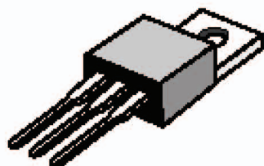


Ultra Fast Rectifiers



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

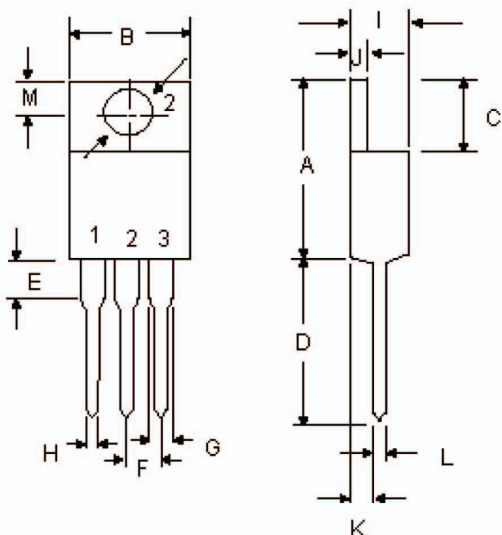
Switch mode Dual Ultrafast Power Rectifiers



Features:

- High surge capacity.
- Low power loss, high efficiency.
- Glass passivated chip junctions.
- 150°C operating junction temperature.
- Low stored charge majority carrier conduction.
- Low forward voltage, high current capability.
- High-switching speed 50 nanosecond recovery time.
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-O.

**16 Amperes
400-600 Volts
TO-220AB**



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.68 | 15.32 |
| B | 9.78 | 10.42 |
| C | 6.01 | 6.52 |
| D | 13.06 | 14.62 |
| E | 3.57 | 4.07 |
| F | 2.42 | 2.66 |
| G | 1.12 | 1.36 |
| H | 0.72 | 0.96 |
| I | 4.22 | 4.98 |
| J | 1.14 | 1.36 |
| K | 2.20 | 2.97 |
| L | 0.33 | 0.55 |
| M | 2.48 | 2.98 |
| O | 3.70 | 3.90 |

Dimensions : Millimetres



Common Cathode

Part Number Table

| Description | Part Number |
|-----------------------|-------------|
| Ultra Fast Rectifiers | MUR1640CT |
| Ultra Fast Rectifiers | MUR1660CT |

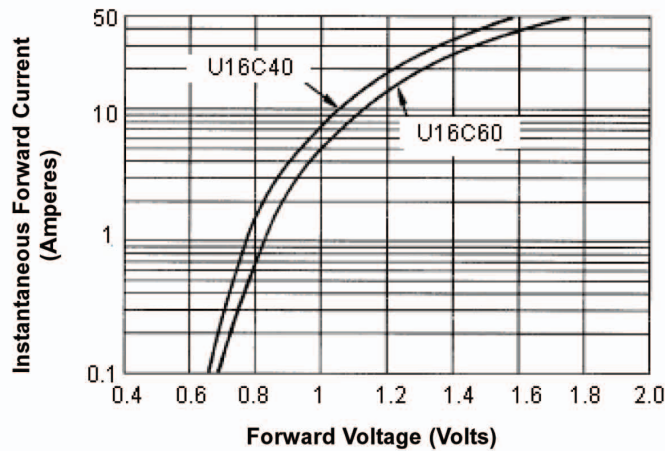
Maximum Ratings

| Characteristic | Symbol | MUR1640CT | MUR1660CT | Units |
|--|---------------------------------|-------------|-----------|--------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 400 | 600 | V |
| RMS Reverse Voltage | V_R (RMS) | 280 | 420 | |
| Average Rectifier Forward Current Per Leg $T_C = 125^{\circ}\text{C}$ Per Total Device | I_F (AV) | 8.0 16 | | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz, $T_C = 125^{\circ}\text{C}$) | I_{FM} | 16 | | |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz) | I_{FSM} | 125 | | |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +150 | | $^{\circ}\text{C}$ |

