

# MUR3040

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 100 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- High Voltage Capability to 400 Volts
- Low Forward Voltage Drop
- High Temperature Glass Passivated Junction

### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 4.3 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 30 Units Per Plastic Tube
- Marking: U3040

### MAXIMUM RATINGS

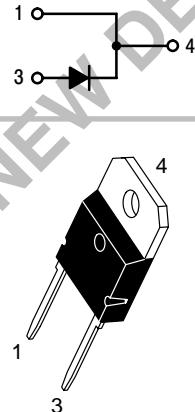
Rating	Symbol	Max	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	400	V
Average Rectified Forward Current $T_C = 70^\circ\text{C}$	$I_{F(AV)}$	30	A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20 kHz, $T_C = 150^\circ\text{C}$ )	$I_{FRM}$	30	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	300	A
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-65 to +175	°C



ON Semiconductor™

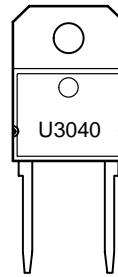
<http://onsemi.com>

ULTRAFAST  
RECTIFIER  
30 AMPERES  
400 VOLTS



TO-218  
CASE 340E  
STYLE 1

### MARKING DIAGRAM



U3040 = Device Code

### ORDERING INFORMATION

Device	Package	Shipping
MUR3040	TO-218	30 Units/Rail

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

## THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	°C/W

## ELECTRICAL CHARACTERISTICS

Instantaneous Forward Voltage (Note 1.) @ $I_F = 30$ Amps, $T_C = 100^\circ\text{C}$ @ $I_F = 30$ Amps, $T_C = 25^\circ\text{C}$	$V_F$	1.4 1.5	Volts
Instantaneous Reverse Current (Note 1.) @ Rated dc Voltage, $T_C = 100^\circ\text{C}$ @ Rated dc Voltage, $T_C = 25^\circ\text{C}$	$I_R$	6.0 35	mA μA
Reverse Recovery Time $I_F = 1.0$ Amp, $dI/dt = 15$ Amp/μs	$t_{RR}$	100	ns

