

MUR3020-MUR3040

30A ULTRA FAST RECTIFIERS

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 |
|---|-----------------|--------------------------------|------|------|---------------------------|
| | | 3020 | 3030 | 3040 | |
| Peak repetitive reverse voltage | V_{RRM} | 200 | 300 | 400 | V |
| Working peak reverse voltage | V_{RWM} | | | | |
| DC blocking voltage | V_R | | | | |
| Average rectified forward current (Rated V_R) | $I_{F(AV)}$ | 30 @ $T_C = 70^\circ\text{C}$ | | | A |
| Peak repetitive surge current (Rated V_R , square wave, 20 kHz) | I_{FRM} | 30 @ $T_C = 150^\circ\text{C}$ | | | A |
| Non-repetitive peak surge current (surge applied at rated load conditions, halfwave, single phase, 60Hz) | I_{FSM} | 300 | | | A |
| Operating and storage junction temperature range | T_J, T_{stg} | -65 to +175 | | | $^\circ\text{C}$ |
| Maximum thermal resistance Junction to case | $R_{\theta JC}$ | 1.0 | | | $^\circ\text{C}/\text{W}$ |

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

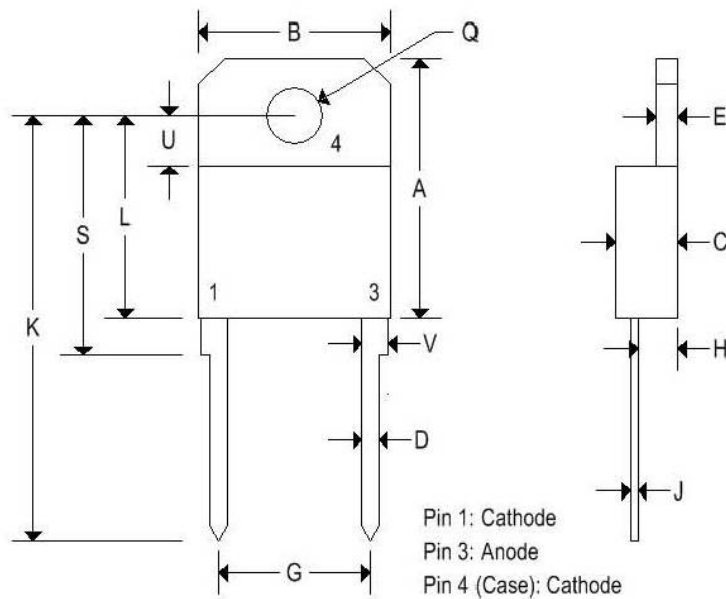
| Parameter | Symbol | MUR | | | Unit |
|--|----------|------------|------|------|---------------------|
| | | 3020 | 3030 | 3040 | |
| Maximum instantaneous forward voltage ($I_F = 30\text{A}$, $T_C = 100^\circ\text{C}$) ($I_F = 30\text{A}$, $T_C = 25^\circ\text{C}$) | V_F | 1.4 1.5 | | | V |
| Maximum instantaneous reverse current (Rated dc voltage, $T_C = 100^\circ\text{C}$) (Rated dc voltage, $T_C = 25^\circ\text{C}$) | I_R | 6.0 35 | | | mA μA |
| Maximum reverse recovery time ($I_F = 1.0\text{A}$, $di/dt = 15\text{A}/\mu\text{s}$) | t_{rr} | 100 | | | ns |

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MECHANICAL CHARACTERISTICS

| | |
|----------|---------------|
| Case | TO-218 |
| Marking | Alpha-numeric |
| Pin out: | See below |



| | TO-218 | | | |
|---|--------|-------|-------------|--------|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| A | 0.749 | 0.771 | 19.000 | 19.600 |
| B | 0.551 | 0.570 | 14.000 | 14.500 |
| C | 0.165 | 0.196 | 4.200 | 5.000 |
| D | 0.040 | 0.051 | 1.000 | 1.300 |
| E | 0.058 | 0.064 | 1.450 | 1.6500 |
| G | 0.411 | 0.450 | 10.420 | 11.440 |
| H | 0.103 | 0.118 | 2.600 | 3.000 |
| J | 0.016 | 0.023 | 0.400 | 0.600 |
| K | 1.123 | 1.259 | 28.500 | 32.000 |
| L | 0.579 | 0.602 | 14.700 | 15.300 |
| Q | 0.158 | 0.167 | 4.000 | 4.250 |
| S | 0.689 | 0.767 | 17.500 | 19.500 |
| U | 0.134 | 0.149 | 3.400 | 3.800 |
| V | 0.060 | 0.078 | 1.500 | 2.000 |

