

MUR620CTG

Switch Mode Power Rectifier

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

Features

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package
- These are Pb-Free Devices*

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

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
Average Rectified Forward Voltage (Rated V_R , $T_C = 130^\circ\text{C}$) Per Diode Total Device	$I_{F(AV)}$	3.0 6.0	A
Peak Repetitive Forward Current per Diode Leg (Rated V_R , Square Wave, 20 kHz, $T_C = 130^\circ\text{C}$)	I_{FRM}	6.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	75	A
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-65 to +175	°C

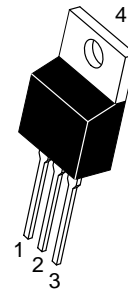
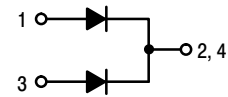
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



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ULTRAFAST RECTIFIER 6.0 AMPERES, 200 VOLTS



TO-220AB
CASE 221A

MARKING DIAGRAM



- A = Assembly Location
- Y = Year
- WW = Work Week
- U620 = Device Code
- G = Pb-Free Package
- AKA = Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping
MUR620CTG	TO-220 (Pb-Free)	50 Units/Rail

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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THERMAL CHARACTERISTICS (Per Diode Leg)

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

ELECTRICAL CHARACTERISTICS (Per Diode Leg)

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

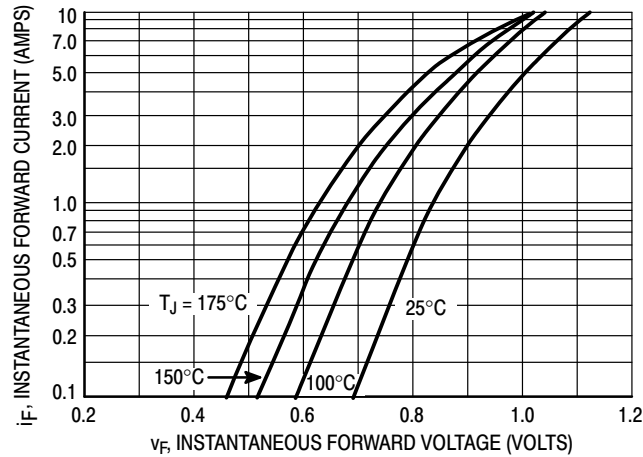


Figure 1. Typical Forward Voltage

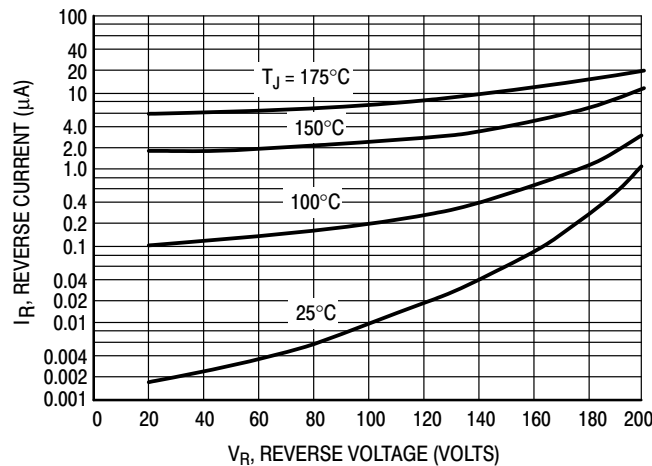


Figure 2. Typical Reverse Current

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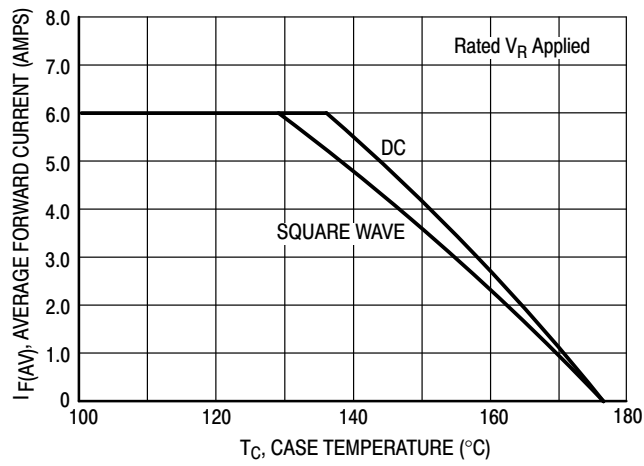


