

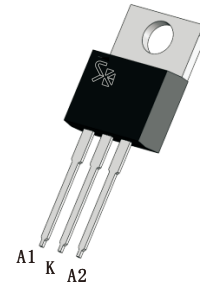
## Fast Recovery Epi Diodes Reverse Voltage – 400 Volts Forward Current – 16 Amperes

### Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7s, per JESD 22-B106

### Mechanical data

- Case: TO-220
- Approx. Weight: 1.9g ( 0.067oz)
- Lead free finish, RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.



TO-220



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| PARAMETER                                                                                         | Symbols         | MUR1640CT  | Units |
|---------------------------------------------------------------------------------------------------|-----------------|------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$       | 400        | V     |
| Maximum RMS voltage                                                                               | $V_{RMS}$       | 280        | V     |
| Maximum DC blocking Voltage                                                                       | $V_{DC}$        | 400        | V     |
| Maximum Average Forward Rectified Current @Tc=100°C                                               | $I_{F(AV)}$     | 8<br>16    | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 100        | A     |
| Instantaneous forward voltage at 8A per leg                                                       | $V_F$           | 1.25       | V     |
| Maximum instantaneous reverse current at rated DC blocking voltage                                | $I_R$           | 10<br>100  | uA    |
| Maximum Reverse Recovery Time NOTE 1                                                              | $t_{rr}$        | 35         | ns    |
| Maximum Thermal Resistance Junction To Case                                                       | $R_{\theta JC}$ | 4          | °C/W  |
| Operation Junction Temperature and Storage Temperature                                            | $T_j, T_{stg}$  | -55 ~ +150 | °C    |

NOTE 1: Reverse recovery test conditions  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$



Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

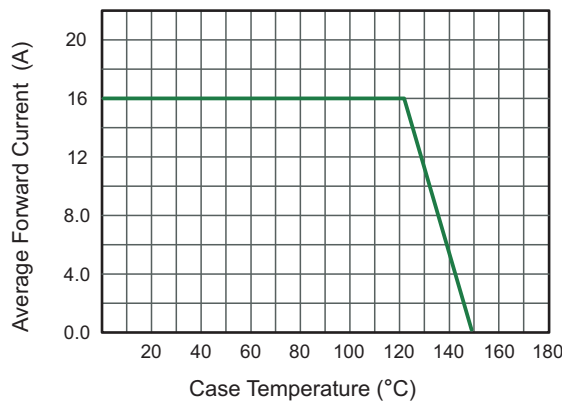


Fig.2 Typical Reverse Characteristics

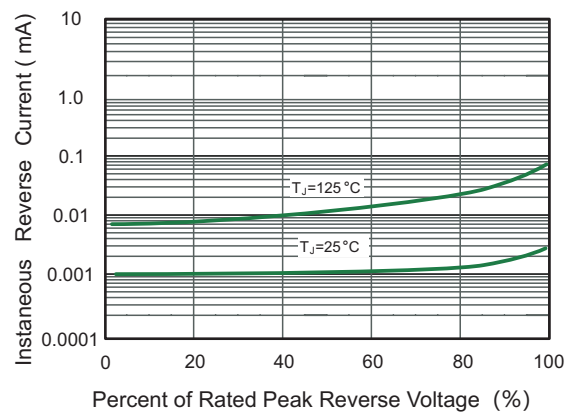


Fig.3 Typical Forward Characteristics

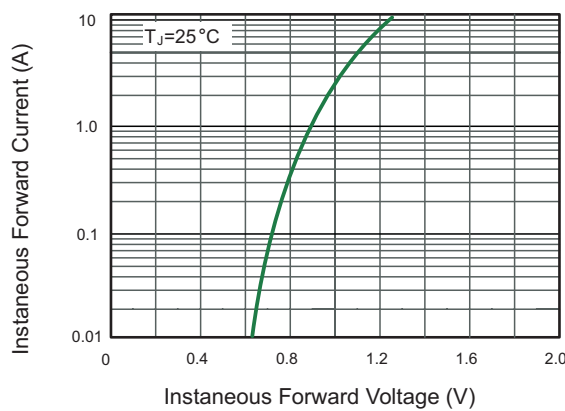
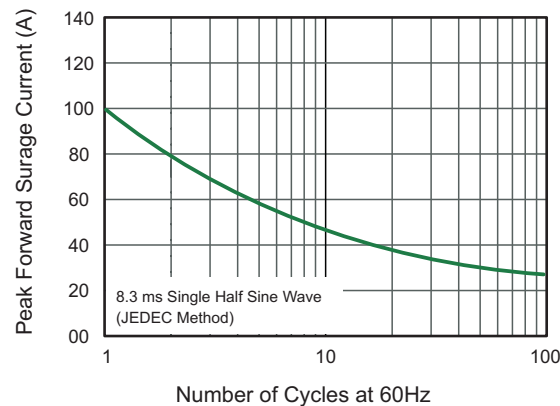


