

Advance Information

SWITCHMODE™

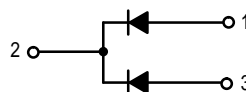
Power Rectifier

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

- Ultrafast 60 Nanosecond Recovery Times
- 150°C Operating Junction Temperature
- Epoxy Meets UL94, V_O @ 1/8"
- High Temperature Glass Passivated Junction
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating @ Both Case and Ambient Temperatures
- Electrically Isolated. No Isolation Hardware Required.
- UL Recognized File #E69369 (1)

Mechanical Characteristics

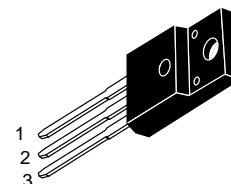
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: U1660



MURF1660CT

Motorola Preferred Device

ULTRAFAST RECTIFIER
16 AMPERES
600 VOLTS



CASE 221D-02
ISOLATED TO-220

MAXIMUM RATINGS, PER LEG

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	Volts
Average Rectified Forward Current Total Device, (Rated V_R), $T_C = 150^\circ\text{C}$	$I_F(AV)$ Per Diode Per Device	8 16	Amps
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz), $T_C = 150^\circ\text{C}$	I_{FM}	16	Amps
Non-repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100	Amps
Operating Junction and Storage Temperature	T_J, T_{stg}	- 65 to +150	°C
RMS Isolation Voltage (t = 1 second, R.H. ≤ 30%, $T_A = 25^\circ\text{C}$) (2)	Per Figure 3 Per Figure 4 (1) Per Figure 5 V_{iso1} V_{iso2} V_{iso3}	4500 3500 1500	Volts

THERMAL CHARACTERISTICS, PER LEG

Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	°C/W
Lead Temperature for Soldering Purposes: 1/8" from Case for 5 Seconds	T_L	260	°C

(1) UL Recognized mounting method is per Figure 4.

(2) Proper strike and creepage distance must be provided.

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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.

MURF1660CT

ELECTRICAL CHARACTERISTICS, PER LEG

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (3) ($i_F = 8.0$ Amp, $T_C = 150^\circ\text{C}$) ($i_F = 8.0$ Amp, $T_C = 25^\circ\text{C}$)	v_F	1.20 1.50	Volts
Maximum Instantaneous Reverse Current (3) (Rated dc Voltage, $T_C = 150^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	i_R	500 10	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/ μs) ($I_F = 0.5$ Amp, $i_R = 1.0$ Amp, $I_{REC} = 0.25$ Amp)	t_{rr}	60 50	ns

