

MUR405-MUR460

4 AMP ULTRA FAST RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

| Rating | Symbol | MUR | | | | | | Unit |
|--|-----------------|--------------------------------|-----|-----|--------------------------------|-----|-----|---------------------------|
| | | 405 | 410 | 415 | 420 | 440 | 460 | |
| Peak repetitive reverse voltage | V_{RRM} | | | | | | | V |
| Working peak reverse voltage | V_{RWM} | 50 | 100 | 150 | 200 | 400 | 600 | |
| DC blocking voltage | V_R | | | | | | | |
| Average rectified forward current (square wave) Mounting method per note 2 | $I_{F(AV)}$ | 4.0 @ $T_A = 80^\circ\text{C}$ | | | 4.0 @ $T_A = 40^\circ\text{C}$ | | | A |
| Non-repetitive peak surge current (surge applied at rated load conditions halfwave, single phase, 60Hz) | I_{FSM} | 125 | | | 110 | | | A |
| Operating and storage junction temperature range | T_J, T_{stg} | -65 to +175 | | | | | | $^\circ\text{C}$ |
| Maximum thermal resistance Junction to ambient | $R_{\theta JA}$ | Note 2 | | | | | | $^\circ\text{C}/\text{W}$ |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

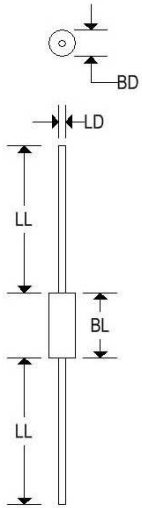
| Parameter | Symbol | MUR | | | | | | Unit |
|--|------------|-----|-----|----------------------|-----|-----|----------------------|---------------|
| | | 405 | 410 | 415 | 420 | 440 | 460 | |
| Maximum instantaneous forward voltage ⁽¹⁾ ($I_F = 3.0\text{A}, T_J = 150^\circ\text{C}$) ($I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$) ($I_F = 4.0\text{A}, T_J = 25^\circ\text{C}$) | V_F | | | 0.71 0.88 0.89 | | | 1.05 1.25 1.28 | V |
| Maximum instantaneous reverse current ⁽¹⁾ (Rated dc voltage, $T_J = 150^\circ\text{C}$) (Rated dc voltage, $T_J = 25^\circ\text{C}$) | I_R | | | 150 5 | | | 250 10 | μA |
| Maximum reverse recovery time ($I_F = 1.0\text{A}, di/dt = 50\text{A}/\mu\text{s}$) ($I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{REC} = 0.25\text{A}$) | t_{rr} | | | 35 25 | | | 75 50 | ns |
| Maximum forward recovery time ($I_F = 1.0\text{A}, di/dt = 100\text{A}/\mu\text{s}, I_{REC}$ to 1.0V) | t_{fr} | | | 25 | | | 50 | ns |
| Controlled avalanche energy | W_{AVAL} | | - | | 5 | | - | mJ |

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MECHANICAL CHARACTERISTICS

| | |
|-----------------|-----------------------------|
| Case | DO-201A |
| Marking | Body painted, alpha-numeric |
| Polarity | Cathode band |



| | DO-201A | | | |
|-----------|---------|-------|-------------|-------|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| BD | 0.190 | 0.260 | 4.826 | 6.604 |
| BL | 0.265 | 0.375 | 7.240 | 9.530 |
| LD | 0.048 | 0.062 | 1.219 | 1.321 |
| LL | 1.000 | - | 25.400 | - |

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MUR405, MUR410, MUR415, MUR420

