

# 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 1)	$I_{F(AV)}$	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

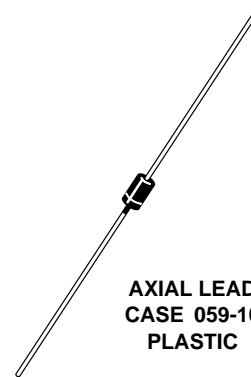
1. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .



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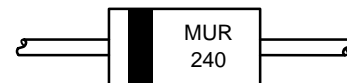
<http://onsemi.com>

ULTRAFAST  
RECTIFIER  
2 AMPERES  
400 VOLTS



AXIAL LEAD  
CASE 059-10  
PLASTIC

### 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

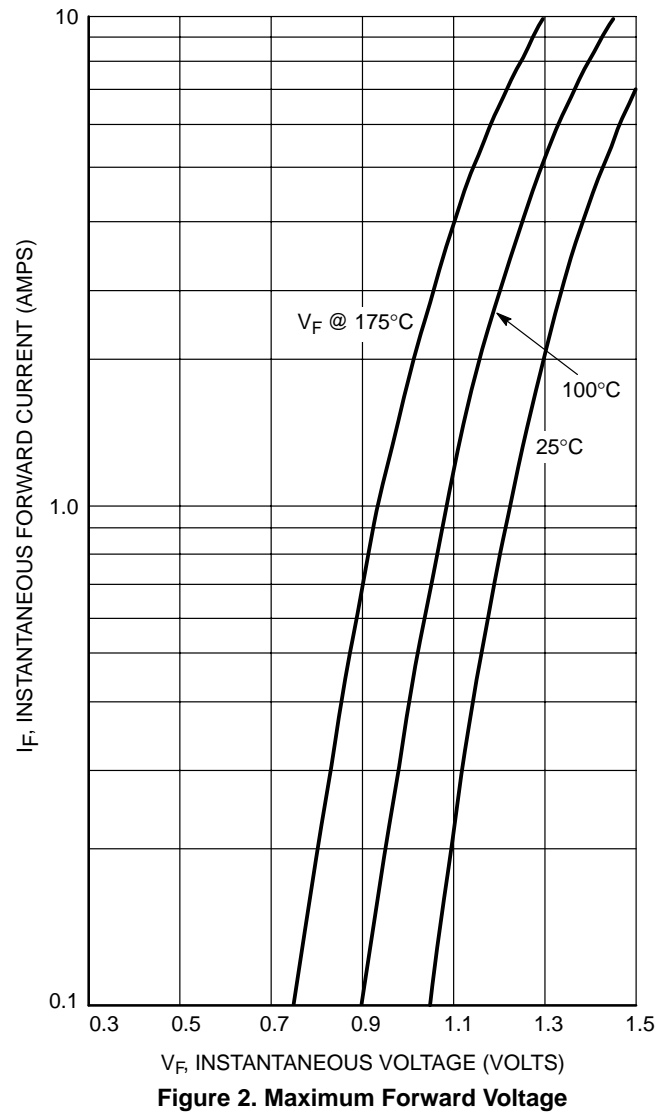
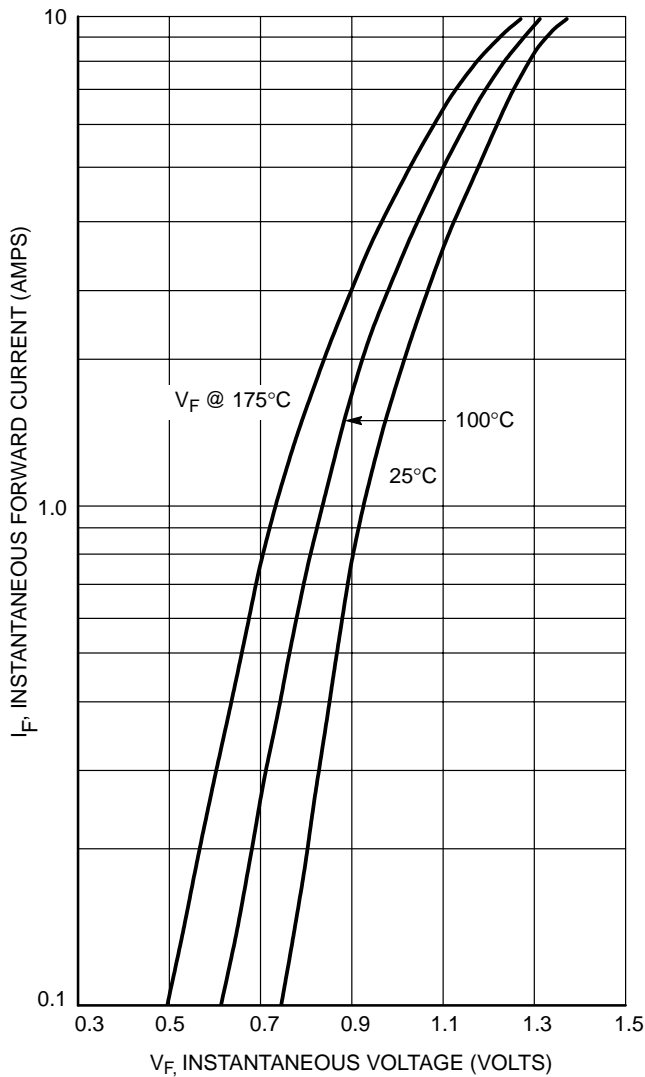
## THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	See Note 1	$^{\circ}C/W$