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

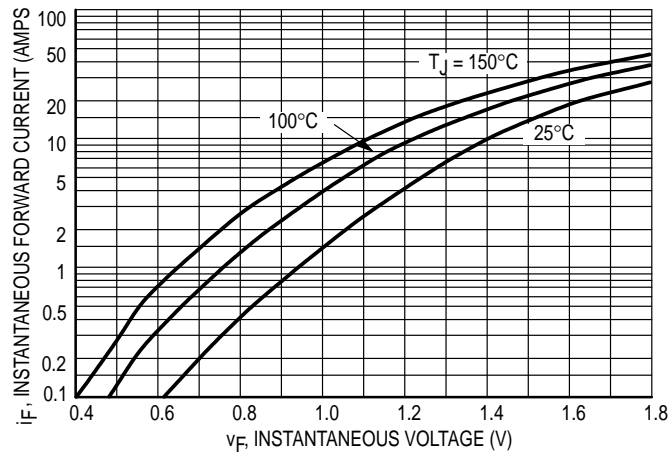


Figure 1. Typical Forward Voltage, Per Leg

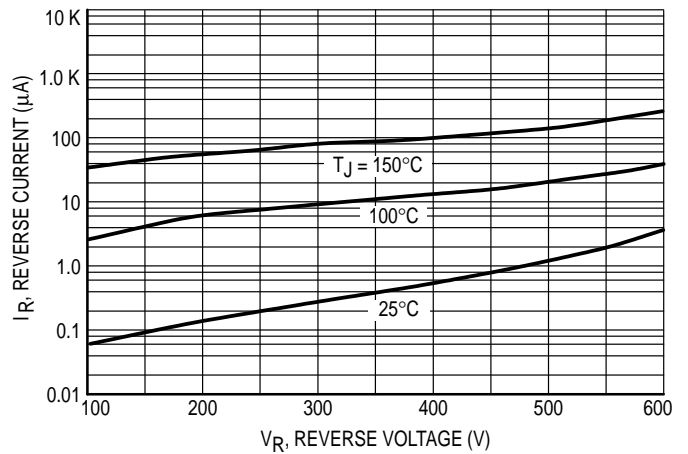
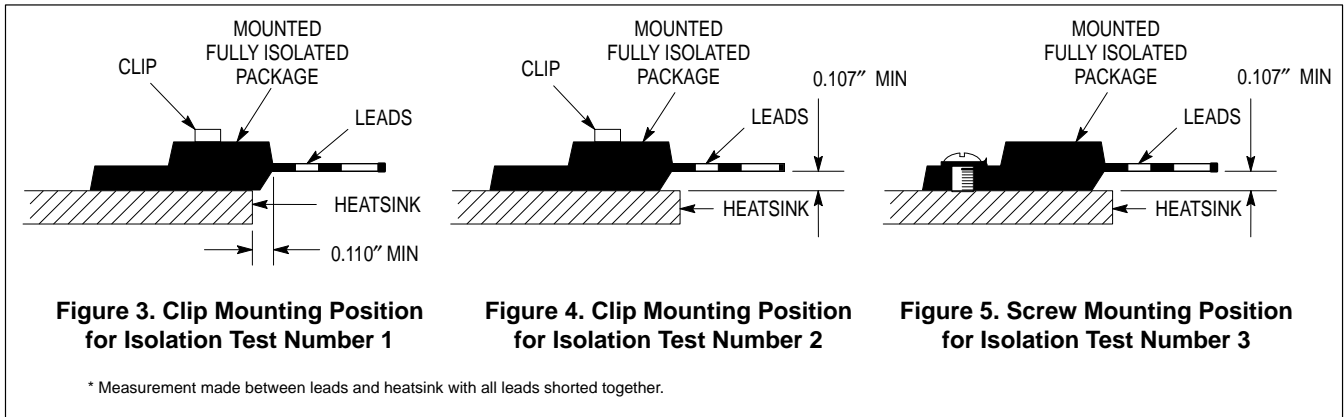
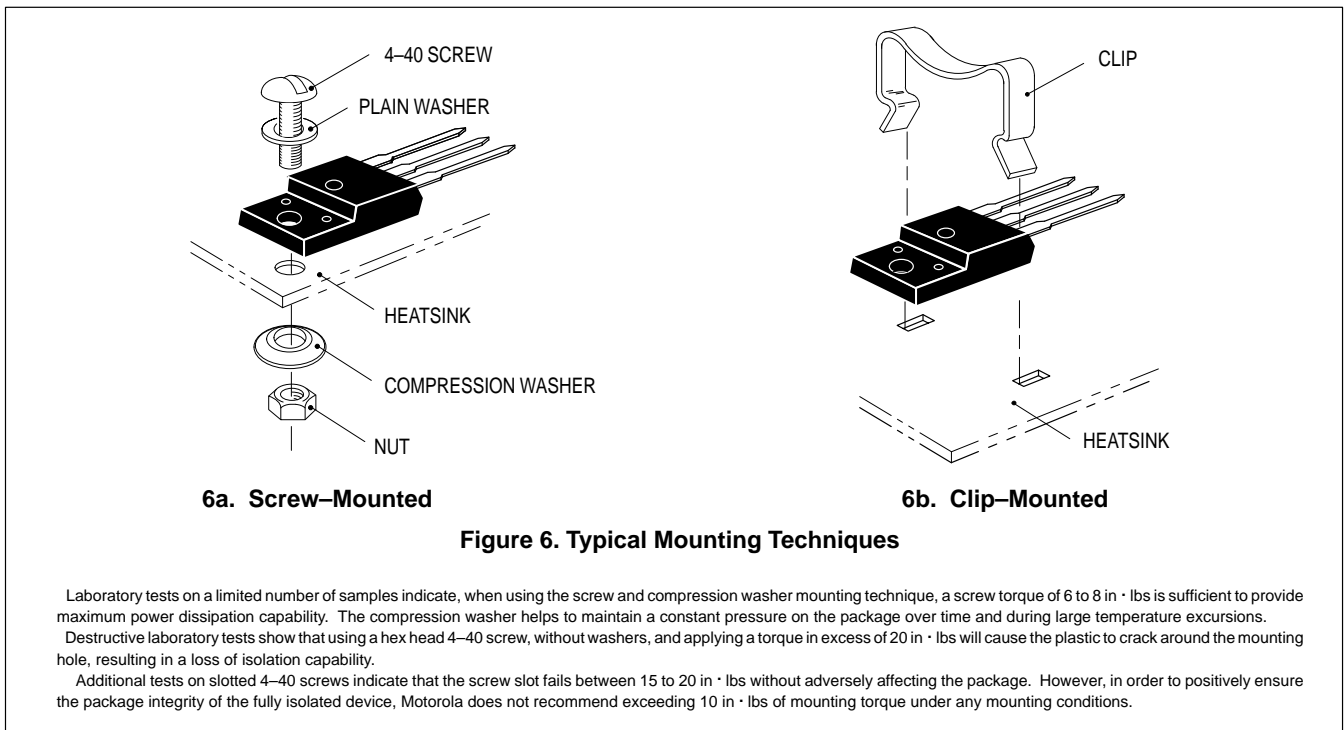


