

MURF1660CT

Power Rectifier

These state-of-the-art devices are designed for use in switching power supplies, inverters and as free wheeling diodes.

Features

- Ultrafast 60 Nanosecond Recovery Times
- 150°C Operating Junction Temperature
- Epoxy Meets UL 94 V-0 @ 0.125 in
- 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 (Note 1)
- Pb-Free Package is Available*

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

MAXIMUM RATINGS (Per Leg)

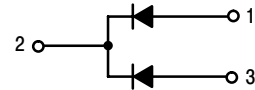
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	V
Average Rectified Forward Current Total Device, (Rated V_R), $T_C = 150^\circ\text{C}$ Per Diode Per Device	$I_{F(AV)}$	8 16	A
Peak Repetitive Forward Current (Rated V_R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



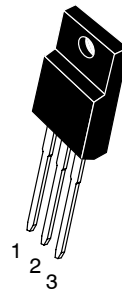
KERSEMI

<http://kersemi.com>

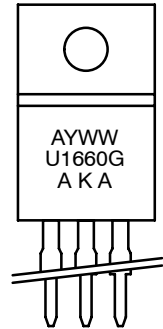
ULTRAFAST RECTIFIER 16 AMPERES, 600 VOLTS



MARKING DIAGRAM



ISOLATED TO-220
CASE 221D
STYLE 3



A = Assembly Location
Y = Year
WW = Work Week
U1660 = Device Code
G = Pb-Free Package
AKA = Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping
MURF1660CT	TO-220	50 Units/Rail
MURF1660CTG	TO-220 (Pb-Free)	50 Units/Rail

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THERMAL CHARACTERISTICS (Per Leg)

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

ELECTRICAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 3) ($i_F = 8.0 A, T_C = 150^{\circ}C$) ($i_F = 8.0 A, T_C = 25^{\circ}C$)	V_F	1.20 1.50	V
Maximum Instantaneous Reverse Current (Note 3) (Rated DC Voltage, $T_C = 150^{\circ}C$) (Rated DC Voltage, $T_C = 25^{\circ}C$)	i_R	500 10	μA
Maximum Reverse Recovery Time ($I_F = 1.0 A, di/dt = 50 A/\mu s$) ($I_F = 0.5 A, i_R = 1.0 A, I_{REC} = 0.25 A$)	t_{rr}	60 50	ns

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

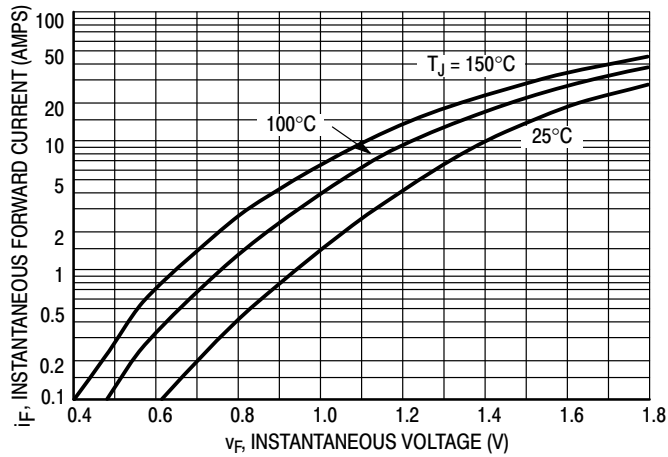


Figure 1. Typical Forward Voltage, Per Leg

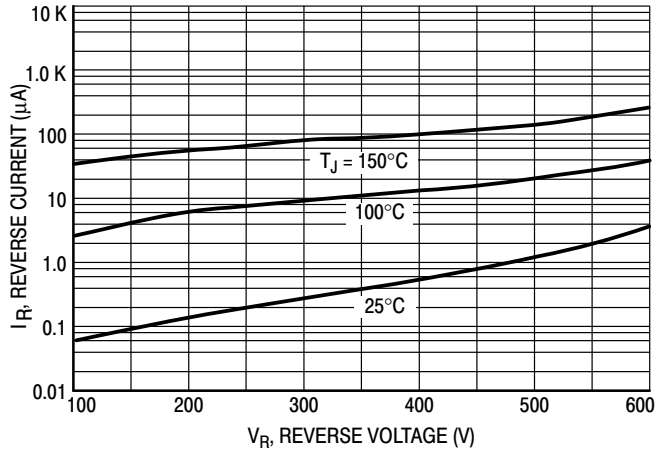


Figure 2. Typical Reverse Current, Per Leg*

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TEST CONDITIONS FOR ISOLATION TESTS*

