

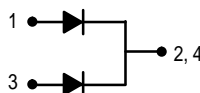
## SWITCHMODE™ Power Rectifier

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

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package

### Mechanical Characteristics:

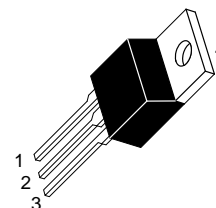
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: U620



**MUR620CT**

Motorola Preferred Device

**ULTRAFAST  
RECTIFIER  
6 AMPERES  
200 VOLTS**



**CASE 221A-06  
TO-220AB  
PLASTIC**

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	200	Volts
Average Rectified Forward Voltage (Rated $V_R$ ) $T_C = 130^\circ\text{C}$	$I_{F(AV)}$	3.0 6.0	Amps Total Device
Peak Repetitive Forward Current Per Diode Leg (Rated $V_R$ , Square Wave, 20 kHz) $T_C = 130^\circ\text{C}$	$I_{FRM}$	6.0	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	75	Amps
Operating Junction Temperature and Storage Temperature	$T_J, T_{stg}$	- 65 to +175	$^\circ\text{C}$

### THERMAL CHARACTERISTICS PER DIODE LEG

Rating	Symbol	Typical	Maximum	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	5.0-6.0	7.0	$^\circ\text{C/W}$

### ELECTRICAL CHARACTERISTICS PER DIODE LEG

Instantaneous Forward Voltage (1) ( $i_F = 3.0$ Amps, $T_C = 150^\circ\text{C}$ ) ( $i_F = 3.0$ Amps, $T_C = 25^\circ\text{C}$ )	$v_F$	0.80 0.94	0.895 0.975	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 150^\circ\text{C}$ ) (Rated dc Voltage, $T_C = 25^\circ\text{C}$ )	$i_R$	2.0-10 0.01-3.0	250 5.0	$\mu\text{A}$
Reverse Recovery Time ( $I_F = 1.0$ Amp, $di/dt = 50$ Amps/ $\mu\text{s}$ )	$t_{rr}$	20-30	35	ns

(1) Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

SWITCHMODE is a trademark of Motorola, Inc.

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

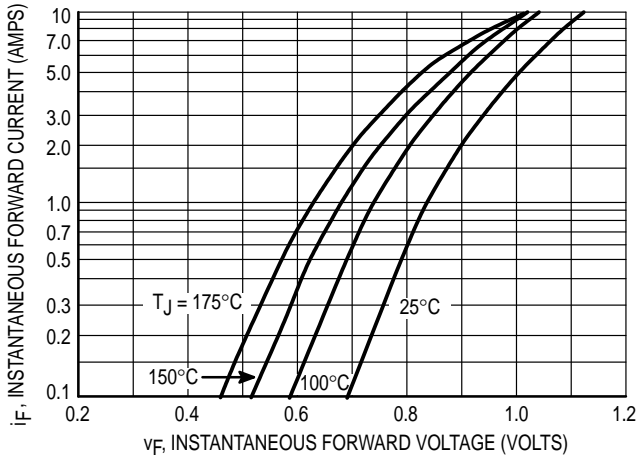
Rev 1

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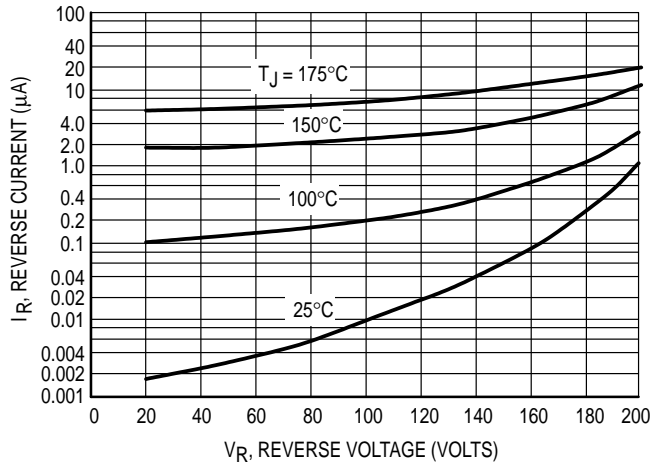