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%

## TYPICAL ELECTRICAL CHARACTERISTICS

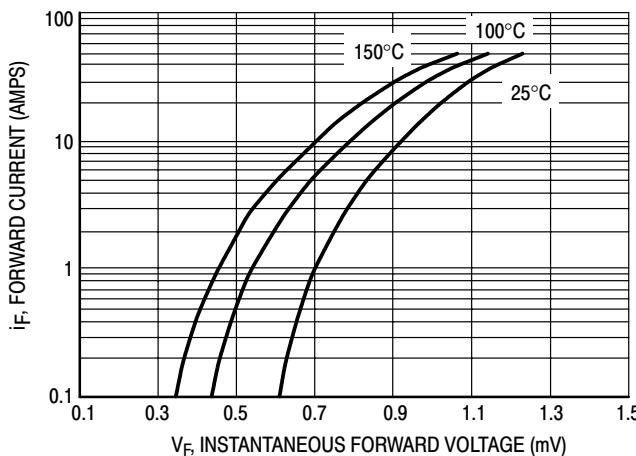


Figure 1. Typical Forward Voltage

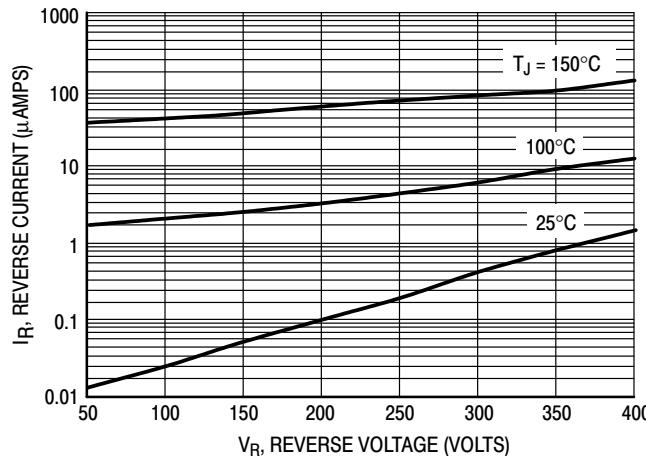


Figure 2. Typical Reverse Current

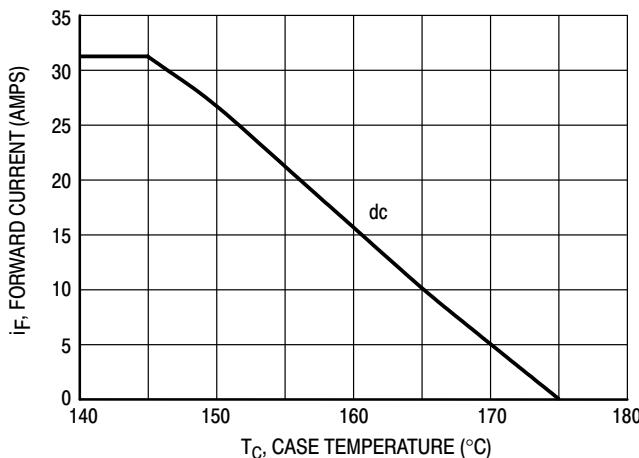


Figure 3. Current Derating, Case

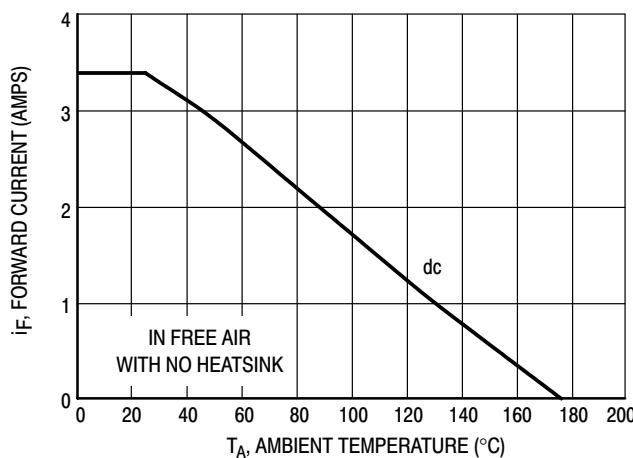
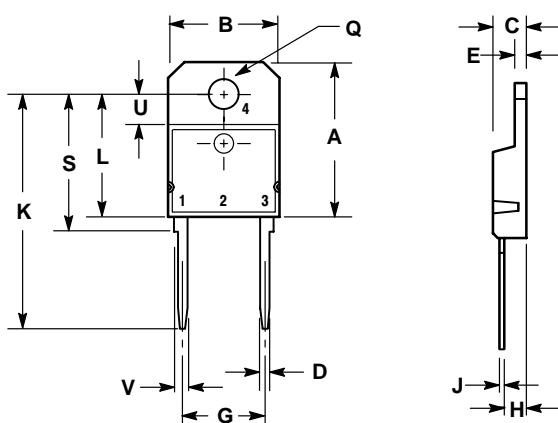


Figure 4. Current Derating, Ambient

## PACKAGE DIMENSIONS

TO-218 TWO LEAD  
TO-218  
CASE 340E-02  
ISSUE A

## NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982
2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	---	20.35	---	0.801
B	14.70	15.20	0.579	0.598
C	4.70	4.90	0.185	0.193
D	1.10	1.30	0.043	0.051
E	1.17	1.37	0.046	0.054
G	10.80	11.10	0.425	0.437
H	2.00	3.00	0.079	0.118
J	0.50	0.78	0.020	0.031
K	31.00	REF	1.220	REF
L	---	16.20	---	0.638
Q	4.00	4.10	0.158	0.161
S	17.80	18.20	0.701	0.717
U	4.00	REF	0.157	REF
V	1.75	REF	0.069	

STYLE 1:  
PIN 1. CATHODE  
3. ANODE  
4. CATHODE

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