MUR620CT

Preferred Device

SWITCHMODE™ Power Rectifier

These state−of−the−art SWITCHMODE 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
- 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

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°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°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

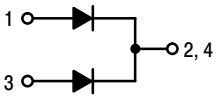
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

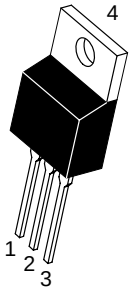
*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor®

http://onsemi.com

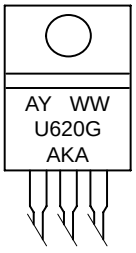
ULTRAFAST RECTIFIER
6.0 AMPERES, 200 VOLTS





TO−220AB
CASE 221A
PLASTIC

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
MUR620CT	TO−220	50 Units/Rail
MUR620CTG	TO−220 (Pb−Free)	50 Units/Rail

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

THERMAL CHARACTERISTICS (Per Diode Leg)

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

ELECTRICAL CHARACTERISTICS (Per Diode Leg)

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

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

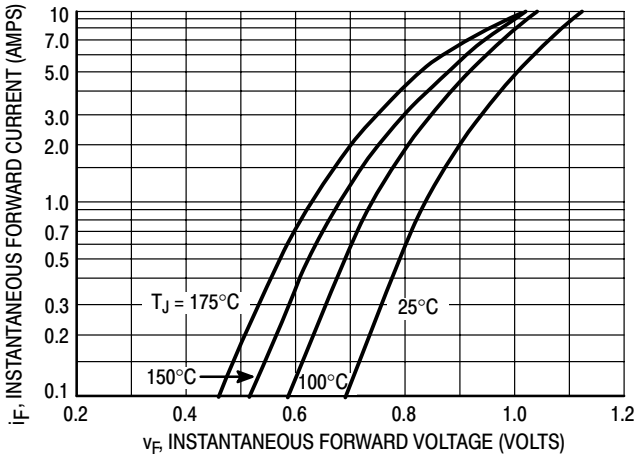


Figure 1. Typical Forward Voltage

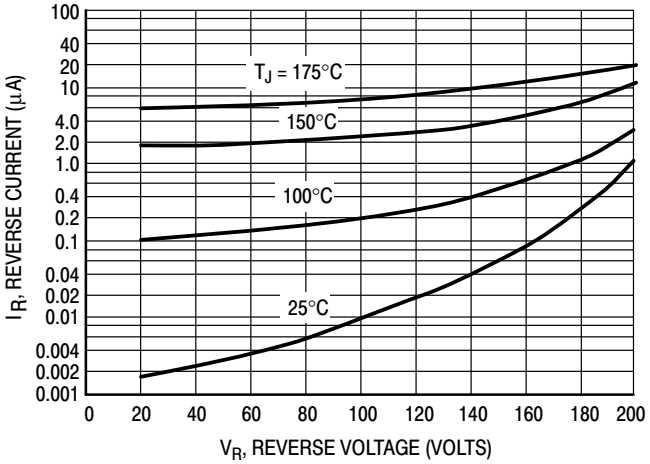


Figure 2. Typical Reverse Current

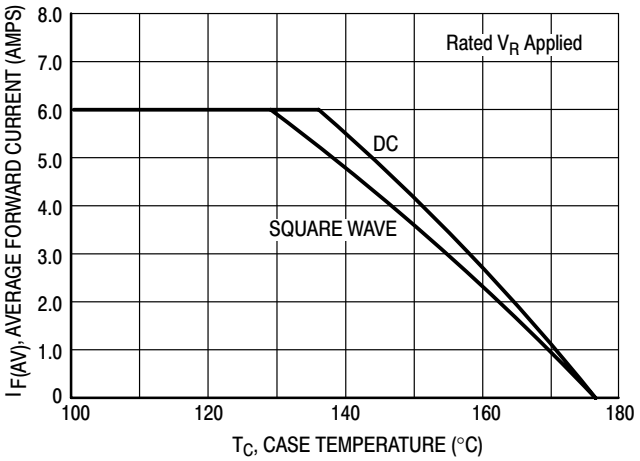


Figure 3. Total Device Current Derating, Case

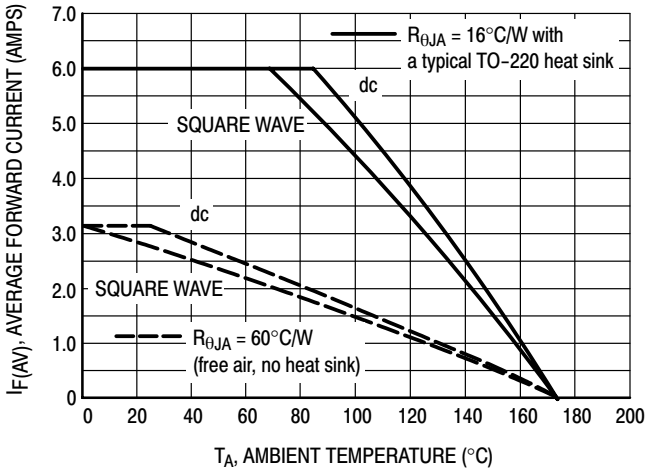


Figure 4. Total Device Current Derating, Ambient

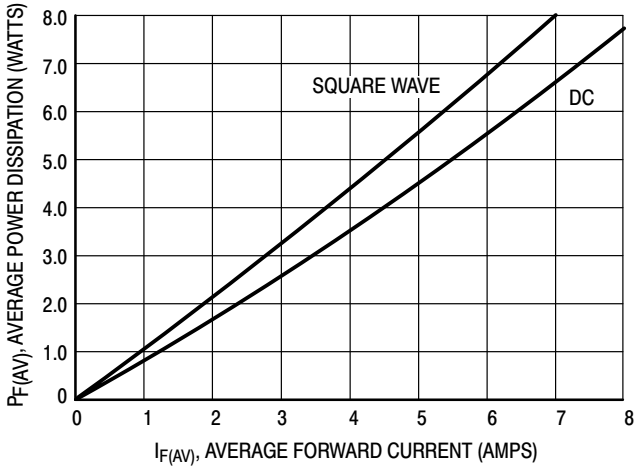
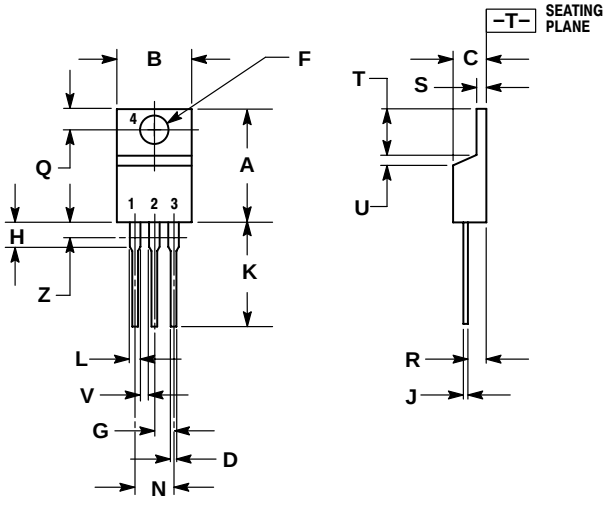


Figure 5. Power Dissipation

MUR620CT

PACKAGE DIMENSIONS

TO−220 THREE−LEAD
TO−220AB
CASE 221A−09
ISSUE AA



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.

	INCHES		MILLIMETERS	
DIM	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

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PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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