

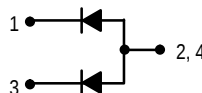
SWITCHMODE™ Dual Ultrafast Power Rectifier

... 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. These state-of-the-art devices have the following 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 UL94, V_O @ 1/8"
- Complement to MUR1605CT Series of Common Cathode Devices

Mechanical Characteristics:

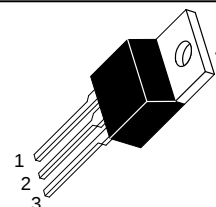
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: U1620R



MUR1620CTR

Motorola Preferred Device

**ULTRAFAST
RECTIFIER
16 AMPERES
200 VOLTS**



**CASE 221A-06
TO-220AB
STYLE 7**

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	Volts
Average Rectified Forward Voltage, (Rated V_R), $T_C = 160^\circ\text{C}$ Per Leg Per Total Device	$I_F(AV)$	8.0 16	Amps
Peak Repetitive Surge Current, Per Diode (Rated V_R , Square Wave, 20 kHz), $T_C = 140^\circ\text{C}$	I_{FM}	16	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100	Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

THERMAL CHARACTERISTICS (Per Leg)

Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$
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ELECTRICAL CHARACTERISTICS (Per Leg)

Maximum Instantaneous Forward Voltage (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	Volts
Maximum Instantaneous Reverse Current (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 $\leq 10\%$.

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



MUR1620CTR

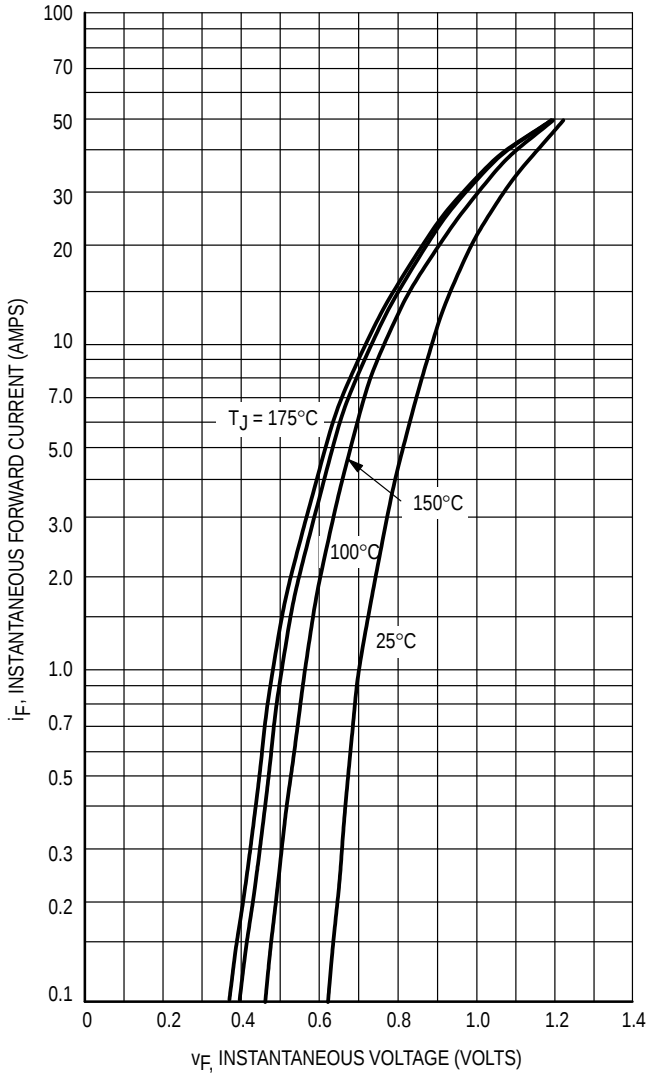


Figure 1. Typical Forward Voltage (Per Leg)

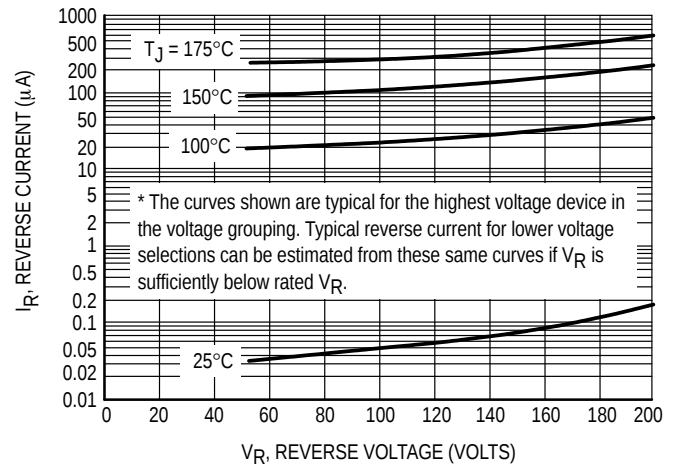


Figure 2. Typical Reverse Current* (Per Leg)