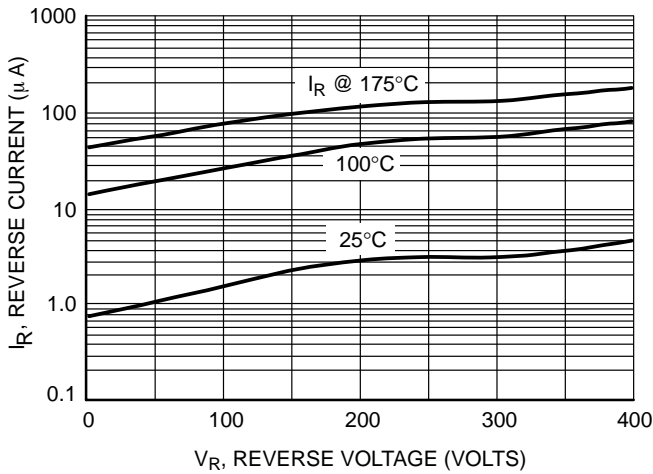
## ELECTRICAL CHARACTERISTICS

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	$\mu A$
Maximum Reverse Recovery Time ( $I_F = 1.0$ Amp, $di/dt = 50$ Amp/ $\mu s$ )	$t_{rr}$	65	ns
Maximum Forward Recovery Time ( $I_F = 1.0$ A, $di/dt = 100$ A/ $\mu s$ )	$t_{rr}$	50	ns

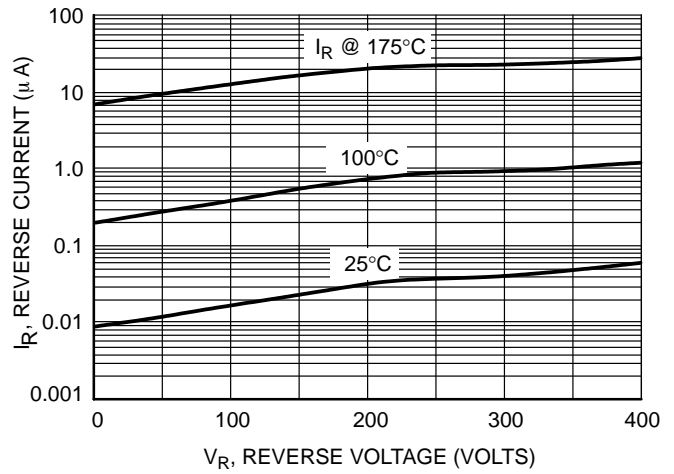
2. Pulse Test: Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$ .



