text{W}$ | |
| Typical Thermal Resistance Junction to lead | | $R_{\theta JL}$ | - | 28 | - | $^\circ\text{C} / \text{W}$ | |

Note:

1. Pulse test width $PW=300\mu\text{sec}$, 1% duty cycle.
2. Mounted on P.C. board with $0.2 \times 0.2''$ (5.0 x 5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

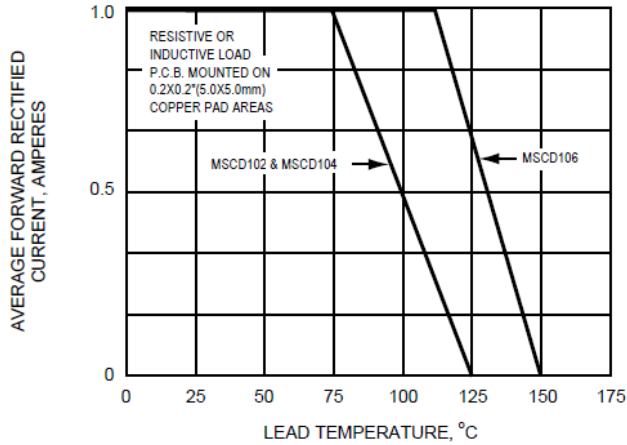


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

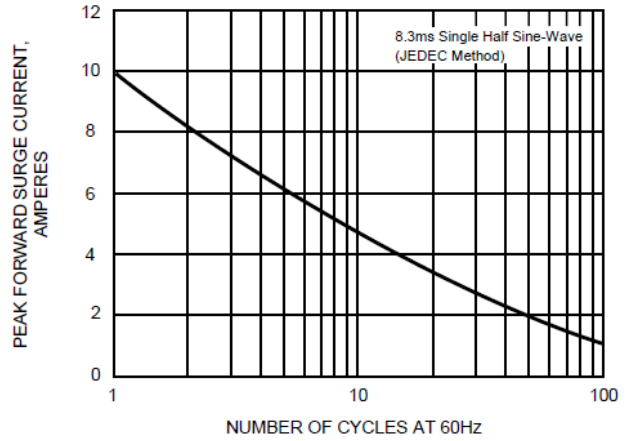


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

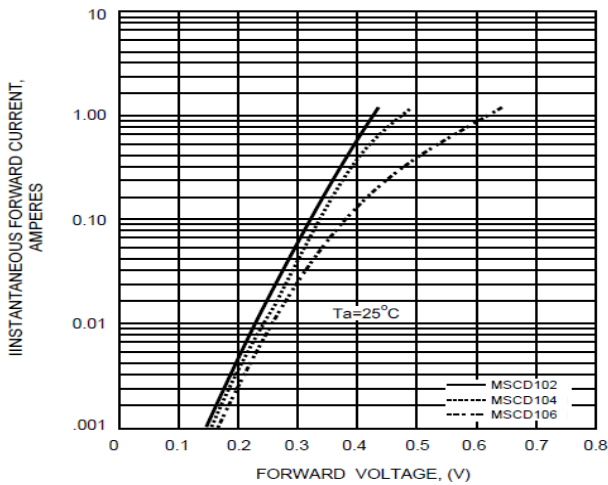


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

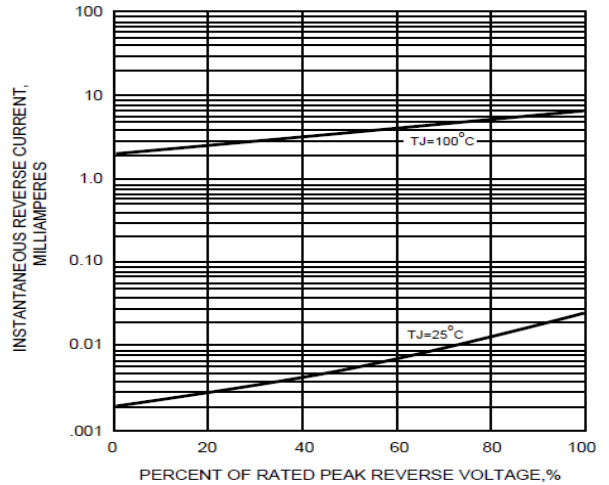


FIG.5 - TYPICAL JUNCTION CAPACITANCE

