

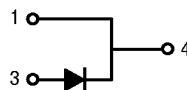
Advance Information **SWITCHMODE™ Power Rectifier**

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

- Ultrafast 75 ns (Typ) Soft Recovery Time
- 175°C Operating Junction Temperature
- High Voltage Capability to 800 Volts
- Low Forward Voltage Drop
- High Temperature Glass Passivated Junction

Mechanical Characteristics

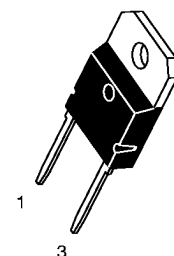
- Case: Epoxy, Molded
- Weight: 4.3 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 30 Units Per Plastic Tube
- Marking: U3080



MUR3080

Motorola Preferred Device

ULTRAFAST RECTIFIERS
30 AMPERES
600–800 VOLTS



CASE 340E-02, STYLE 1

MAXIMUM RATINGS

| Rating | Symbol | Max | Unit |
|---|---------------------------------|-------------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 800 | Volts |
| Average Rectified Forward Current (Rated V_R) $T_C = 70^\circ\text{C}$ | $I_{F(AV)}$ | 30 | Amps |
| Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz) $T_C = 150^\circ\text{C}$ | I_{FRM} | 30 | Amps |
| Non Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | I_{FSM} | 300 | Amps |
| Operating Junction Temperature | T_J | -65 to +175 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -65 to +175 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| | | | |
|--------------------------------------|-----------------|-----|--------------------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 1.0 | $^\circ\text{C/W}$ |
|--------------------------------------|-----------------|-----|--------------------|

ELECTRICAL CHARACTERISTICS (TYPICAL DATA)

| | | | |
|--|----------|------------|---------------------|
| Instantaneous Forward Voltage (1) @ $I_F = 30$ Amps, $T_C = 25^\circ\text{C}$ @ $I_F = 30$ Amps, $T_C = 100^\circ\text{C}$ | V_F | 1.9 1.8 | Volts |
| Instantaneous Reverse Current (1) @ Rated DC Voltage, $T_C = 25^\circ\text{C}$ @ Rated DC Voltage, $T_C = 100^\circ\text{C}$ | I_R | 100 5.0 | μA mA |
| Reverse Recovery Time $I_F = 1.0$ Amp, $V_R = 30$ V, $di/dt = 50$ A/ μs | t_{RR} | 110 | ns |

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

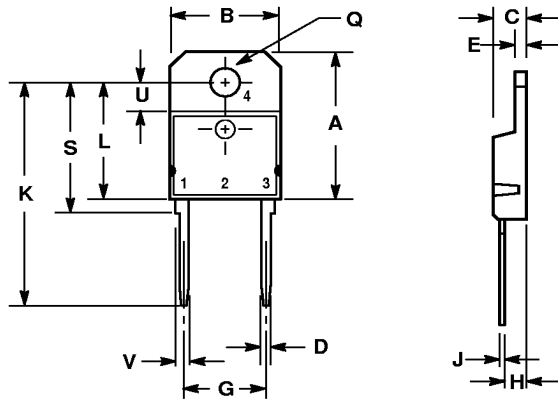
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This document contains information on a new product. Specifications and information herein are subject to change without notice.

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

Rev 2

PACKAGE DIMENSIONS



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

CASE 340E-02
 ISSUE A

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