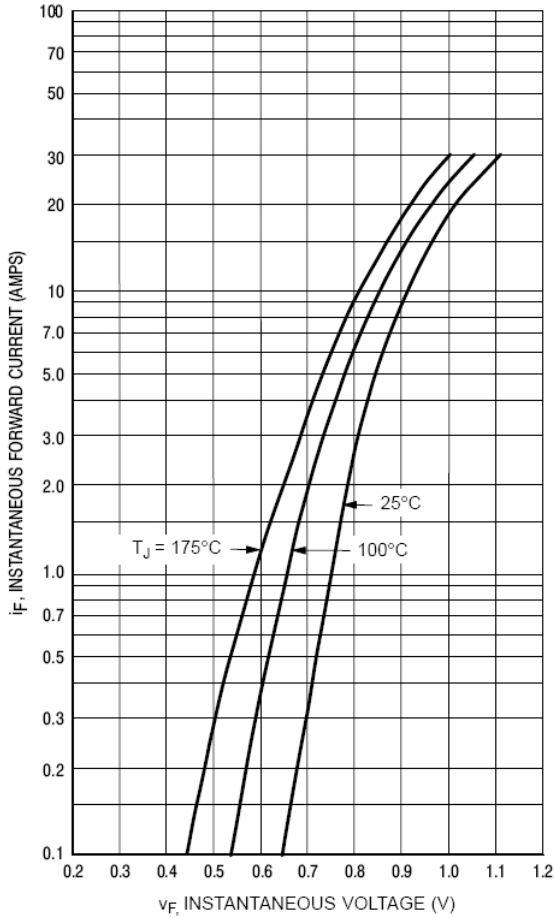


Figure 1. Typical Forward Voltage

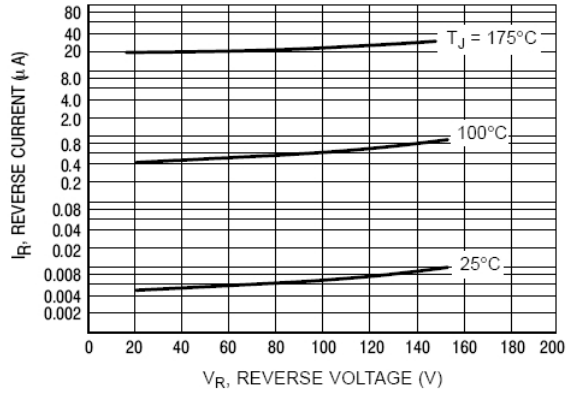


Figure 2. Typical Reverse Current

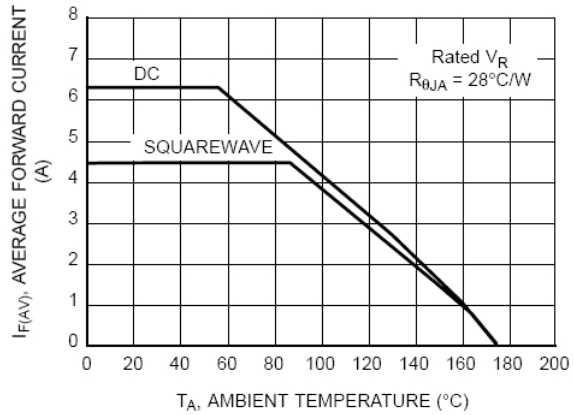


Figure 3. Current Derating
(Mounting Method #3 Per Note 2)

