

MUR240

Preferred Device

SWITCHMODE™ Power Rectifier

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

- Ultrafast Recovery Times
- 175°C Operating Junction Temperature
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 1000 per bag
- Available Tape and Reeled, 5000 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode Indicated by Polarity Band
- Marking: MUR240

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|---------------------------------|-----------------------------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 400 — | V |
| Average Rectified Forward Current (Note 1.) (Square Wave Mounting Method #3 Per Note 3.) | $I_{F(AV)}$ | 2.0 @ $T_A = 85^\circ\text{C}$ | A |
| Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz) | I_{FSM} | 35 | A |
| Operating Junction Temperature and Storage Temperature Range | T_J, T_{stg} | -65 to +175 | °C |

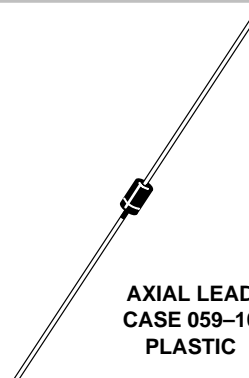
1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.



ON Semiconductor®

<http://onsemi.com>

ULTRAFAST
RECTIFIER
2 AMPERES
400 VOLTS



MARKING DIAGRAM



MUR240 = Device Code

ORDERING INFORMATION

| Device | Package | Shipping |
|----------|------------|------------------|
| MUR240 | Axial Lead | 1000 Units/Bag |
| MUR240RL | Axial Lead | 5000/Tape & Reel |

Preferred devices are recommended choices for future use and best overall value.

MUR240

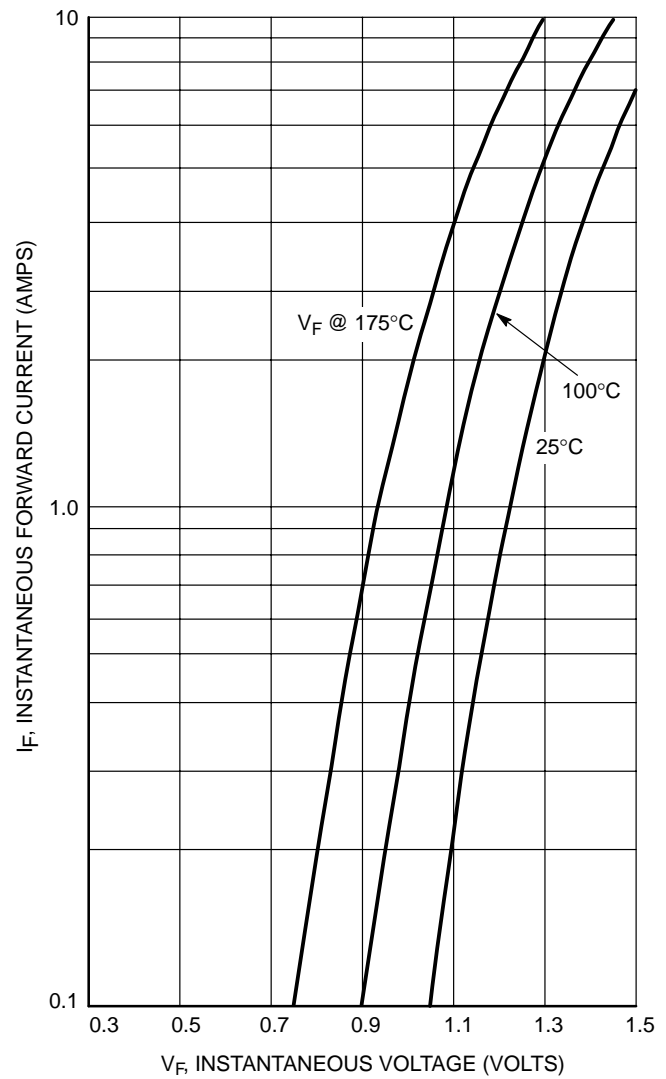
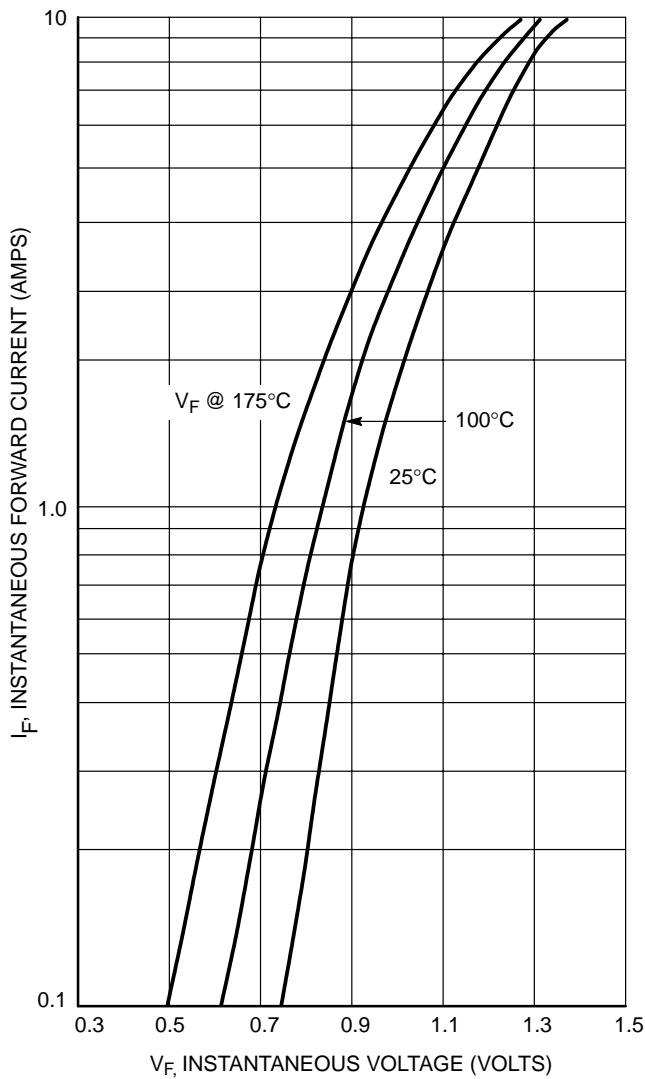
THERMAL CHARACTERISTICS

