

## Ultra-Fast Recovery Diodes

### 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

### TO-220AB



### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                                                    | SYMBOLS         | MUR1620DCT  | MUR1640DCT | MUR1660DCT | UNITS              |
|--------------------------------------------------------------------------------------------------------------|-----------------|-------------|------------|------------|--------------------|
| Maximum repetitive peak reverse voltage                                                                      | $V_{RRM}$       | 200         | 400        | 600        | V                  |
| Maximum RMS voltage                                                                                          | $V_{RMS}$       | 140         | 280        | 420        | V                  |
| Maximum DC blocking voltage                                                                                  | $V_{DC}$        | 200         | 400        | 600        | V                  |
| Maximum average forward rectified current at $T_C=110^\circ\text{C}$<br>per device<br>per diode              | $I_{(AV)}$      | 16.0<br>8.0 |            |            | A                  |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                           | $I_{FSM}$       | 100.0       |            |            | A                  |
| Maximum instantaneous forward voltage per diode at 8.0A                                                      | $V_F$           | 1.0         | 1.3        | 1.6        | V                  |
| Maximum DC reverse current at rated DC blocking voltage<br>$T_A=25^\circ\text{C}$<br>$T_A=125^\circ\text{C}$ | $I_R$           | 10<br>500   |            |            | $\mu\text{A}$      |
| Maximum reverse recovery time                                                                                | $T_{rr}$        | 35          |            |            | ns                 |
| Typical thermal resistance                                                                                   | $R_{\theta JC}$ | 4.0         |            |            | $^\circ\text{C/W}$ |
| Operating junction temperature range                                                                         | $T_J$           | -55 to +175 |            |            | $^\circ\text{C}$   |
| Storage temperature range                                                                                    | $T_{STG}$       | -55 to +175 |            |            | $^\circ\text{C}$   |

Note: 1. Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$

## Ratings And Characteristic Curves

Fig.1 Typical Forward Current Derating Curve

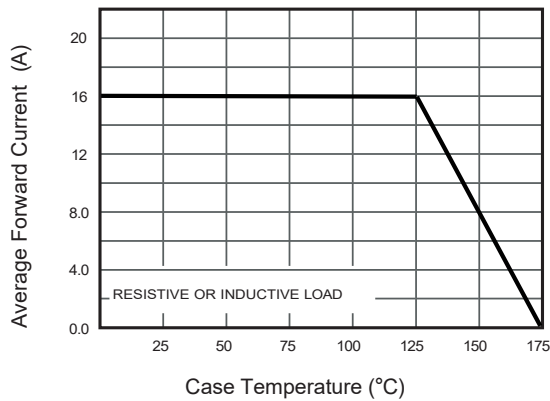


Fig.2 Typical Reverse Characteristics

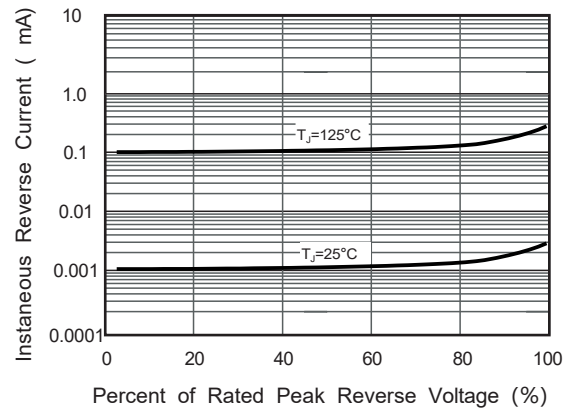


Fig.3 Typical Forward Characteristic

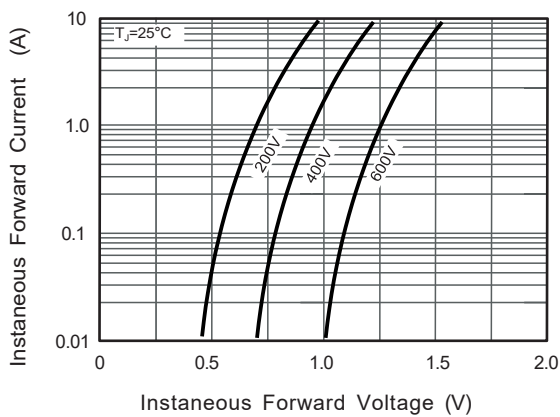
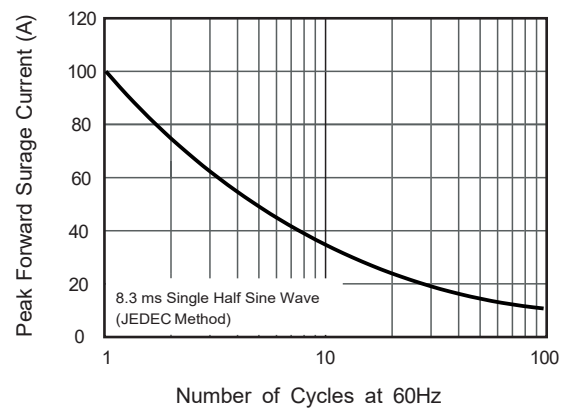


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.