Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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MURF1620CTG

Switch-mode Power Rectifier

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

Features

- Ultrafast 35 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.
- ESD Rating:
  - Human Body Model = 3B (> 8 kV)
  - Machine Model = C (> 400 V)
- This is a Pb−Free Package*

Mechanical Characteristics:

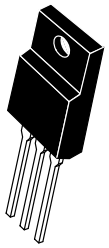
- Case: Epoxy, Molded
- Weight: 1.9 Grams (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds

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

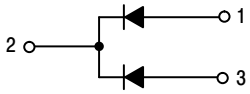
ON Semiconductor®

www.onsemi.com

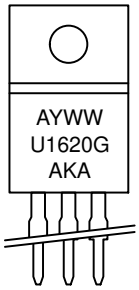
ULTRAFAST RECTIFIER
16 AMPERES, 200 VOLTS



ISOLATED TO−220
CASE 221AH



MARKING DIAGRAM



A	= Assembly Location
Y	= Year
WW	= Work Week
U1620	= Device Code
G	= Pb−Free Package
AKA	= Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping†
MURF1620CTG	TO−220 (Pb−Free)	50 Units / Rail

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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	200	V
Average Rectified Forward Current Per Diode, (Rated V_R), T_C = 150°C Total Device	$I_{F(AV)}$	 8 16	A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz), T_C = 150°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 = 0.3 second, R.H. ≤ 30%, T_A = 25°C) (Note 1)	V_{iso1}	 4500	V

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.

1. Proper strike and creepage distance must be provided.

THERMAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	4.2	°C/W
Lead Temperature for Soldering Purposes: 1/8″ from the Case for 5 seconds	T_L	260	°C

ELECTRICAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 2) (i_F = 8.0 A, T_C = 150°C) (i_F = 8.0 A, T_C = 25°C)	v_F	 0.895 0.975	V
Maximum Instantaneous Reverse Current (Note 2) (Rated DC Voltage, T_C = 150°C) (Rated DC Voltage, T_C = 25°C)	i_R	 250 5.0	μA
Maximum Reverse Recovery Time (I_F = 1.0 A, di/dt = 50 A/μs) (I_F = 0.5 A, i_R = 1.0 A, I_{REC} = 0.25 A)	t_{rr}	 35 25	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.

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

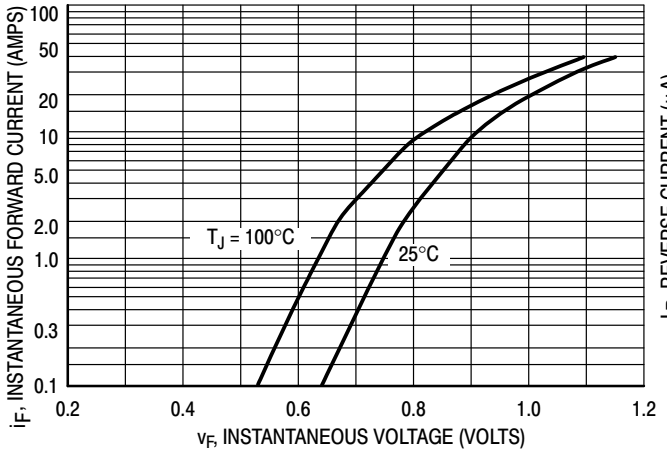


Figure 1. Typical Forward Voltage, Per Leg

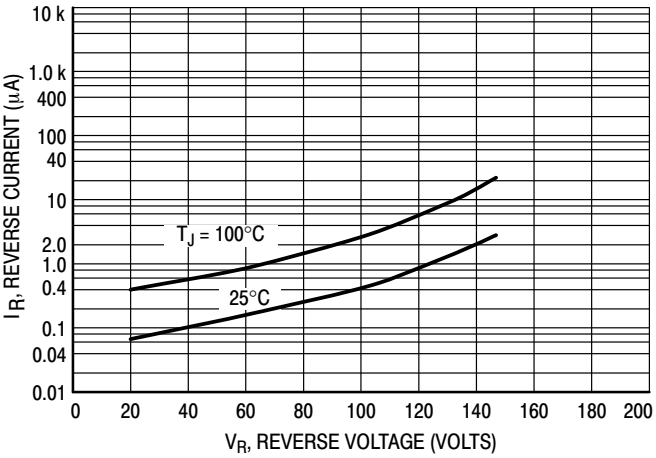
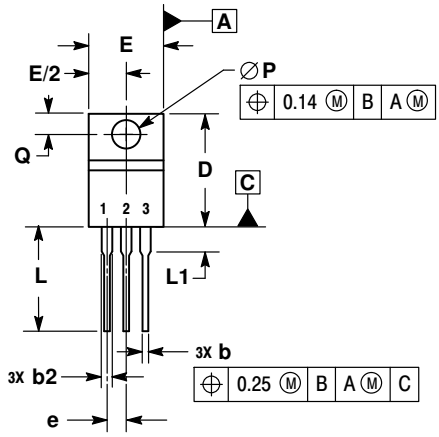


Figure 2. Typical Reverse Current, Per Leg*

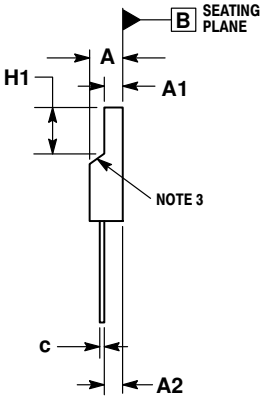
MURF1620CTG

PACKAGE DIMENSIONS

TO−220 FULLPACK, 3−LEAD
CASE 221AH
ISSUE F

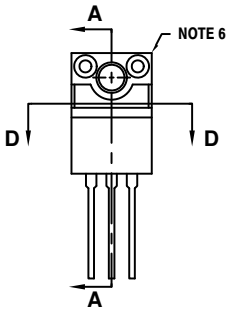


FRONT VIEW

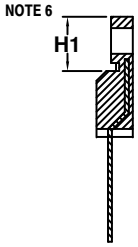


SIDE VIEW

SECTION D−D



ALTERNATE CONSTRUCTION



SECTION A−A

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR UNCONTROLLED IN THIS AREA.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH AND GATE PROTRUSIONS. MOLD FLASH AND GATE PROTRUSIONS NOT TO EXCEED 0.13 PER SIDE. THESE DIMENSIONS ARE TO BE MEASURED AT OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSION b2 DOES NOT INCLUDE DAMBAR PROTRUSION. LEAD WIDTH INCLUDING PROTRUSION SHALL NOT EXCEED 2.00.
6. CONTOURS AND FEATURES OF THE MOLDED PACKAGE BODY MAY VARY WITHIN THE ENVELOP DEFINED BY DIMENSIONS A1 AND H1 FOR MANUFACTURING PURPOSES.

	MILLIMETERS	
DIM	MIN	MAX
A	4.30	4.70
A1	2.50	2.90
A2	2.50	2.90
b	0.54	0.84
b2	1.10	1.40
c	0.49	0.79
D	14.70	15.30
E	9.70	10.30
e	2.54 BSC	
H1	6.60	7.10
L	12.50	14.73
L1	---	2.80
P	3.00	3.40
Q	2.80	3.20

PUBLICATION ORDERING INFORMATION

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MURF1620CT/D