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Fast Service

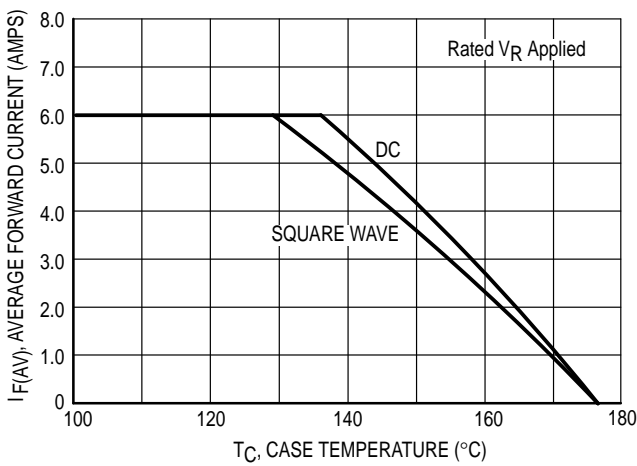
**MUR620CT**



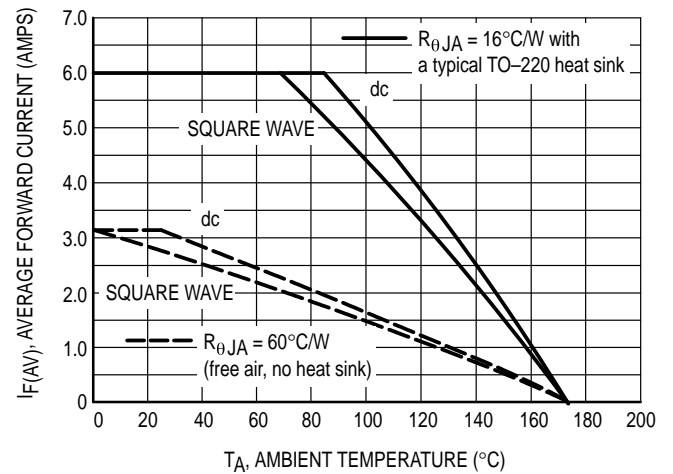
**Figure 1. Typical Forward Voltage**



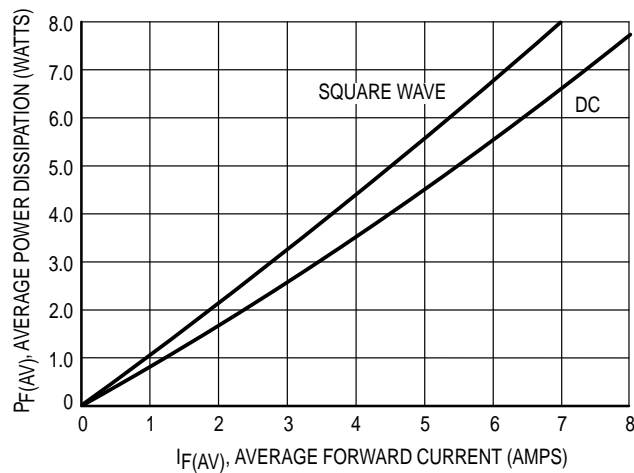
**Figure 2. Typical Reverse Current**



**Figure 3. Total Device Current Derating, Case**

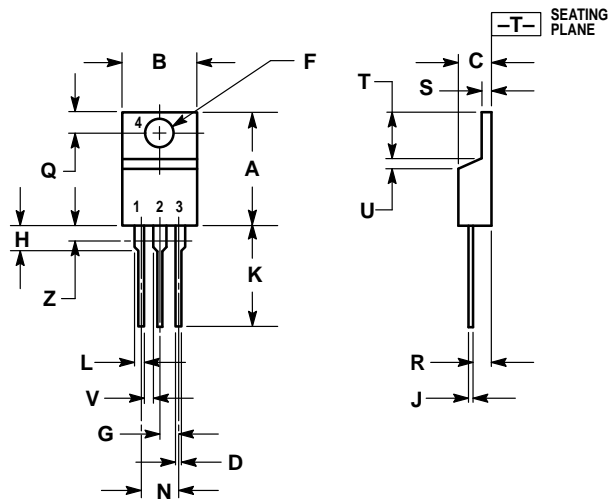


**Figure 4. Total Device Current Derating, Ambient**



**Figure 5. Power Dissipation**


## PACKAGE DIMENSIONS



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.
  3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	—	1.15	—
Z	—	0.080	—	2.04

CASE 221A-06  
(TO-220AB)  
ISSUE Y

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