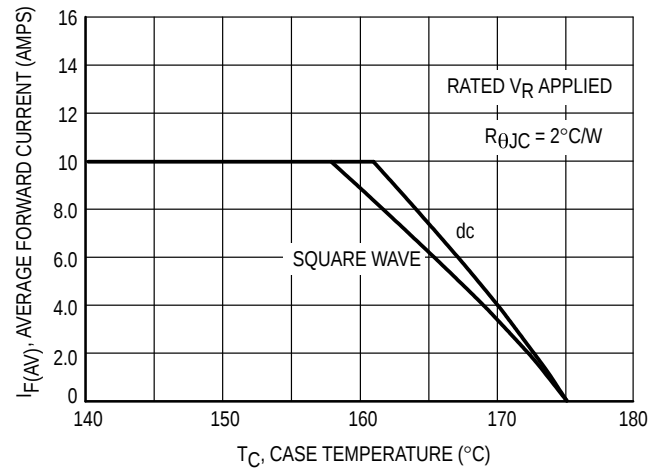


Figure 3. Current Derating, Case (Per Leg)

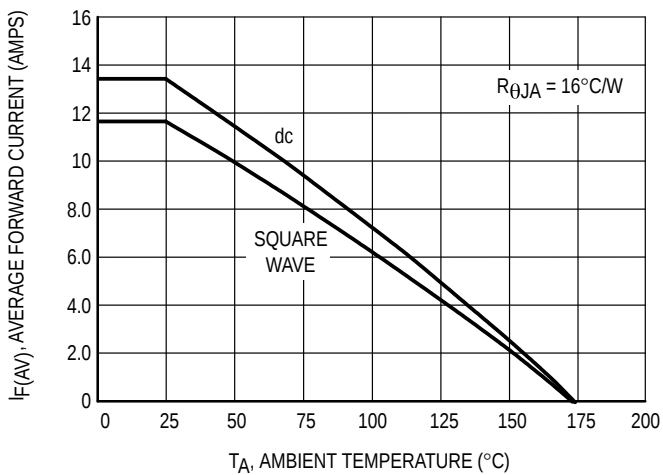


Figure 4. Current Derating, Ambient (Per Leg)

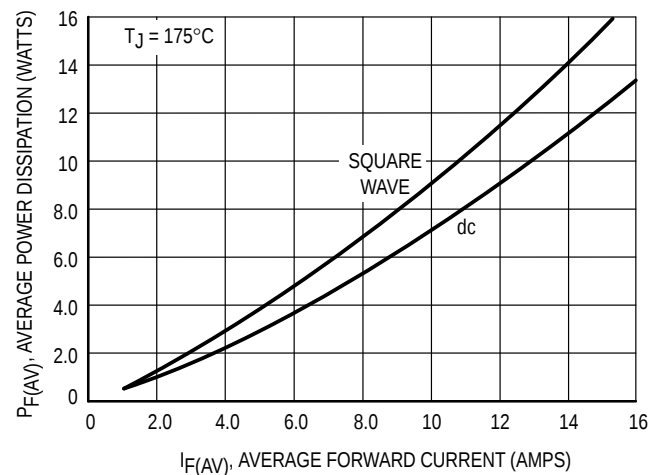


Figure 5. Power Dissipation (Per Leg)