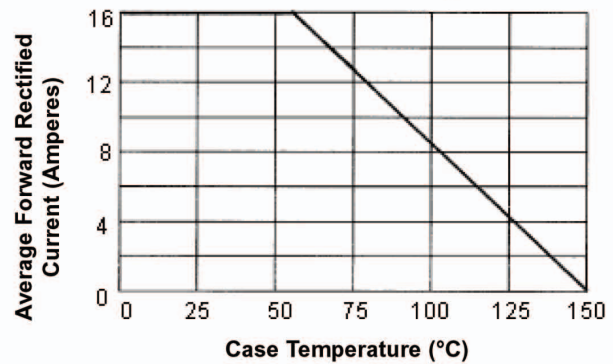
Electrical Characteristics

| Characteristic | Symbol | MUR1640CT | MUR1660CT | Units |
|--|----------|--------------|--------------|---------------|
| Maximum Instantaneous Forward Voltage ($I_F = 8.0$ Amperes $T_C = 25^\circ\text{C}$) ($I_F = 8.0$ Amperes $T_C = 100^\circ\text{C}$) | V_F | 1.30 1.12 | 1.50 1.34 | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$) | I_R | 10 500 | | μA |
| Reverse Recovery Time ($I_F = 0.5\text{A}$, $I_R = 1.0$ $I_{rr} = 0.25\text{A}$) | T_{rr} | 50 | | ns |
| Typical Junction Capacitance (Reverse Voltage of 4 volts and $f = 1$ MHz) | C_P | 70 | | pF |

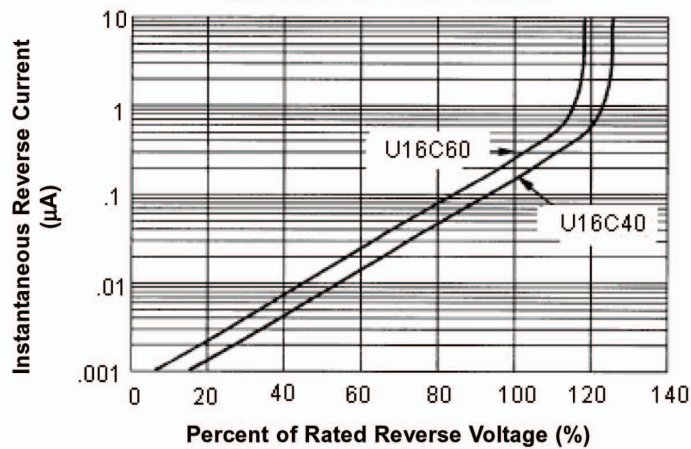
Typical Forward Characteristics



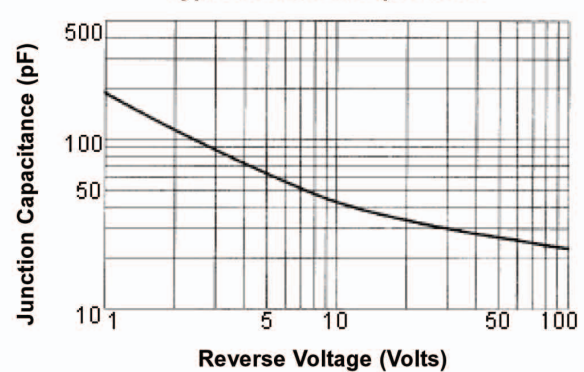
Forward Current Derating Curve



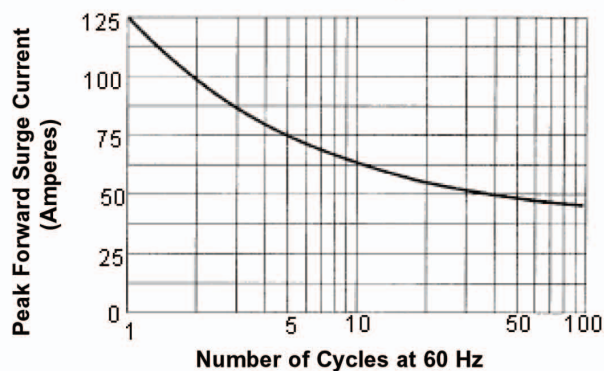
Typical Reverse Characteristics

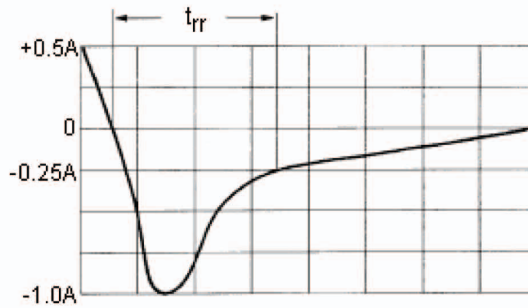
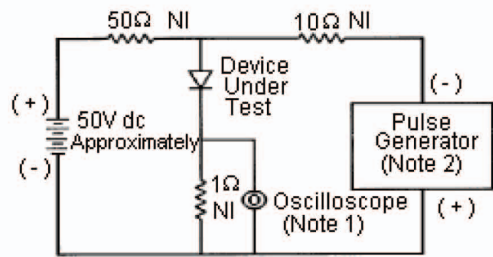


Typical Junction Capacitance



Peak Forward Surge Current





Set time base for 10/20 ns/div

Reverse Recovery Time Characteristic and Test Circuit Diagram

Notes:

1. Rise Time = 7 ns maximum input impedance = 1MΩ, 22pF.
2. Rise Time = 10 ns maximum input impedance = 50Ω.

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