MURB1620CTR

Preferred Device

SWITCHMODE™ Power Rectifier

D²PAK Power Surface Mount Package

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 MURB1620CT Common Cathode Device
- Pb−Free Packages are Available

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 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°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°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

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.

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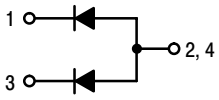
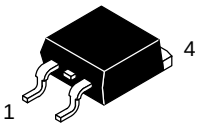
ULTRAFAST RECTIFIER 16 AMPERES, 200 VOLTS



MARKING DIAGRAM



D²PAK
CASE 418B
STYLE 5

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

ORDERING INFORMATION

Device	Package	Shipping†
MURB1620CTR	D²PAK	50 Units/Rail
MURB1620CTRG	D²PAK (Pb−Free)	50 Units/Rail
MURB1620CTRT4	D²PAK	800/Tape & Reel
MURB1620CTRT4G	D²PAK (Pb−Free)	800/Tape & Reel

†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.

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

THERMAL CHARACTERISTICS (Per Leg)

Rating	Symbol	Value	Unit
Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	2.0	°C/W

ELECTRICAL CHARACTERISTICS (Per Leg)

Maximum Instantaneous Forward Voltage (Note 1) (i_F = 8.0 Amps, T_C = 25°C) (i_F = 8.0 Amps, T_C = 150°C)	v_F	 1.2 1.1	V
Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, T_C = 25°C) (Rated dc Voltage, T_C = 150°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 ≤ 10%.

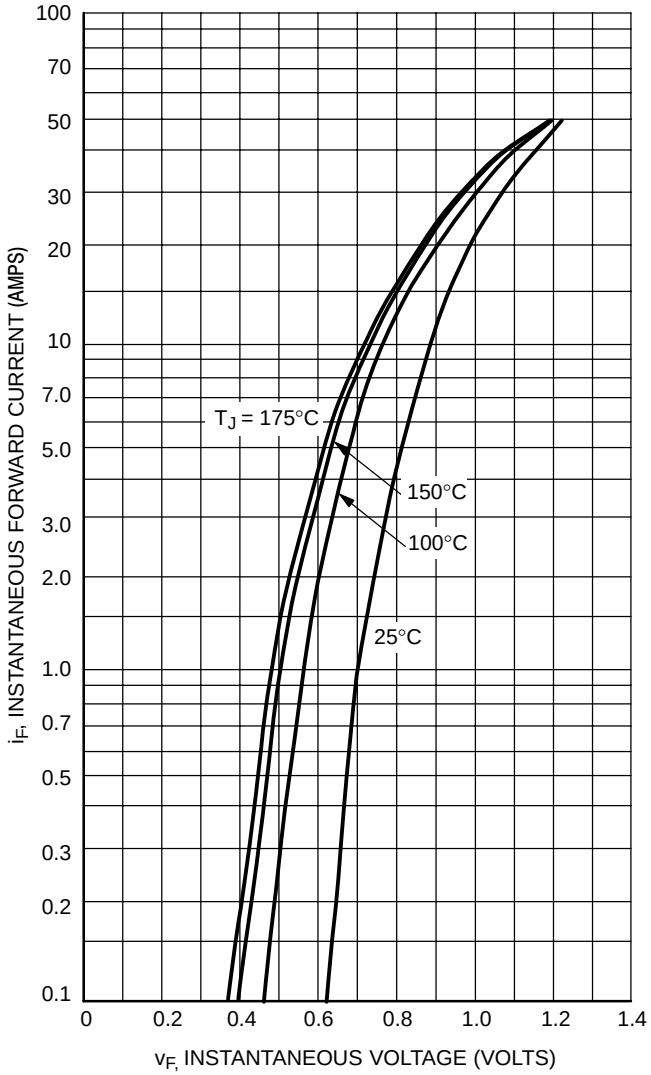


Figure 1. Typical Forward Voltage (Per Leg)

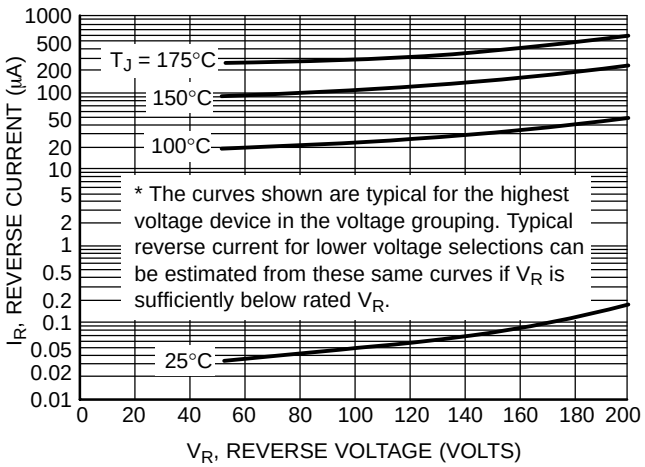


Figure 2. Typical Reverse Current* (Per Leg)