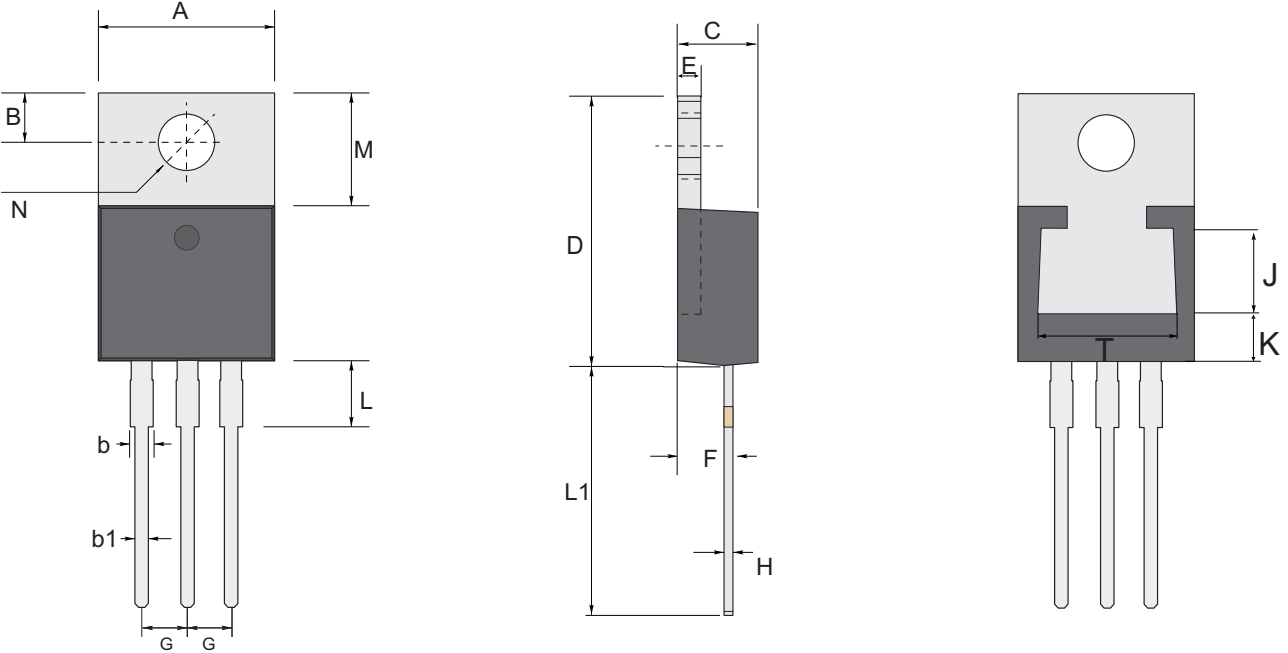
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current





PACKAGE OUTLINE  
Plastic surface mounted package; 3 leads

TO-220



TO-220 mechanical data

| UNIT |     | A     | B    | b    | b1   | C    | D     | E    | F    | G               | H    | L    | L1    | M              | N              | J            | T            | K            |
|------|-----|-------|------|------|------|------|-------|------|------|-----------------|------|------|-------|----------------|----------------|--------------|--------------|--------------|
| mm   | max | 10.45 | 2.94 | 1.77 | 0.94 | 4.76 | 16.0  | 1.40 | 2.80 | 2.54<br>TYPICAL | 0.64 | 4.2  | 14.79 | 6.6<br>TYPICAL | 3.8<br>TYPICAL | 4.65<br>ref. | 7.70<br>ref. | 3.22<br>ref. |
|      | typ | 9.94  | 2.74 | 1.27 | 0.81 | 4.53 | 15.09 | 1.27 | 2.69 |                 | 0.38 | 3.89 | 13.18 |                |                |              |              |              |
|      | min | 9.85  | 2.54 | 1.14 | 0.62 | 4.42 | 14.6  | 1.14 | 2.20 |                 | 0.35 | 2.8  | 13.08 |                |                |              |              |              |
| mil  | max | 411   | 116  | 70   | 40   | 187  | 630   | 55   | 110  | 100<br>TYPICAL  | 25   | 165  | 582   | 259<br>TYPICAL | 150<br>TYPICAL | 1.83<br>ref. | 303<br>ref.  | 126<br>ref.  |
|      | typ | 391   | 107  | 50   | 31   | 178  | 594   | 50   | 105  |                 | 15   | 153  | 519   |                |                |              |              |              |
|      | min | 388   | 100  | 45   | 24   | 174  | 575   | 45   | 87   |                 | 14   | 110  | 515   |                |                |              |              |              |