Figure 2. Typical Reverse Current, Per Leg*

TEST CONDITIONS FOR ISOLATION TESTS*

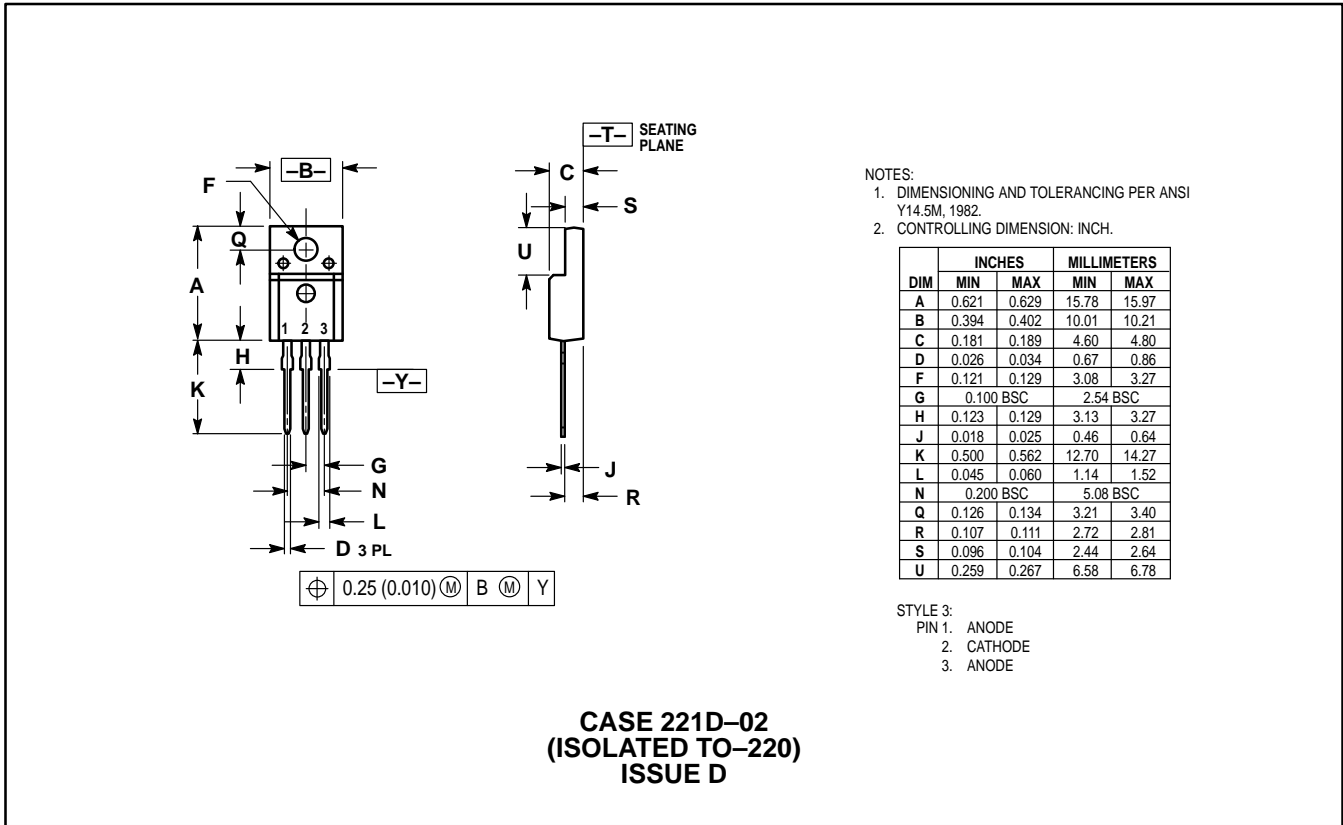


MOUNTING INFORMATION**



**For more information about mounting power semiconductors see Application Note AN1040.

PACKAGE DIMENSIONS



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