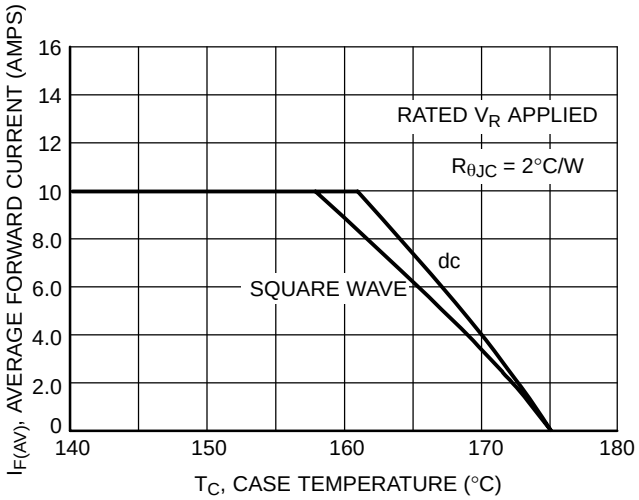


Figure 3. Current Derating, Case (Per Leg)

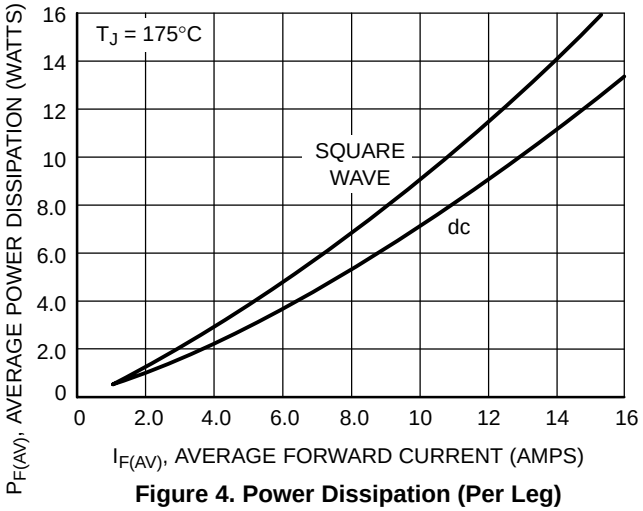


Figure 4. Power Dissipation (Per Leg)

