

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

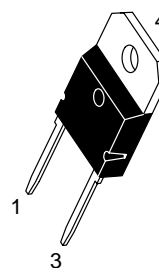
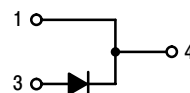
| Rating | Symbol | Max | Unit |
|---|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 400 | V |
| Average Rectified Forward Current $T_C = 70^\circ\text{C}$ | $I_{F(AV)}$ | 30 | A |
| Peak 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 |



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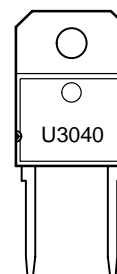
<http://onsemi.com>

**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 | $^{\circ}\text{C}/\text{W}$ |

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 $\leq 2.0\%$

TYPICAL ELECTRICAL CHARACTERISTICS

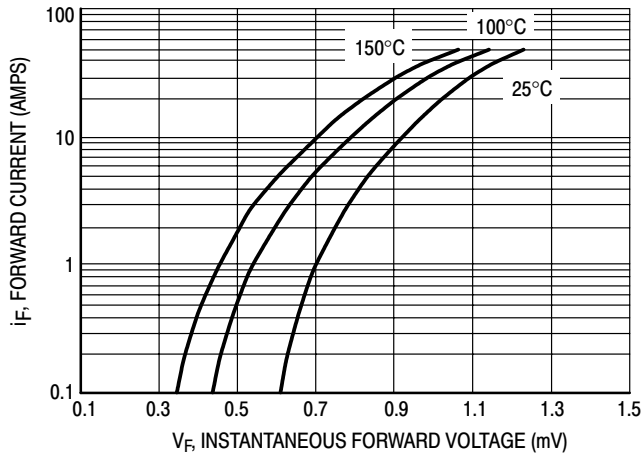


Figure 1. Typical Forward Voltage

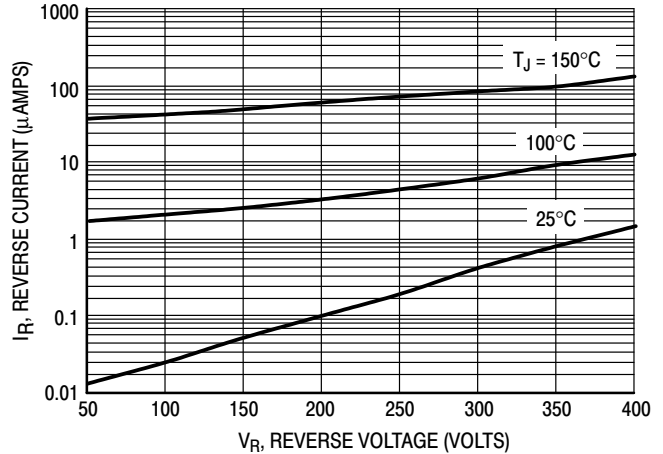


Figure 2. Typical Reverse Current

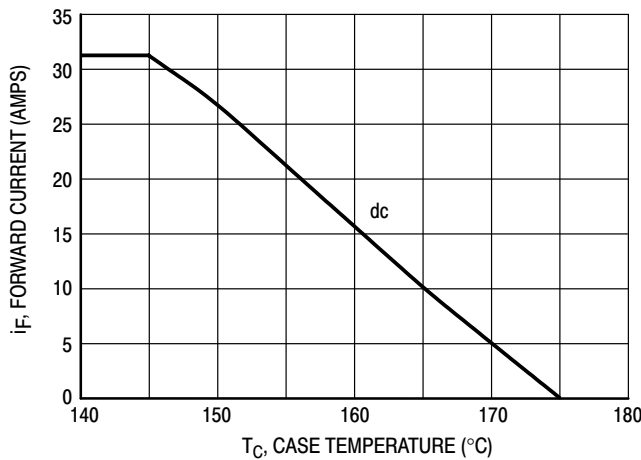


Figure 3. Current Derating, Case

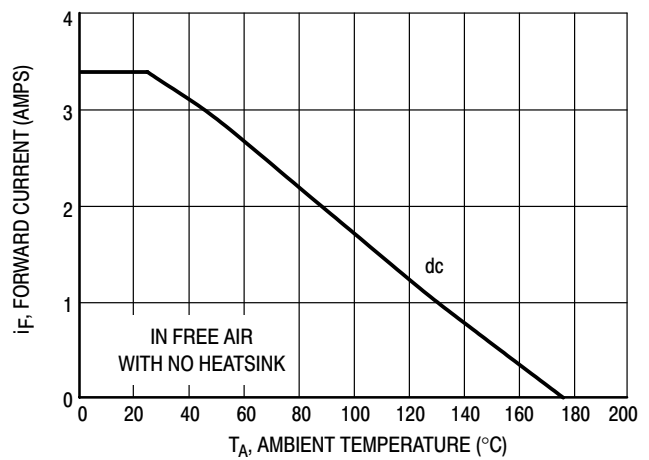
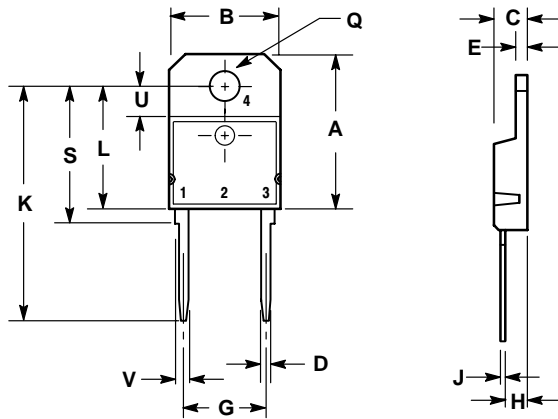


Figure 4. Current Derating, Ambient

MUR3040

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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Email: ONlit-asia@hibbertco.com

JAPAN: ON Semiconductor, Japan Customer Focus Center

4-32-1 Nishi-Gotanda, Shinagawa-ku, Tokyo, Japan 141-0031
Phone: 81-3-5740-2700
Email: r14525@onsemi.com

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