

MUR1620CTR, MURB1620CTR



KERSEMI

<http://kersemi.com>

Power Rectifier

These state-of-the-art devices are designed for use in negative switching power supplies, inverters and as free wheeling diodes. Also, used in conjunction with common cathode dual Ultrafast Rectifiers, makes a single phase full-wave bridge.

Features

- Common Anode Dual Rectifier (8.0 A per Leg or 16 A per Package)
- Ultrafast 35 Nanosecond Reverse Recovery Times
- Exhibits Soft Recovery Characteristics
- High Temperature Glass Passivated Junction
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating @ Both Case and Ambient Temperatures
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Complement to MUR1620CT and MURB1620CT Common Cathode Device
- Pb-Free Packages are Available

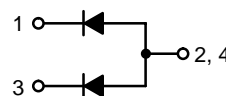
Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: MUR1620CTR: 1.9 Grams (Approximately)
MURB1620CTR: 1.7 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

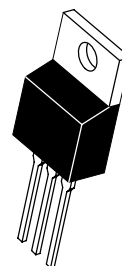
MAXIMUM RATINGS (Per Leg)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
Average Rectified Forward Voltage (Rated V_R , $T_C = 160^\circ\text{C}$) Per Leg Per Total Device	$I_{F(AV)}$	8.0 16	A
Peak Repetitive Surge Current (Rated V_R , Square Wave, 20 kHz, $T_C = 140^\circ\text{C}$) Per Diode	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 Range	T_J, T_{stg}	-65 to +175	°C

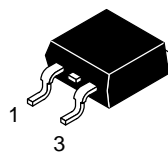
ULTRAFAST RECTIFIER 16 AMPERES, 200 VOLTS



MARKING DIAGRAMS



**TO-220AB
CASE 221A
STYLE 7**



**4 D2PAK
CASE 418B
STYLE 5**



U1620R = Device Code
KAK = Diode Polarity
A = Assembly Location
Y = Year
WW = Work Week
G = Pb-Free Package

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THERMAL CHARACTERISTICS (Per Leg)

Rating	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.0	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS (Per Leg)

Rating	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) ($i_F = 8.0$ Amps, $T_C = 25^{\circ}\text{C}$) ($i_F = 8.0$ Amps, $T_C = 150^{\circ}\text{C}$)	v_F	1.2 1.1	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, $T_C = 25^{\circ}\text{C}$) (Rated dc Voltage, $T_C = 150^{\circ}\text{C}$)	i_R	5.0 500	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amps/ μs) ($I_F = 0.5$ Amp, $di/dt = 100$ Amps/ μs)	t_{rr}	85 35	ns

