



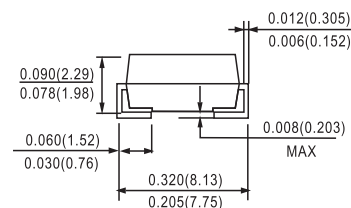
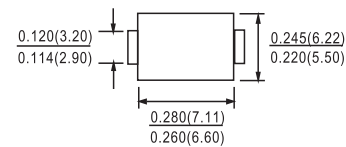
#### FEATURES

- 20 mJ Avalanche Energy Guaranteed
- Excellent Protection Against Voltage Transients in Switching Inductive Load Circuits
- Ultrafast 75 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction
- Reverse Voltage to 800 V
- These are Pb-Free Devices

#### MECHANICAL DATA

- Case: Epoxy, Molded
- Weight: 217 mg (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped in 16 mm Tape & Reel, 2500 Units per Reel
- Polarity: Notch in Plastic Body Indicates Cathode Lead

DO-214AB(SMC)



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

### MAXIMUM RATINGS

| Rating                                                                                                         | Symbol                          | Value                              | Unit |
|----------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage<br>MURS480E             | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 800                                | V    |
| Average Rectified Forward Current                                                                              | $I_{F(AV)}$                     | 4.0 @<br>$T_L = 110^\circ\text{C}$ | A    |
| Non-Repetitive Peak Surge Current<br>(Surge Applied at Rated Load Conditions<br>Halfwave, Single Phase, 60 Hz) | $I_{FSM}$                       | 70                                 | A    |
| Operating Junction and Storage Temperature Range                                                               | $T_J, T_{stg}$                  | -65 to<br>+175                     | °C   |

### THERMAL CHARACTERISTICS

| Rating                                          | Symbol          | Value | Unit |
|-------------------------------------------------|-----------------|-------|------|
| Maximum Thermal Resistance, Junction-to-Lead    | $R_{\theta JL}$ | 11    | °C/W |
| Maximum Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 165   | °C/W |

### ELECTRICAL CHARACTERISTICS

| Characteristic                                                                                                                                                                                        | Symbol      | Max                  | Unit          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------|
| Maximum Instantaneous Forward Voltage (Note 1)<br>( $I_F = 3.0$ Amps, $T_J = 150^\circ\text{C}$ )<br>( $I_F = 3.0$ Amps, $T_J = 25^\circ\text{C}$ )<br>( $I_F = 4.0$ Amps, $T_J = 25^\circ\text{C}$ ) | $V_F$       | 1.53<br>1.75<br>1.85 | V             |
| Maximum Instantaneous Reverse Current (Note 1)<br>(Rated dc Voltage, $T_J = 150^\circ\text{C}$ )<br>(Rated dc Voltage, $T_J = 25^\circ\text{C}$ )                                                     | $I_R$       | 900<br>25            | $\mu\text{A}$ |
| Maximum Reverse Recovery Time<br>( $I_F = 1.0$ A, $di/dt = 50$ A/ $\mu\text{s}$ )<br>( $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{REC} = 0.25$ A)                                                              | $t_{rr}$    | 100<br>75            | ns            |
| Maximum Forward Recovery Time<br>( $I_F = 1.0$ Amp, $di/dt = 100$ Amp/ $\mu\text{s}$ , Recovery to 1.0 V)                                                                                             | $t_{fr}$    | 75                   | ns            |
| Controlled Avalanche Energy                                                                                                                                                                           | $W_{AVAIL}$ | 20                   | mJ            |

1. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .