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|---------------|
| Maximum Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | See Note 3. | $^{\circ}C/W$ |

ELECTRICAL CHARACTERISTICS

| | | | |
|--|----------|--------------|---------|
| Maximum Instantaneous Forward Voltage (Note 2.) ($I_F = 2.0$ Amp, $T_J = 150^{\circ}C$) ($I_F = 2.0$ Amp, $T_J = 25^{\circ}C$) | V_F | 1.05 1.30 | Volts |
| Maximum Instantaneous Reverse Current (Note 2.) (Rated dc Voltage, $T_J = 150^{\circ}C$) (Rated dc Voltage, $T_J = 25^{\circ}C$) | I_R | 150 5.0 | μA |
| Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/ μs) | t_{rr} | 65 | ns |
| Maximum Forward Recovery Time ($I_F = 1.0$ A, $di/dt = 100$ A/ μs) | t_{rr} | 50 | ns |

2. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.



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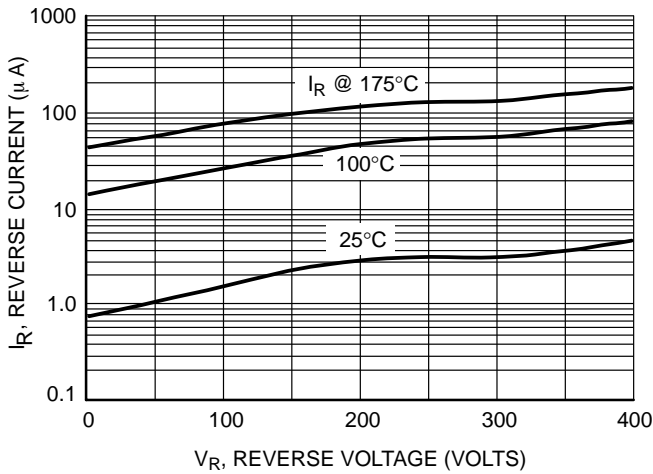


