

## 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



PIN



### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                                                           | SYMBOLS    | MUR2020DCT   | MUR2040DCT | MUR2060DCT | 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 TC=110 °C<br>per device<br>per diode                                   | $I_{(AV)}$ | 20.0<br>10.0 |            |            | A     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                                  | $I_{FSM}$  | 150.0        |            |            | A     |
| Maximum instantaneous forward voltage per diode at 10.0A                                                            | $V_F$      | 1.0          | 1.3        | 1.6        | V     |
| Maximum DC reverse current at<br>rated DC blocking voltage<br>$T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$ | $I_R$      | 10<br>500    |            |            | u A   |
| Maximum reverse recovery time                                                                                       | $T_{rr}$   | 35           |            |            | ns    |
| Typical thermal resistance                                                                                          | $R_{qJC}$  | 4.0          |            |            | °C/W  |
| Operating junction temperature range                                                                                | $T_J$      | -55 to +175  |            |            | °C    |
| Storage temperature range                                                                                           | $T_{STG}$  | -55 to +175  |            |            | °C    |

Note: 1.Reverse recovery time test condition: IF=0.5A IR=1.0A Irr=0.25A

## Ratings And Characteristic Curves

Fig.1 Typical Forward Current Derating Curve

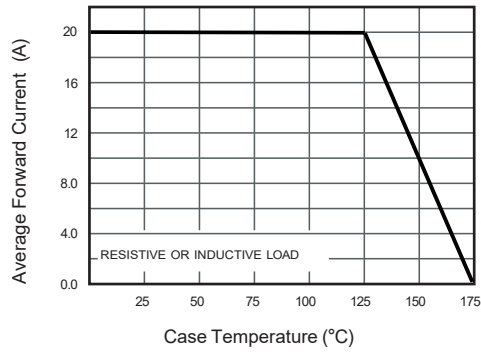


Fig.2 Typical Instantaneous Reverse Characteristics

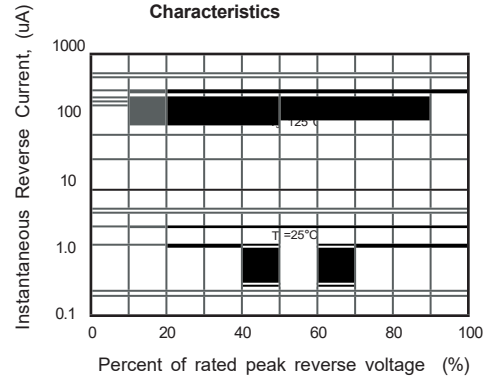


Fig.3 Typical Forward Characteristic

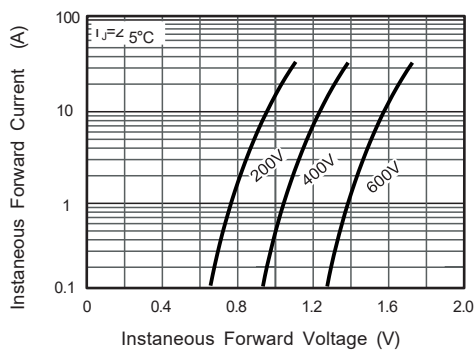
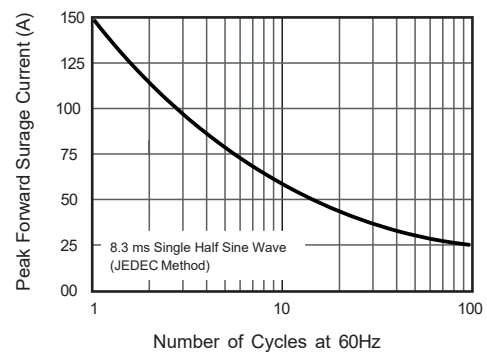


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.