1. Pulse Test: Pulse Width = 5.0 ms, Duty Cycle \leq 10%.

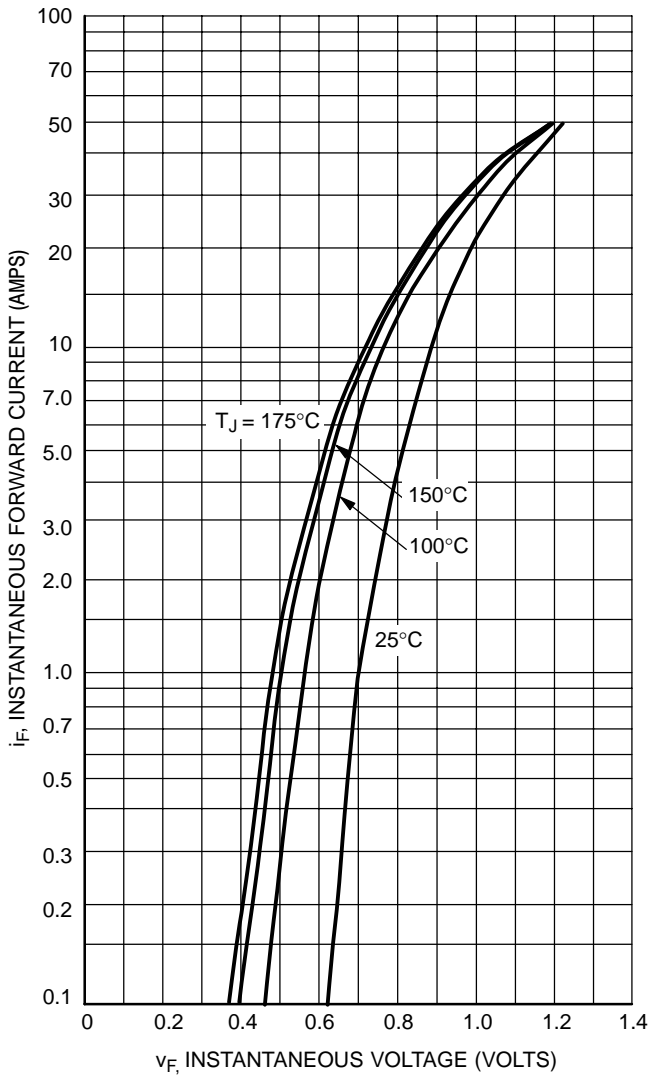


Figure 1. Typical Forward Voltage (Per Leg)

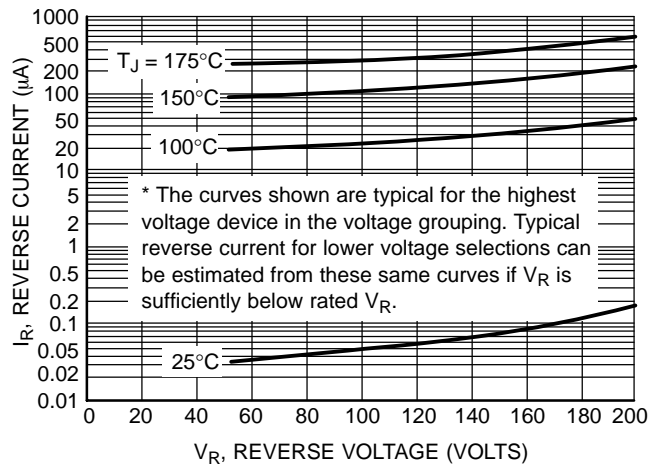


Figure 2. Typical Reverse Current* (Per Leg)