Figure 3. Maximum Reverse Current

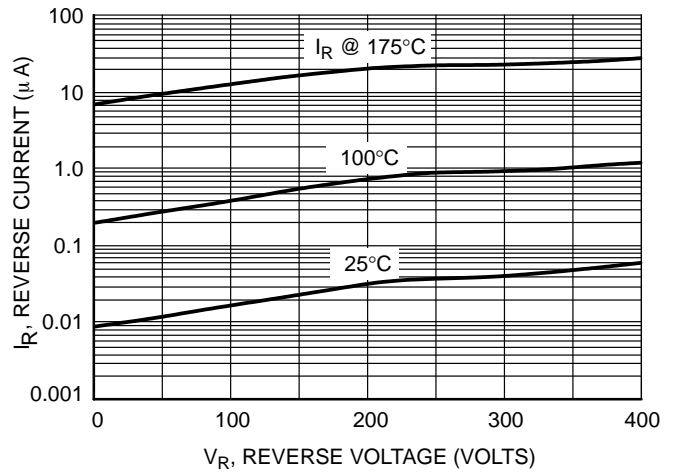


Figure 4. Typical Reverse Current

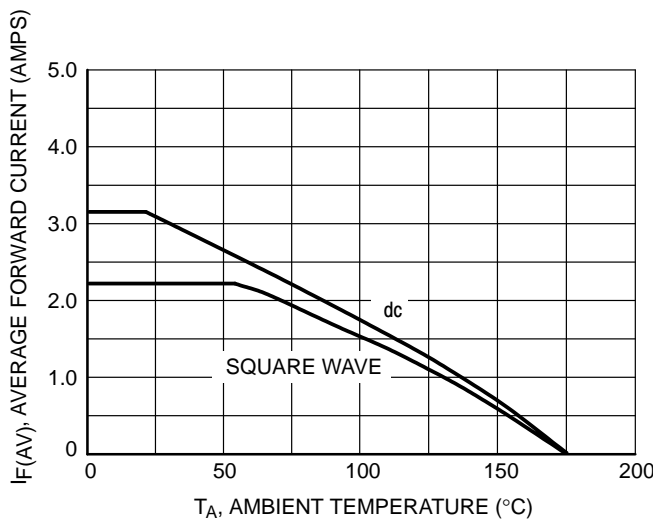


Figure 5. Current Derating

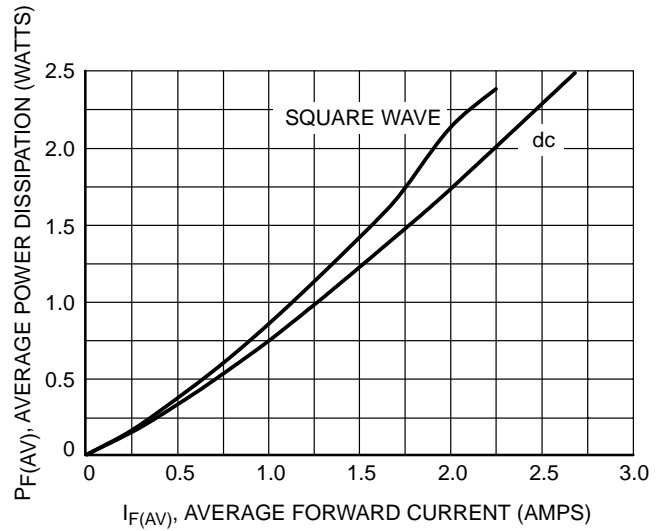


Figure 6. Power Dissipation

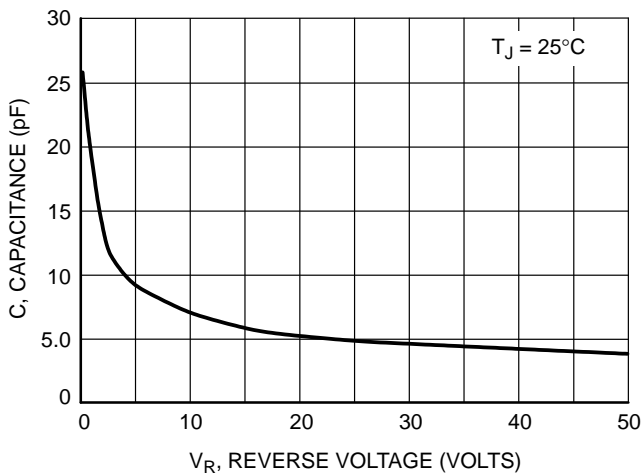


Figure 7. Typical Capacitance

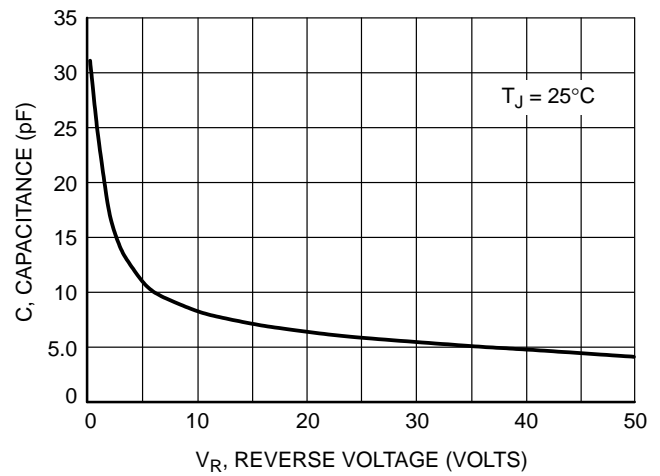


Figure 8. Maximum Capacitance

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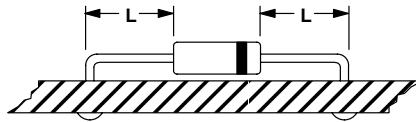
NOTE 3. – AMBIENT MOUNTING DATA

Data shown for thermal resistance junction to ambient ($R_{\theta JA}$) for the mountings shown is to be used as typical guideline values for preliminary engineering or in case the tie point temperature cannot be measured.

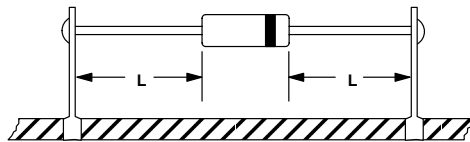
TYPICAL VALUES FOR $R_{\theta JA}$ IN STILL AIR

| Mounting Method | | Lead Length, L | | | Units |
|-----------------|-----------------|----------------|-----|-----|-----------------------------|
| | | 1/8 | 1/4 | 1/2 | |