Figure 3. Total Device Current Derating, Case

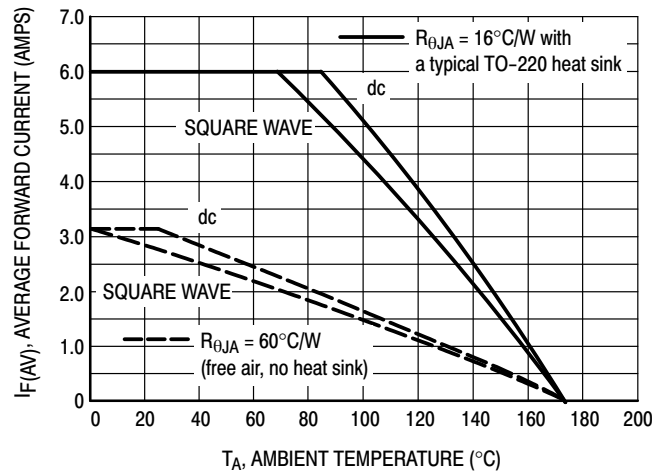


Figure 4. Total Device Current Derating, Ambient

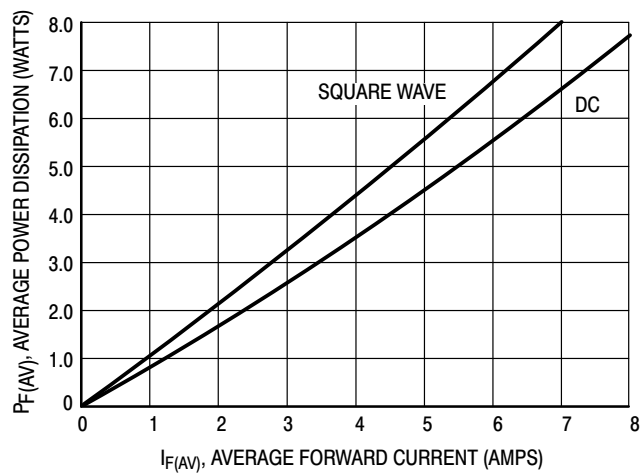
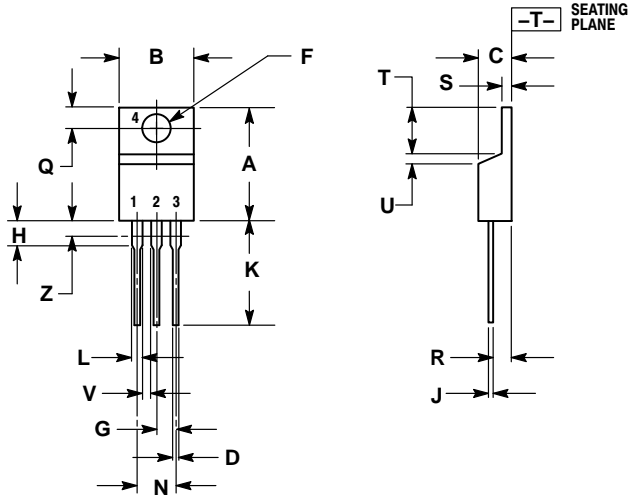


Figure 5. Power Dissipation

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PACKAGE DIMENSIONS

TO-220
CASE 221A-09
ISSUE AH




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	0.415	9.66	10.53
C	0.160	0.190	4.07	4.83
D	0.025	0.038	0.64	0.96
F	0.142	0.161	3.61	4.09
G	0.095	0.105	2.42	2.66
H	0.110	0.161	2.80	4.10
J	0.014	0.024	0.36	0.61
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

STYLE 6:

- PIN 1. ANODE
- CATHODE
- ANODE
- CATHODE

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