

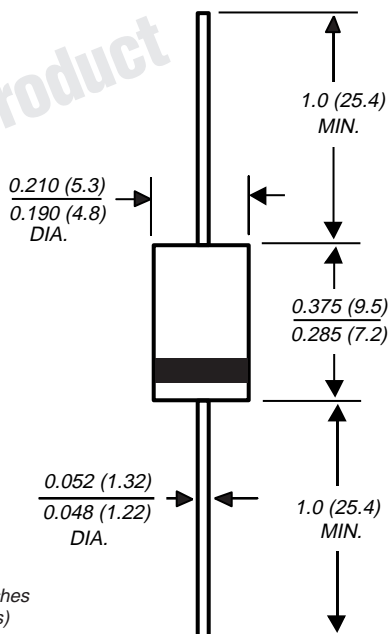
## Ultrafast Plastic Rectifier

**Reverse Voltage** 400 to 600V

**Forward Current** 4.0A



**DO-201AD**



Dimensions in inches  
and (millimeters)

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** JEDEC DO-201AD molded plastic body over passivated chip

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.045 ounce, 1.2 grams

## Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

|   | Symbols         | MUR440        | MUR460 | Units              |
|---|-----------------|---------------|--------|--------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 400           | 600    | Volts              |
| Working peak reverse voltage  | $V_{RWM}$       | 400           | 600    | Volts              |
| Maximum DC blocking voltage   | $V_{DC}$        | 400           | 600    | Volts              |
| Maximum average forward rectified current at $T_A = 40^\circ\text{C}$<br>See figure 1                   | $I_{F(AV)}$     | 4.0           |        | Amps               |
| Peak forward surge current<br>8.3 ms single half sine-wave superimposed<br>on rated load (JEDEC Method) | $I_{FSM}$       | 125           |        | Amps               |
| Typical thermal resistance junction to ambient (NOTE 2)   | $R_{\theta JA}$ | 28            |        | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -65 to +175°C |        | $^\circ\text{C}$   |

## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

|  | Symbols  | MUR440               | MUR460 | Units         |
|--|----------|----------------------|--------|---------------|
| Maximum instantaneous forward voltage (NOTE 1)<br>at 3.0A, $T_J=150^\circ\text{C}$<br>at 3.0A, $T_J=25^\circ\text{C}$<br>at 4.0A, $T_J=25^\circ\text{C}$ | $V_F$    | 1.05<br>1.25<br>1.28 |        | Volts         |
| Maximum instantaneous reverse current<br>at rated DC blocking voltage (NOTE 1)<br>$T_J=25^\circ\text{C}$<br>$T_J=150^\circ\text{C}$                      | $I_R$    | 10<br>250            |        | $\mu\text{A}$ |
| Maximum reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$   | $t_{rr}$ | 50                   |        | ns            |
| Maximum reverse recovery time at,<br>$I_F=1.0\text{A}$ , $di/dt=50\text{A}/\mu\text{s}$ , $V_R=30\text{V}$ , $I_{rr}=10\% I_{RM}$                        | $t_{rr}$ | 75                   |        | ns            |

### NOTES:

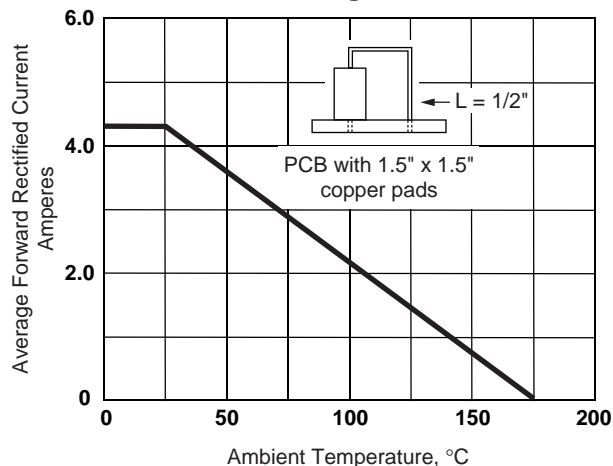
(1) Pulse test:  $t_p=300\mu\text{s}$ , duty cycle  $\leq 2\%$

(2) Lead length = 1/2" on P.C. board with 1/2" x 1/2" copper surface

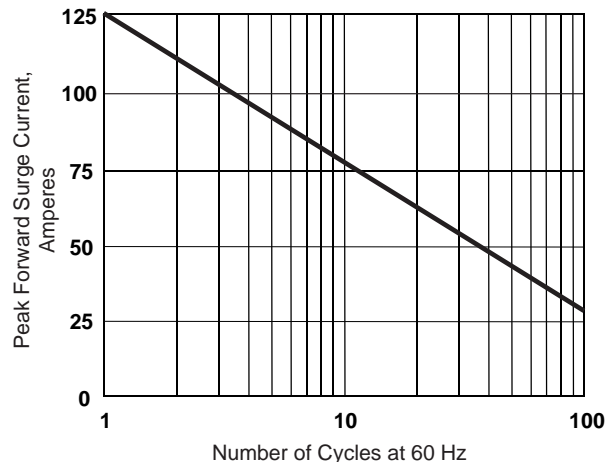
# MUR440 and MUR460

## Ratings & Characteristic Curves

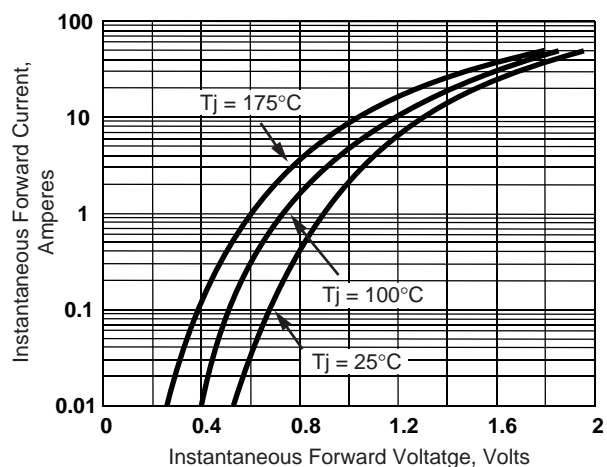
**Figure 1 – Forward Current Derating Curve**



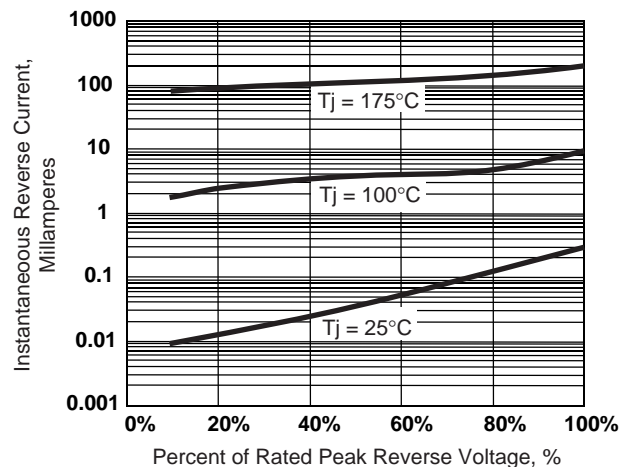
**Figure 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Figure 3 – MUR460 Typical Instantaneous Forward Characteristics**



**Figure 4 – MUR460 Typical Reverse Characteristics**



**Figure 5 – Typical Junction Capacitance per Leg**