**TAYCHIPST**

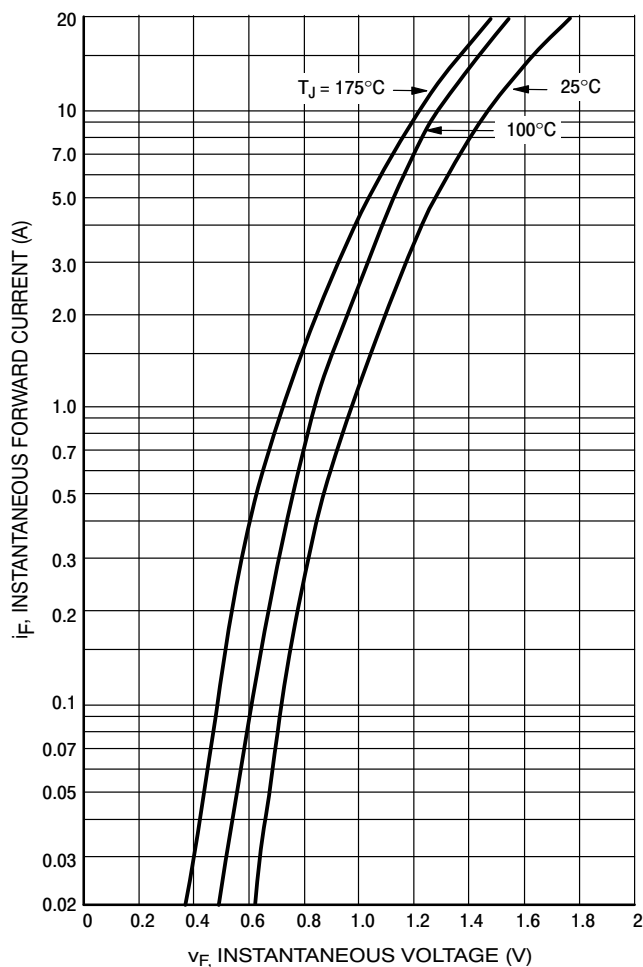
**SWITCHMODE Power Rectifiers**

**MURS480ET3G**

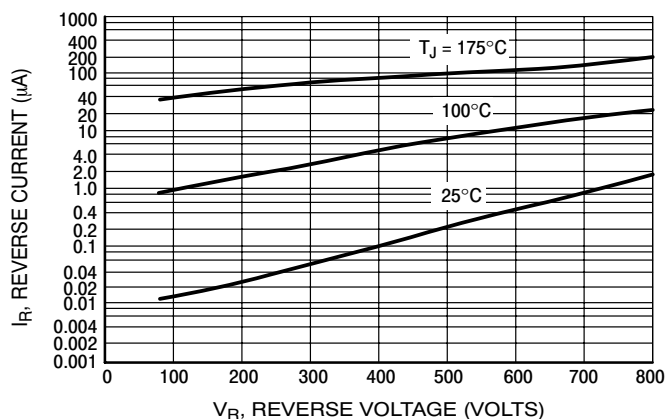
800V 4.0A

**RATINGS AND CHARACTERISTIC CURVES**

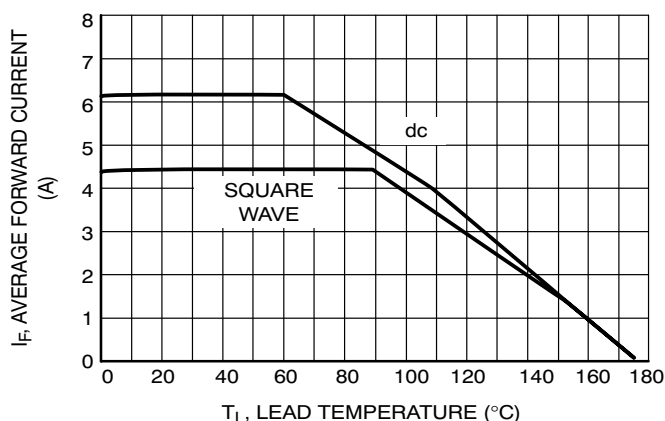
**MURS480ET3G**



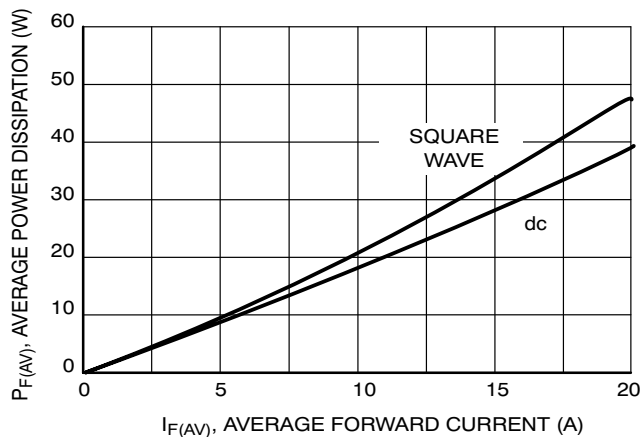
**Figure 1. Typical Forward Voltage**



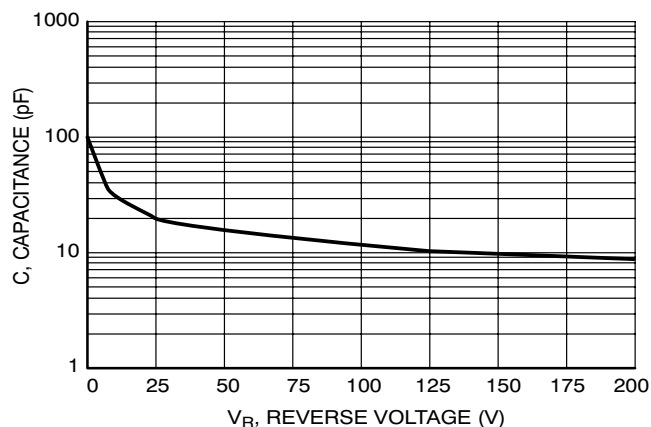
**Figure 2. Typical Reverse Current**



**Figure 3. Current Derating Lead**



**Figure 4. Power Dissipation**



**Figure 5. Typical Capacitance**