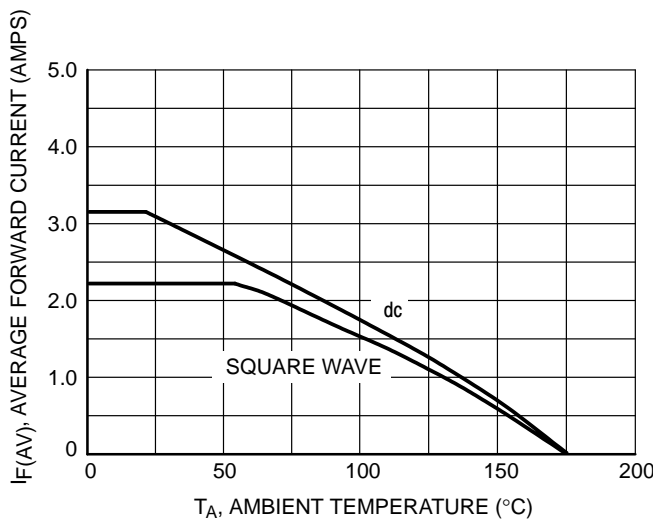
# MUR240



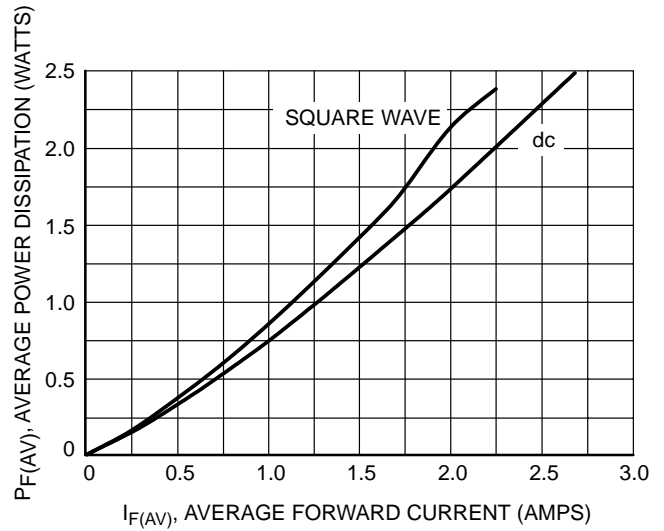
**Figure 3. Maximum Reverse Current**



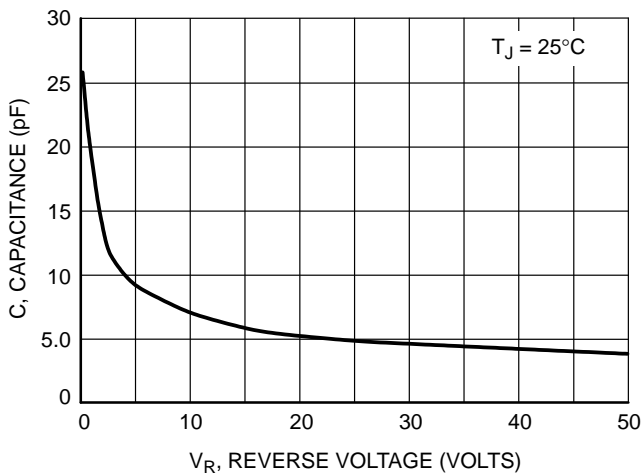
**Figure 4. Typical Reverse Current**



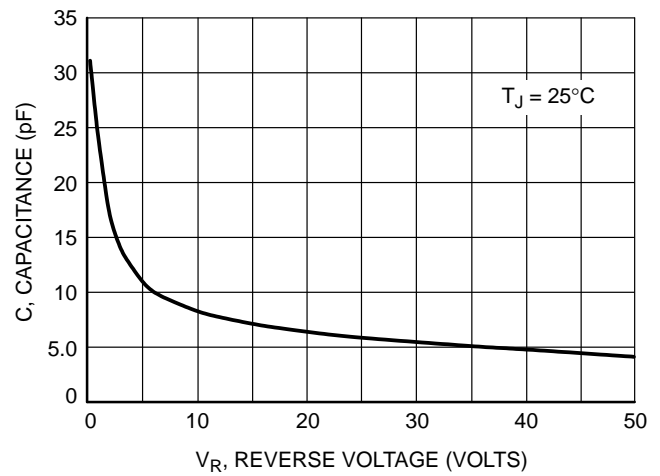
**Figure 5. Current Derating**



**Figure 6. Power Dissipation**



**Figure 7. Typical Capacitance**



**Figure 8. Maximum Capacitance**

# MUR240

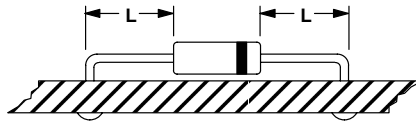
## NOTE 1 - AMBIENT MOUNTING DATA

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.

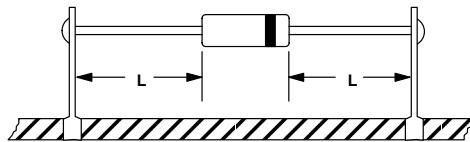
### TYPICAL VALUES FOR $R_{\theta JA}$ IN STILL AIR

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

#### MOUNTING METHOD 1

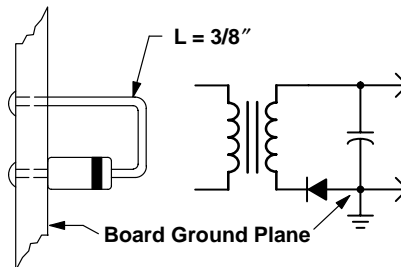


#### MOUNTING METHOD 2



#### Vector Pin Mounting

#### MOUNTING METHOD 3

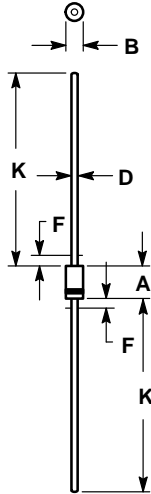


#### P.C. Board with 1-1/2 " X 1-1/2 " Copper Surface

# 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	---

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