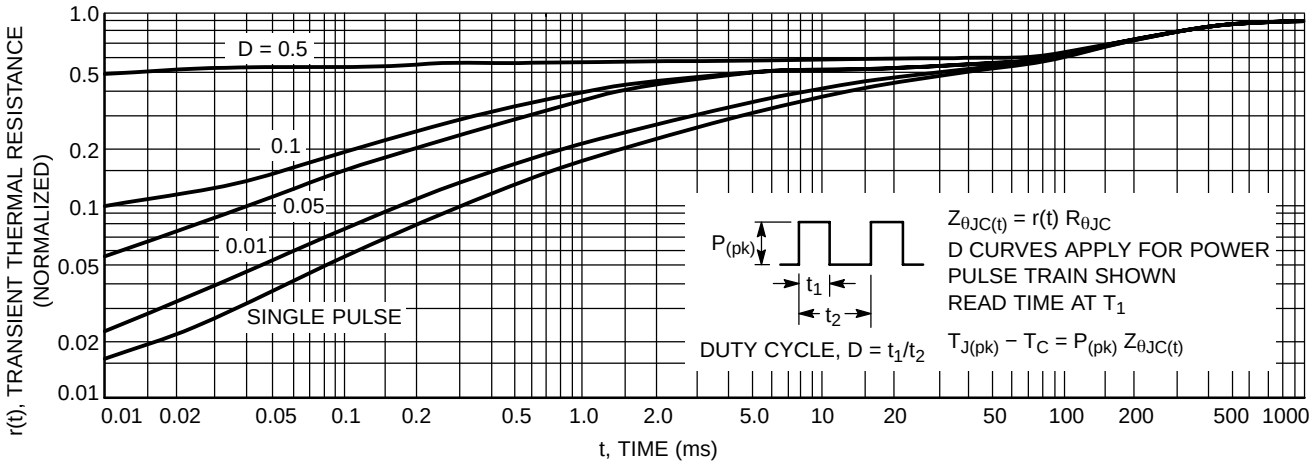


Figure 5. Thermal Response

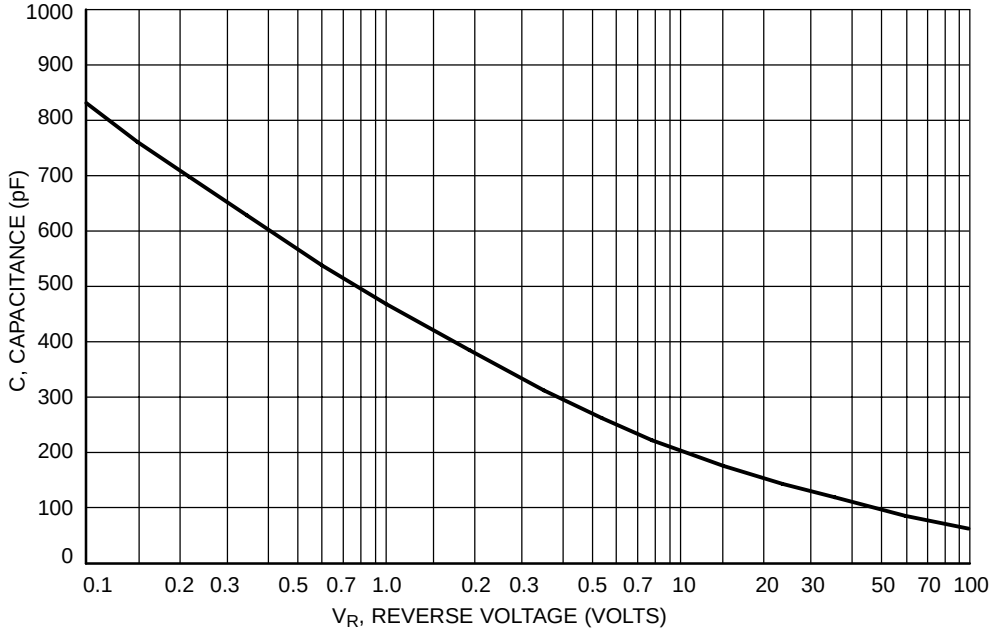
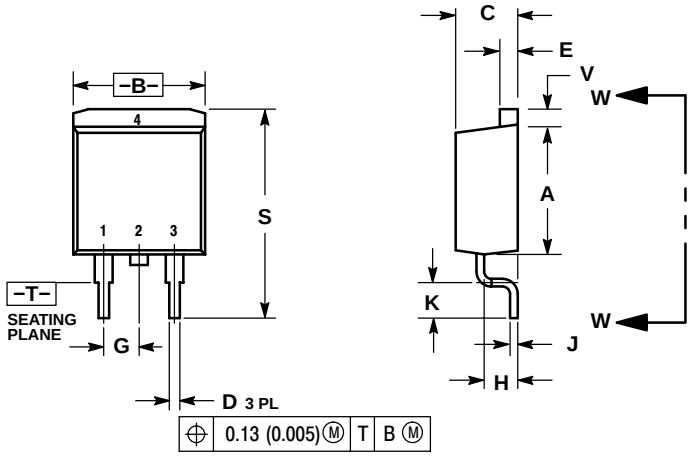


Figure 6. Typical Capacitance (Per Leg)

MURB1620CTR

PACKAGE DIMENSIONS

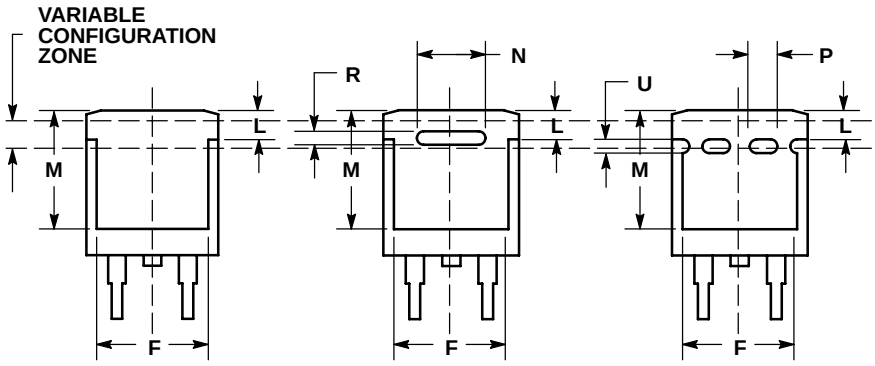
D²PAK−3
CASE 418B−04
ISSUE J



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.

	INCHES		MILLIMETERS	
DIM	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



VIEW W−W 1 | VIEW W−W 2 | VIEW W−W 3

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PUBLICATION ORDERING INFORMATION

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