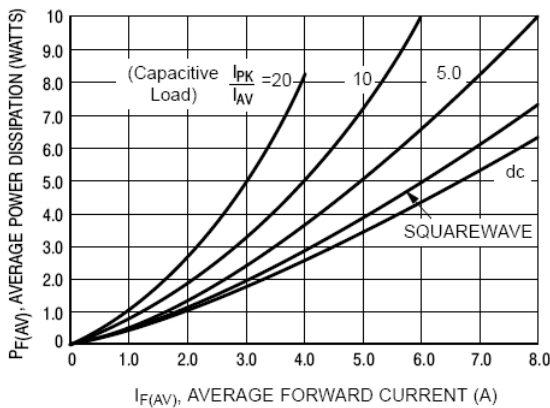


Figure 4. Power Dissipation

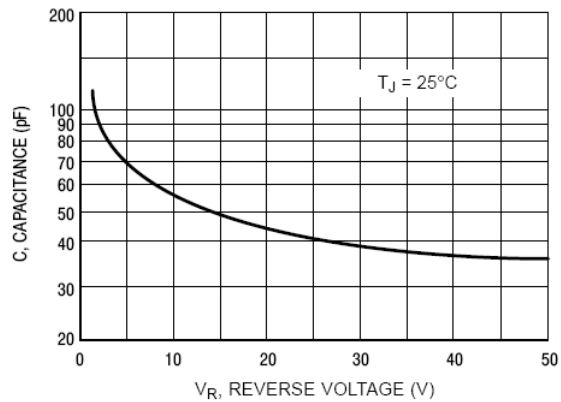


Figure 5. Typical Capacitance



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MUR440, MUR460

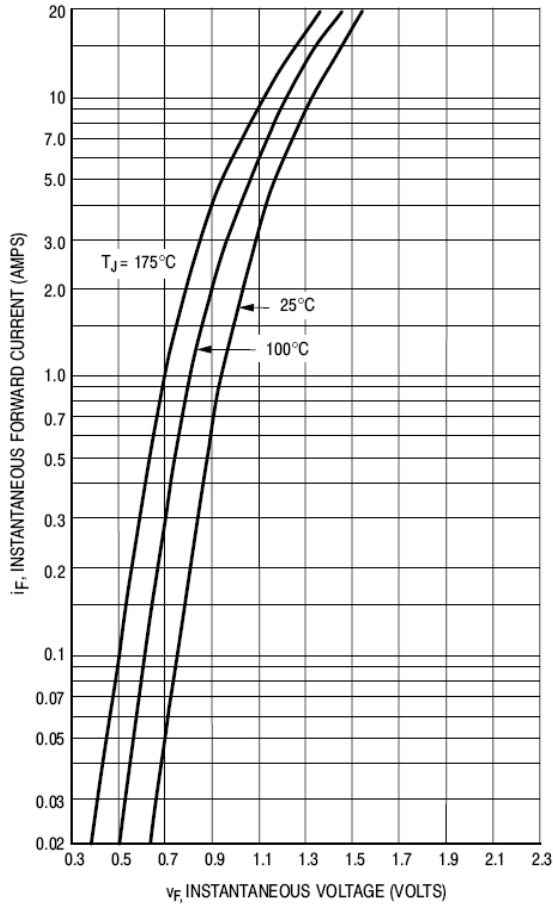


Figure 6. Typical Forward Voltage

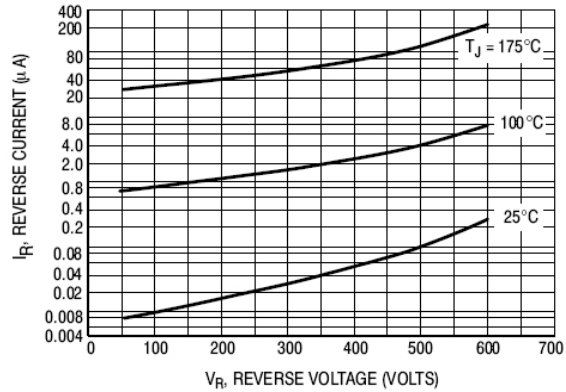


Figure 7. Typical Reverse Current

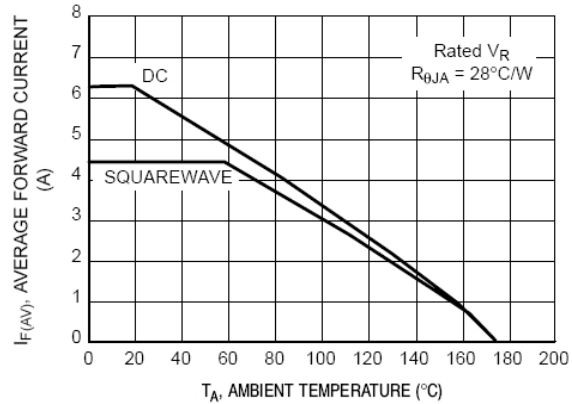


Figure 8. Current Derating
(Mounting Method #3 Per Note 2)

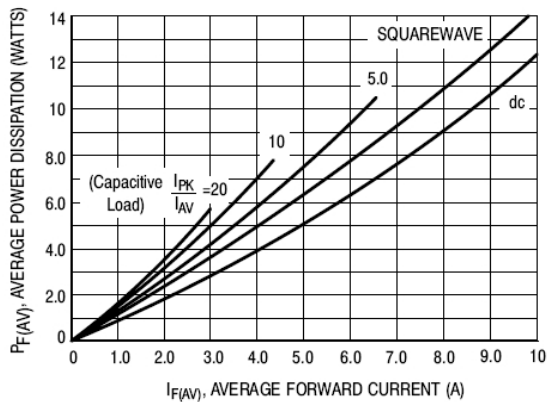


Figure 9. Power Dissipation

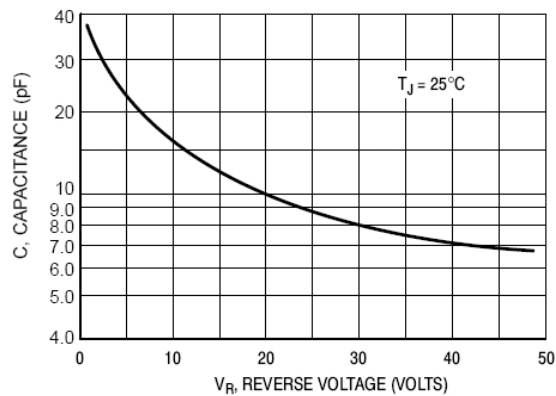


Figure 10. Typical Capacitance