| 1 | $R_{\theta JA}$ | 52 | 65 | 72 | $^{\circ}\text{C}/\text{W}$ |
| 2 | | 67 | 80 | 87 | $^{\circ}\text{C}/\text{W}$ |
| 3 | | 50 | | | $^{\circ}\text{C}/\text{W}$ |

MOUNTING METHOD 1

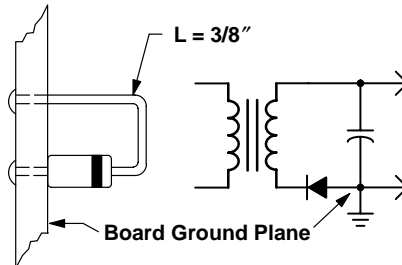


MOUNTING METHOD 2



Vector Pin Mounting

MOUNTING METHOD 3

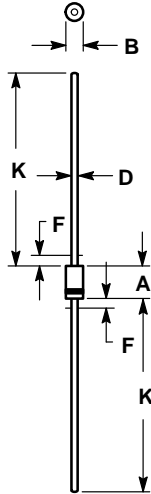


P.C. Board with 1-1/2" X 1-1/2" Copper Surface

MUR240

PACKAGE DIMENSIONS

MINI MOSORB CASE 59-10 ISSUE S



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 59-04 OBSOLETE, NEW STANDARD 59-09.
4. 59-03 OBSOLETE, NEW STANDARD 59-10.
5. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY
6. POLARITY DENOTED BY CATHODE BAND.
7. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.


| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.161 | 0.205 | 4.10 | 5.20 |
| B | 0.079 | 0.106 | 2.00 | 2.70 |
| D | 0.028 | 0.034 | 0.71 | 0.86 |
| F | --- | 0.050 | --- | 1.27 |
| K | 1.000 | --- | 25.40 | --- |

Notes

Notes

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