

MOTOROLA
SEMICONDUCTOR
 TECHNICAL DATA

MUR605CT
MUR610CT
MUR615CT
MUR620CT

MUR620CT is a
 Motorola Preferred Device

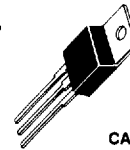
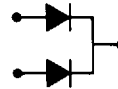
SWITCHMODE POWER RECTIFIERS

... designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package

**ULTRAFAST
 RECTIFIERS**

6 AMPERES
50-200 VOLTS



CASE 221A-06
 TO-220AB
 PLASTIC

3

MAXIMUM RATINGS

| Rating | Symbol | MUR605CT | MUR610CT | MUR615CT | MUR620CT | Unit |
|--|---------------------------------|----------|----------|----------|----------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 50 | 100 | 150 | 200 | Volts |
| Average Rectified Forward Current (Rated V_R) $T_C = 130^\circ\text{C}$ | $I_{F(AV)}$ | | | | | Amps |
| Peak Repetitive Forward Current Per Diode Leg (Rated V_R , Square Wave, 20 kHz) $T_C = 130^\circ\text{C}$ | I_{FRM} | | | | | Amps |
| Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | I_{FSM} | | | | | Amps |
| Operating Junction Temperature and Storage Temperature | T_J, T_{stg} | | | | | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS PER DIODE LEG

| Rating | Symbol | Typical | Maximum | Unit |
|--------------------------------------|-----------------|---------|---------|--------------------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 5.0-6.0 | 7.0 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS PER DIODE LEG

| Rating | Symbol | Typical | Maximum | Unit |
|--|----------|--------------------|----------------|---------------|
| Instantaneous Forward Voltage (1) ($I_F = 3.0$ Amp, $T_C = 150^\circ\text{C}$) ($I_F = 3.0$ Amp, $T_C = 25^\circ\text{C}$) | V_F | 0.80 0.94 | 0.895 0.975 | Volts |
| Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 150^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$) | i_R | 2.0-10 0.01-3.0 | 250 5.0 | μA |
| Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/ μs) | t_{rr} | 20-30 | 35 | ns |

(1) Pulse Test Pulse Width = 300 μs , Duty Cycle $\approx 2\%$

FIGURE 1 — TYPICAL FORWARD VOLTAGE

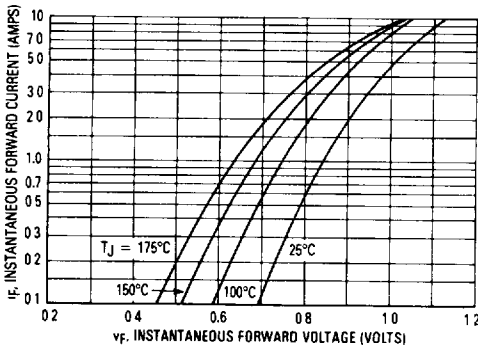


FIGURE 2 — TYPICAL REVERSE CURRENT

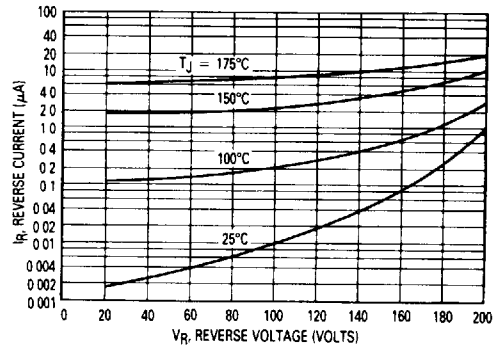


FIGURE 3 — TOTAL DEVICE CURRENT DERATING, CASE

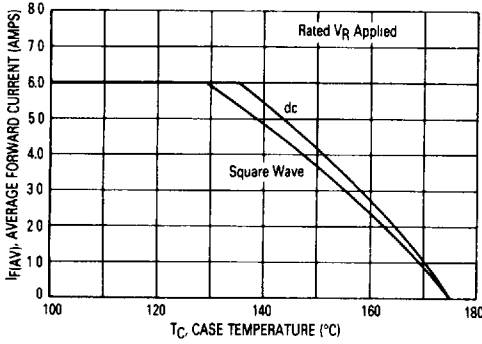


FIGURE 4 — TOTAL DEVICE CURRENT DERATING, AMBIENT

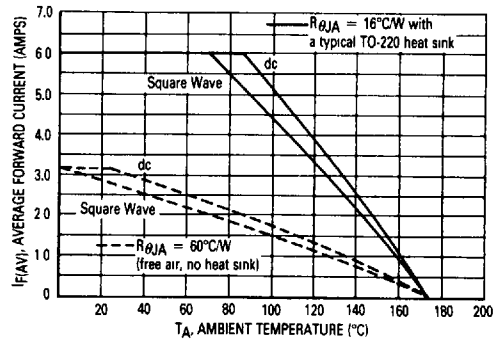


FIGURE 5 — POWER DISSIPATION

