



# MUR1005CT thru MUR1040CT

Glass Passivated Super Fast Rectifiers  
Reverse Voltage 50 to 400 Volts Forward Current 10.0 Amperes

## Features

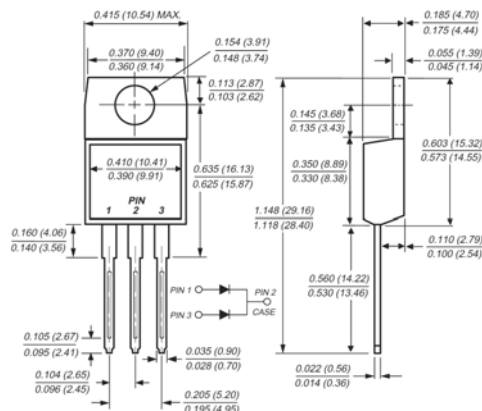
- ◆ Low power loss, high efficiency
- ◆ Low forward voltage, high current capability
- ◆ High surge capacity
- ◆ Super fast recovery times, high voltage



TO-220AB

## Mechanical Data

- ◆ Case: TO-220AB full molded plastic package
- ◆ Terminals: Lead solderable per MIL-STD-202, Method 208
- ◆ Polarity: As marked
- ◆ Standard packaging: Any
- ◆ Weight: 0.08 ounces, 2.24 grams



## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

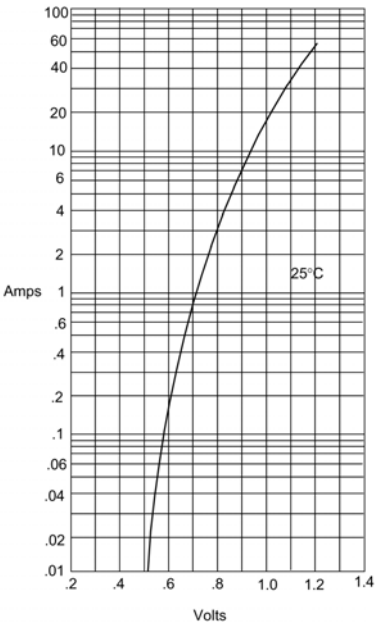
| Parameter                                                                                                     | Symbol                            | MUR 1005CT  | MUR 1010CT | MUR 1015CT | MUR 1020CT | MUR 1030CT | MUR 1040CT | Unit  |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|------------|------------|------------|------------|------------|-------|
| Maximum repetitive peak reverse voltage                                                                       | V <sub>RRM</sub>                  | 50          | 100        | 150        | 200        | 300        | 400        | Volts |
| Maximum RMS voltage                                                                                           | V <sub>RMS</sub>                  | 35          | 70         | 105        | 140        | 210        | 280        | Volts |
| Maximum DC blocking voltage                                                                                   | V <sub>DC</sub>                   | 50          | 100        | 150        | 200        | 300        | 400        | Volts |
| Maximum average forward rectified current at T <sub>c</sub> =100°C                                            | I <sub>F(AV)</sub>                | 10.0        |            |            |            |            |            | Amps  |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)              | I <sub>FSM</sub>                  | 150.0       |            |            |            |            |            | Amps  |
| Maximum instantaneous forward voltage at 5.0A per element                                                     | V <sub>F</sub>                    | 0.95        |            |            |            | 1.3        |            | Volts |
| Maximum DC reverse current<br>@T <sub>c</sub> =25°C<br>at rated DC blocking voltage<br>@T <sub>c</sub> =100°C | I <sub>R</sub>                    | 10.0<br>500 |            |            |            |            |            | uA    |
| Maximum reverse recovery time at<br>I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>T</sub> =0.25A         | t <sub>rr</sub>                   | 35          |            |            |            | 50         |            | nS    |
| Typical junction capacitance at 4.0V, 1MHz                                                                    | C <sub>J</sub>                    | 62          |            |            |            |            |            | pF    |
| Typical thermal resistance                                                                                    | R <sub>θJC</sub>                  | 3.0         |            |            |            |            |            | °C/W  |
| Operating junction and storage temperature range                                                              | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |            |            |            |            |            | °C    |

**Notes:** 1. Pulse test: Pulse width 300 usec, Duty cycle 2%

RATINGS AND CHARACTERISTIC CURVES

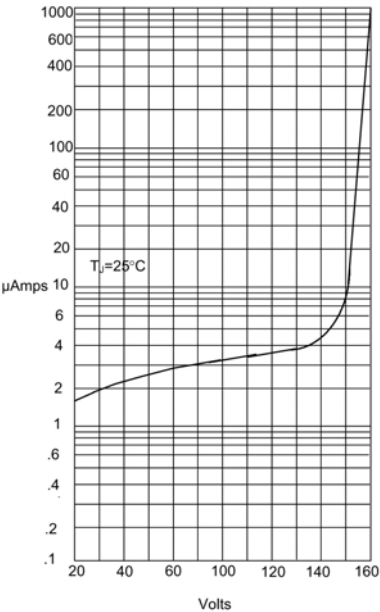
(T<sub>A</sub> = 25°C unless otherwise noted)

Figure 1  
Typical Forward Characteristics



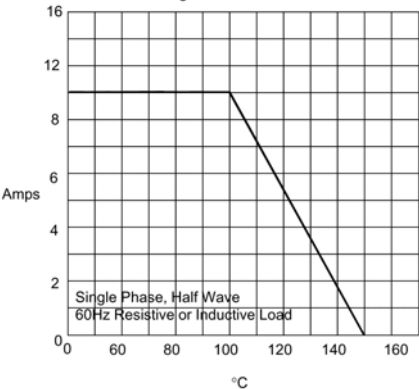
Instantaneous Forward Current - Amperes  
Instantaneous Forward Voltage - Volts

Figure 2  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes  
Percent Of Rated Peak Reverse Voltage - Volts

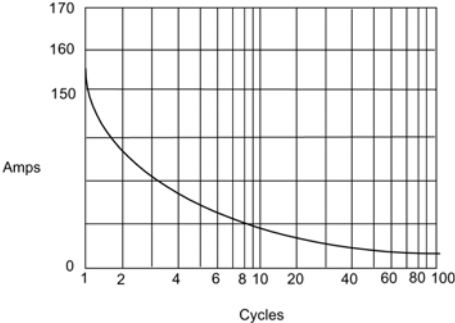
Figure 3  
Forward Derating Curve



Single Phase, Half Wave  
60Hz Resistive or Inductive Load

Average Forward Rectified Current - Amperes  
Case Temperature - °C

Figure 4  
Maximum Non-Repetitive Forward Surge Current



Peak Forward Surge Current - Amperes  
Number Of Cycles At 60Hz - Cycles