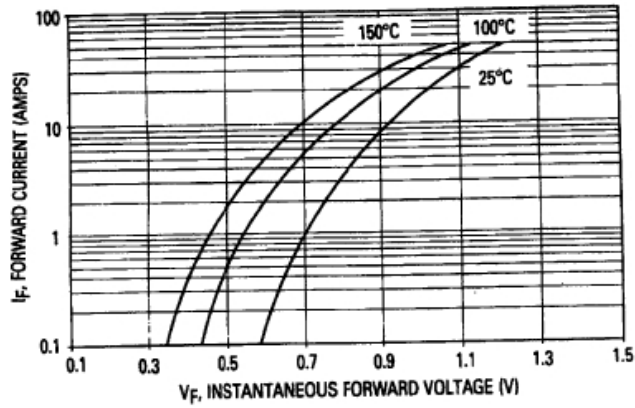


Figure 1. Typical Forward Voltage

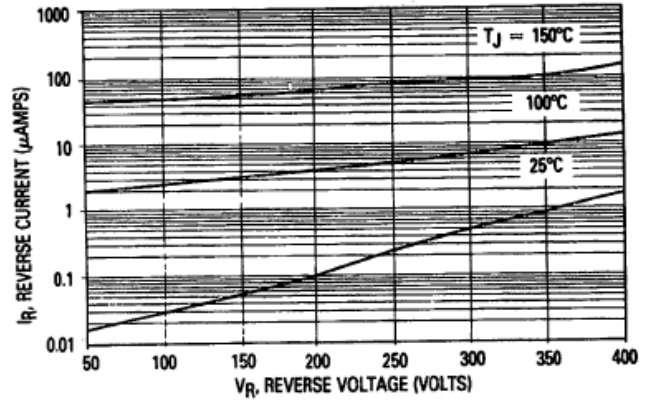


Figure 2. Typical Reverse Current

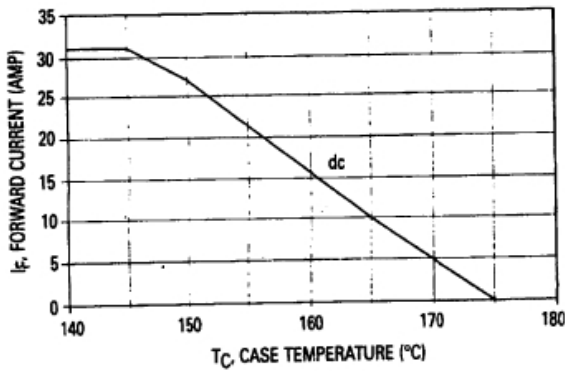


Figure 3. Current Derating, Case

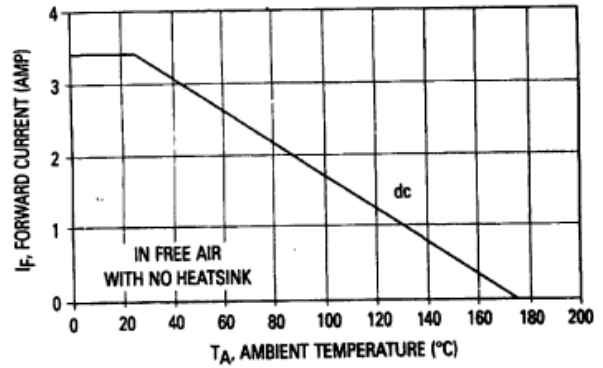


Figure 4. Current Derating, Ambient