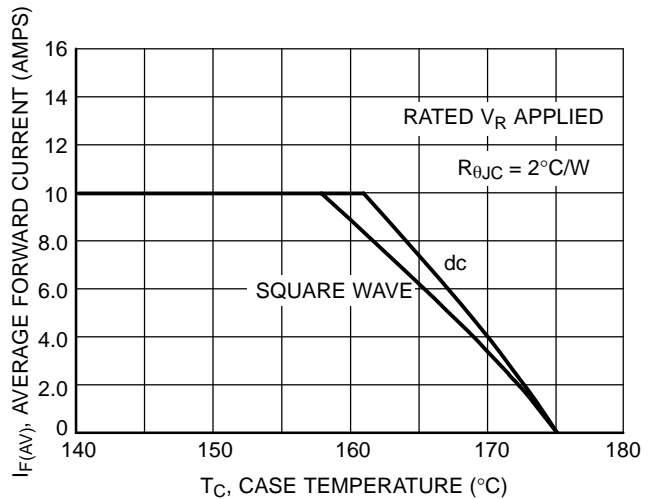
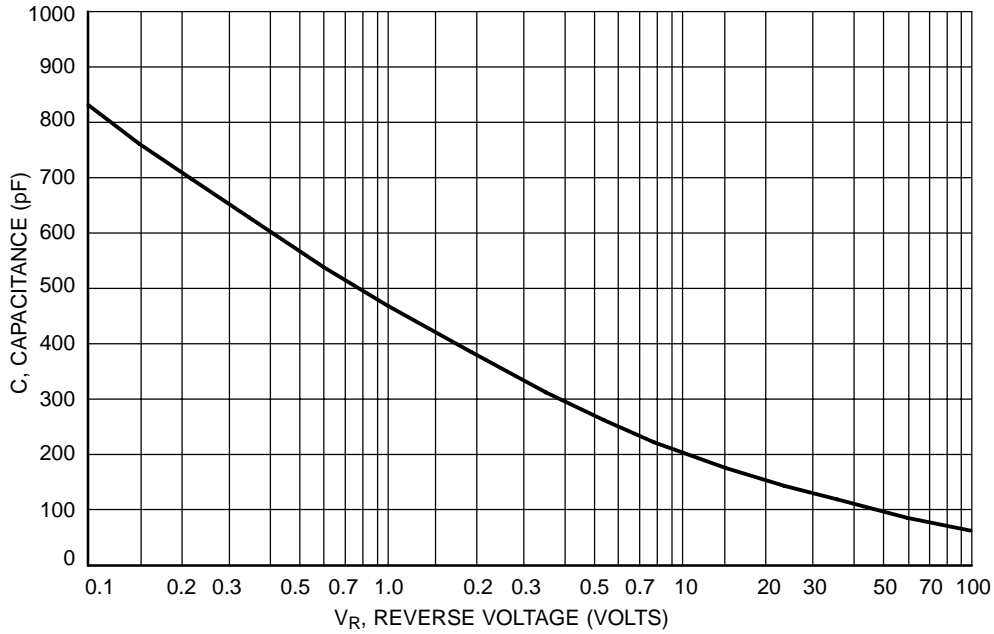
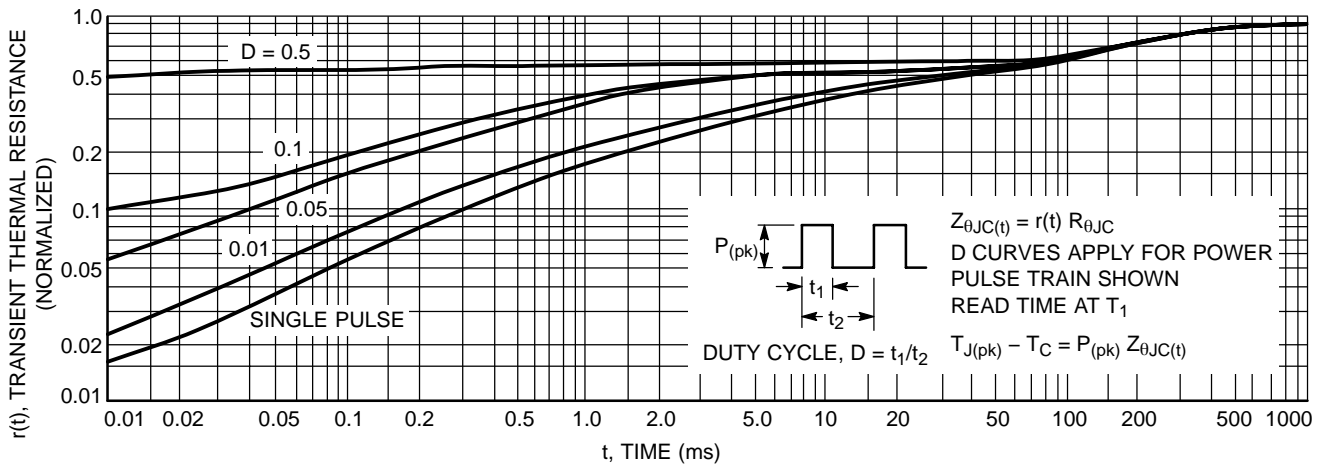
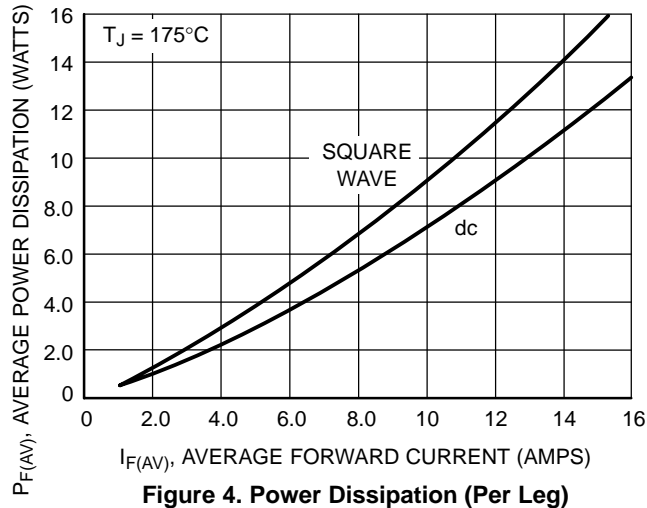


