

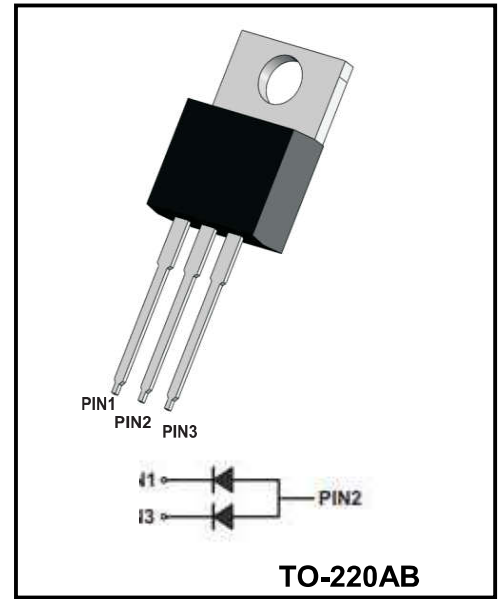
**Fast Recovery Epi Diodes**

**Reverse Voltage - 400 V**

**Forward Current - 16 A**

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

**Maximum Ratings (Per Leg) At Ta=25°C Unless Otherwise Specified**

| Parameter   | Symbols         | Value           | Units |
|---|-----------------|-----------------|-------|
| Maximum Repetitive 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<br>@Tc=100 °C   | Per Leg         | 8               | A     |
|   | per device      | 16              |       |
| Peak Forward Surge Current, 8.3ms<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method) | $I_{FSM}$       | 100             | A     |
| Instantaneous forward voltage at 8A<br>per leg  | $V_F$           | 1.25            | V     |
| Maximum instantaneous reverse<br>current at rated<br>DC blocking voltage                                | $I_R$           | Ta=25°C<br>10   | uA    |
|   |                 | Ta=125°C<br>100 |       |
| Maximum Reverse Recovery Time NOTE 1  | $t_{rr}$        | 35              | nS    |
| Maximum Thermal Resistance<br>Junction To Case  | $R_{\theta JC}$ | 4               | °C/W  |
| Operation Junction Temperature and<br>Storage Temperature   | $T_J, T_{STG}$  | -55 ~ +150      | °C    |