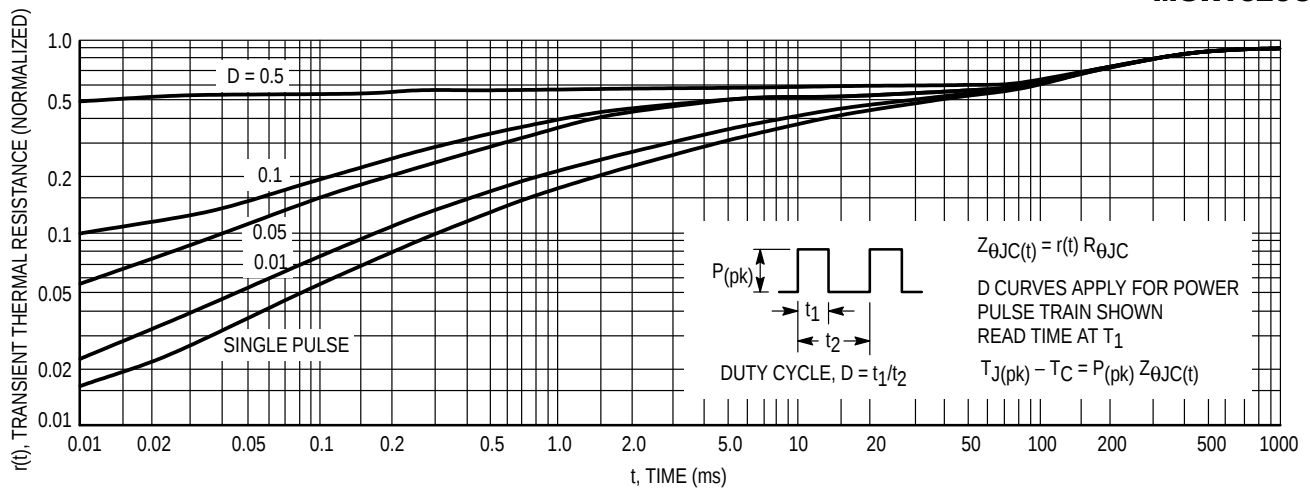


Figure 6. Thermal Response

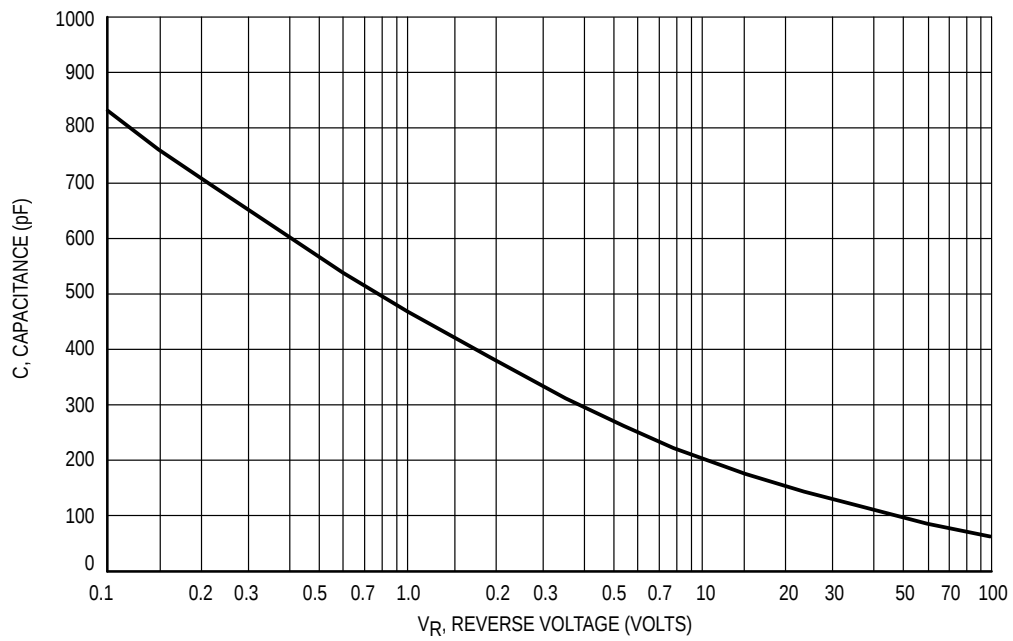
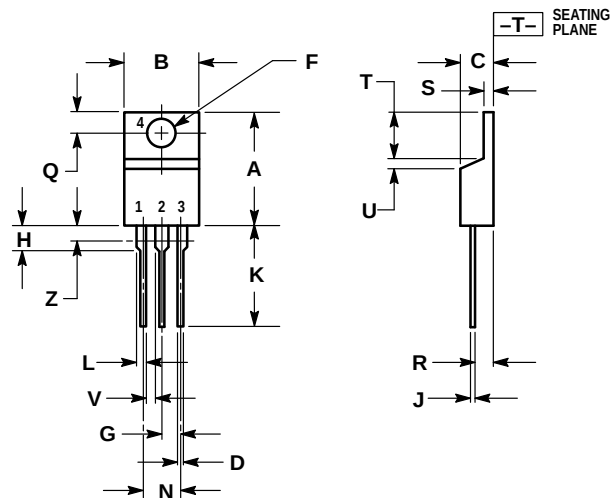


Figure 7. Typical Capacitance (Per Leg)

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

STYLE 7:

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

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

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