Figure 3. Current Derating, Case (Per Leg)

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MUR1620CTR, MURB1620CTR

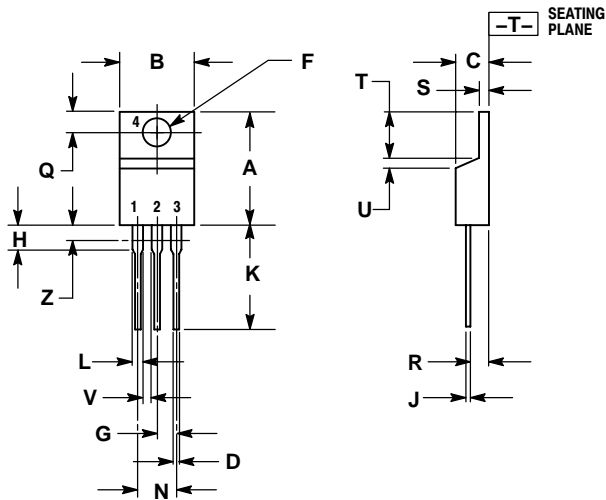
ORDERING INFORMATION

Device	Package	Shipping†
MUR1620CTR	TO-220	50 Units / Rail
MUR1620CTRG	TO-220 (Pb-Free)	50 Units / Rail
MURB1620CTR	D ² PAK-3	50 Units / Rail
MURB1620CTRG	D ² PAK-3 (Pb-Free)	50 Units / Rail
MURB1620CTR4	D ² PAK-3	800 / Tape & Reel
MURB1620CTR4G	D ² PAK-3 (Pb-Free)	800 / Tape & Reel

MUR1620CTR, MURB1620CTR

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.

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

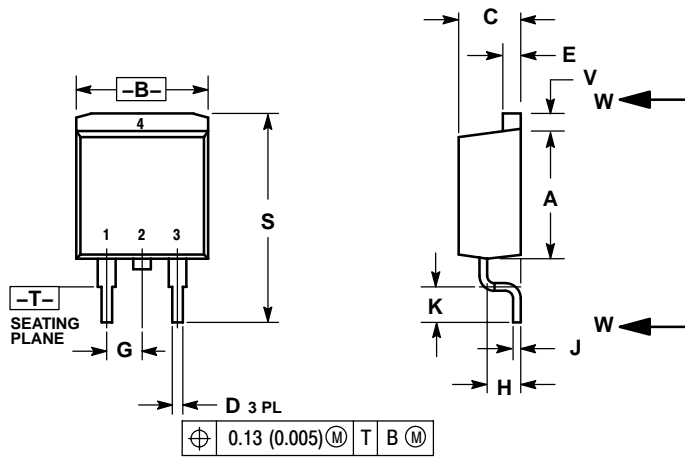
STYLE 7:

1. CATHODE
2. ANODE
3. CATHODE
4. ANODE

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PACKAGE DIMENSIONS

D²PAK-3
CASE 418B-04
ISSUE J



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 418B-01 THRU 418B-03 OBSOLETE, NEW STANDARD 418B-04.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
F	0.310	0.350	7.87	8.89
G	0.100 BSC		2.54 BSC	
H	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.090	0.110	2.29	2.79
L	0.052	0.072	1.32	1.83
M	0.280	0.320	7.11	8.13
N	0.197 REF		5.00 REF	
P	0.079 REF		2.00 REF	
R	0.039 REF		0.99 REF	
S	0.575	0.625	14.60	15.88
V	0.045	0.055	1.14	1.40

STYLE 5:

- PIN 1. CATHODE
2. ANODE
3. CATHODE
4. ANODE