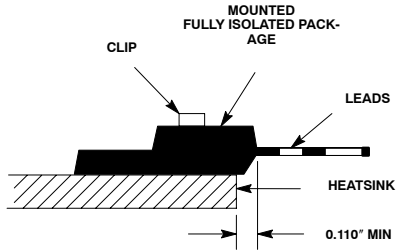


Figure 3. Clip Mounting Position for Isolation Test Number 1

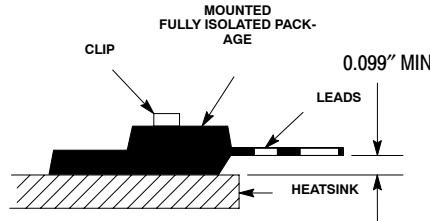


Figure 4. Clip Mounting Position for Isolation Test Number 2

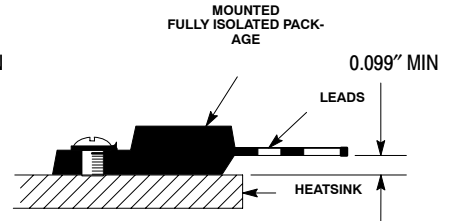
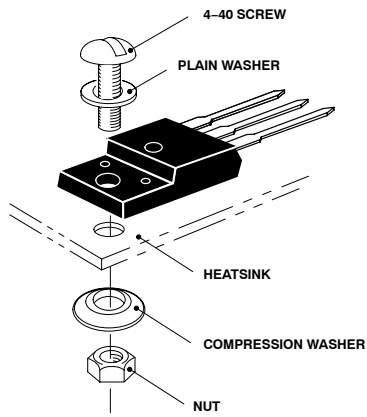


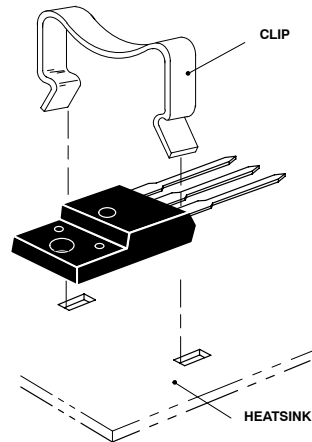
Figure 5. Screw Mounting Position for Isolation Test Number 3

* Measurement made between leads and heatsink with all leads shorted together.

MOUNTING INFORMATION**



6a. Screw-Mounted

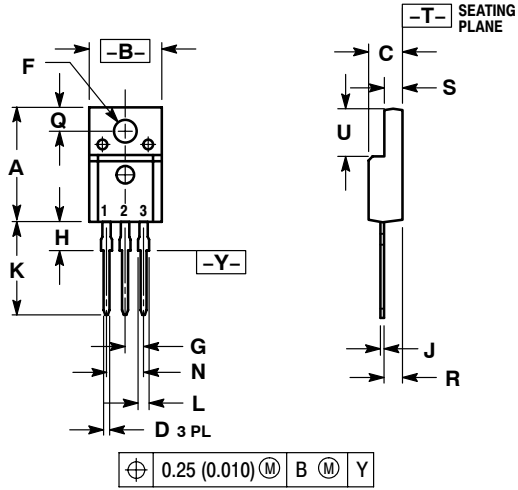


6b. Clip-Mounted

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PACKAGE DIMENSIONS

TO-220 FULLPAK TRANSISTOR CASE 221D-03 ISSUE G



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH
3. 221D-01 THRU 221D-02 OBSOLETE, NEW STANDARD 221D-03.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.625	0.635	15.88	16.12
B	0.408	0.418	10.37	10.63
C	0.180	0.190	4.57	4.83
D	0.026	0.031	0.65	0.78
F	0.116	0.119	2.95	3.02
G	0.100 BSC		2.54 BSC	
H	0.125	0.135	3.18	3.43
J	0.018	0.025	0.45	0.63
K	0.530	0.540	13.47	13.73
L	0.048	0.053	1.23	1.36
N	0.200 BSC		5.08 BSC	
Q	0.124	0.128	3.15	3.25
R	0.099	0.103	2.51	2.62
S	0.101	0.113	2.57	2.87
U	0.238	0.258	6.06	6.56

STYLE 3:

- PIN 1. ANODE
- CATHODE
- ANODE