**Note1: Reverse recovery test conditions IF=0.5A, IR=1.0A, Irr=0.25A**

Ratings and Characteristic Curves

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

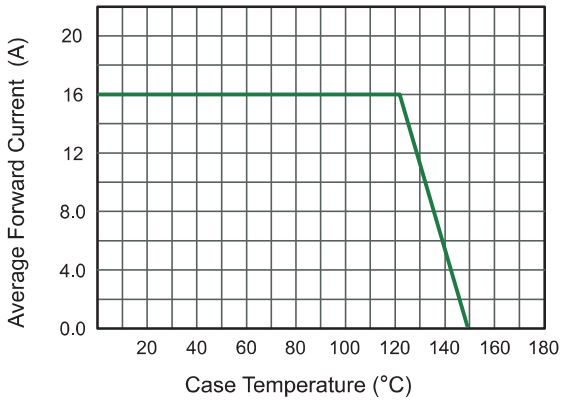


Fig.2 Typical Reverse Characteristics

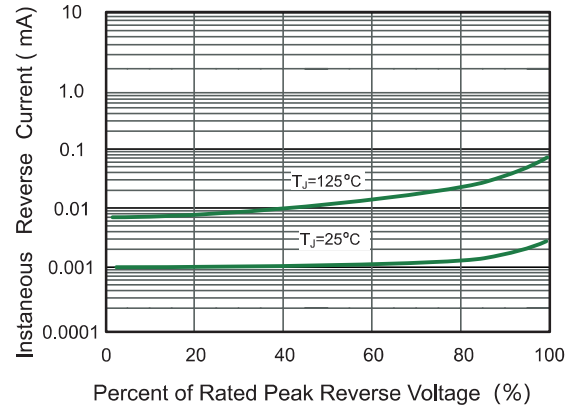


Fig.3 Typical Forward Characteristics

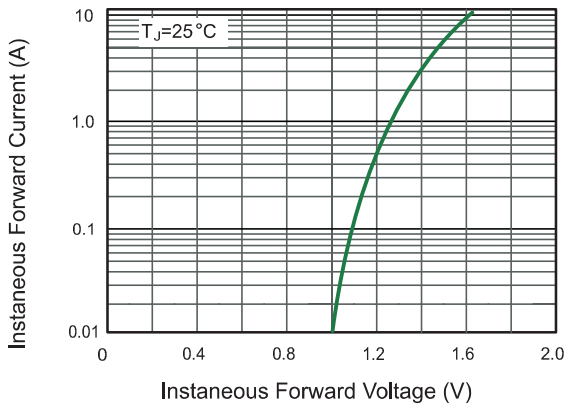
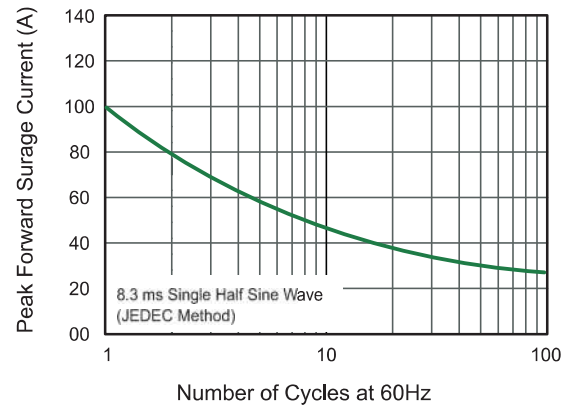
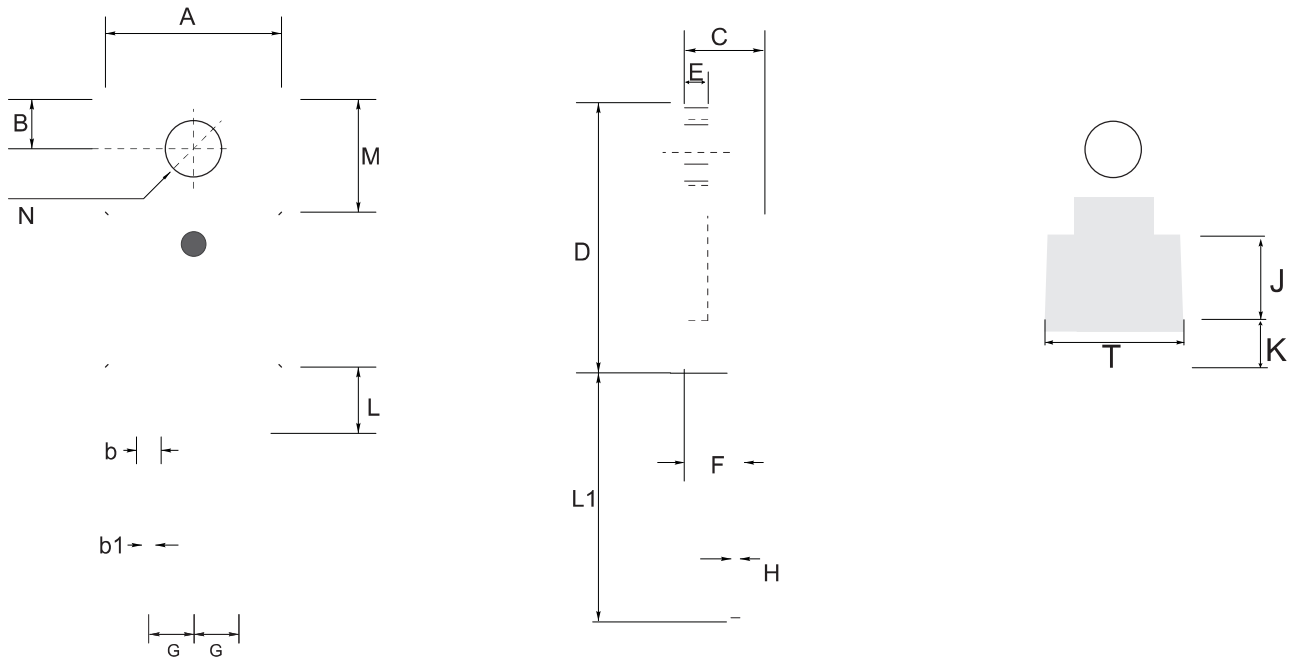


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline Dimensions Millimeters



TO-220AB

| 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   |                |                |              |              |              |

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