MURHB840CT

Preferred Device

MEGAHERTZ™ Power Rectifier

D²PAK Power Surface Mount Package

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

Features

- Package Designed for Power Surface Mount Applications
- Ultrafast 28 Nanosecond Recovery Times
- 175°C Operating Junction Temperature
- Epoxy Meets UL 94 V−0 @ 0.125 in
- High Temperature Glass Passivated Junction
- High Voltage Capability
- Low Leakage Specified @ 150°C Case Temperature
- Short Heat Sink Tab Manufactured − Not Sheared!
- Similar in Size to Industrial Standard TO−220 Package
- Pb−Free Packages are Available

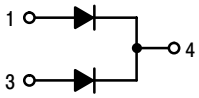
Mechanical Characteristics:

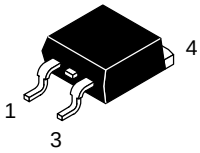
- Case: Epoxy, Molded, Epoxy Meets UL 94, V−0
- Weight: 1.7 Grams (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Device Meets MSL1 Requirements
- ESD Ratings: Machine Model, C (>400 V)
  Human Body Model, 3B (>8000 V)

ON Semiconductor®

http://onsemi.com

ULTRAFAST RECTIFIER 8.0 AMPERES, 400 VOLTS





D²PAK
CASE 418B
STYLE 3

MARKING DIAGRAM



A	= Assembly Location
Y	= Year
WW	= Work Week
UH840	= Device Code
G	= Pb−Free Package
AKA	= Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping†
MURHB840CT	D²PAK	50 Units/Rail
MURHB840CTG	D²PAK (Pb−Free)	50 Units/Rail
MURHB840CTT4	D²PAK	800/Tape & Reel
MURHB840CTT4G	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.

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MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	V
Average Rectified Forward Current (Rated V_R, T_C = 120°C) Total Device	$I_{F(AV)}$	4.0 8.0	A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz, T_C = 120°C)	I_{FM}	8.0	A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	100	A
Controlled Avalanche Energy	W_{AVAL}	20	mJ
Operating Junction and Storage Temperature Range	T_J, T_{stg}	−65 to +175	°C

THERMAL CHARACTERISTICS (Per Leg)

Rating	Symbol	Value	Unit
Maximum Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	3.0	°C/W
Maximum Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	50	°C/W

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.

ELECTRICAL CHARACTERISTICS (Per Leg)

Characteristic		Symbol	Max	Unit
Maximum Instantaneous Forward Voltage (Note 1)	(i_F = 4.0 A, T_C = 150°C) (i_F = 4.0 A, T_C = 25°C)	v_F	1.9 2.2	V
Maximum Instantaneous Reverse Current (Note 1)	(Rated DC Voltage, T_C = 150°C) (Rated DC Voltage, T_C = 25°C)	i_R	500 10	μA
Maximum Reverse Recovery Time	(I_F = 1.0 A, di/dt = 50 A/μs)	t_{rr}	28	ns

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

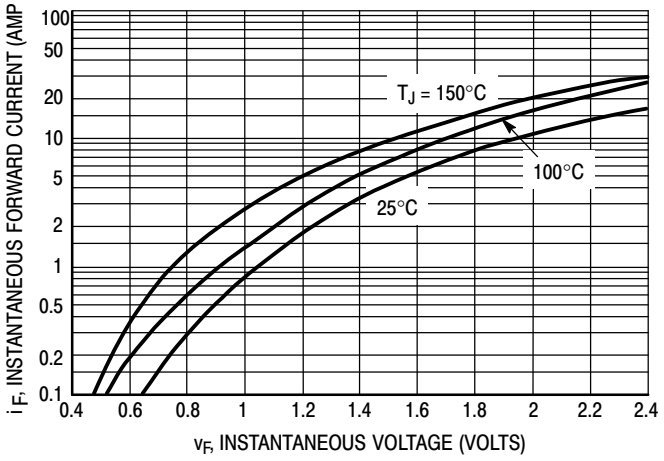


Figure 1. Typical Forward Voltage

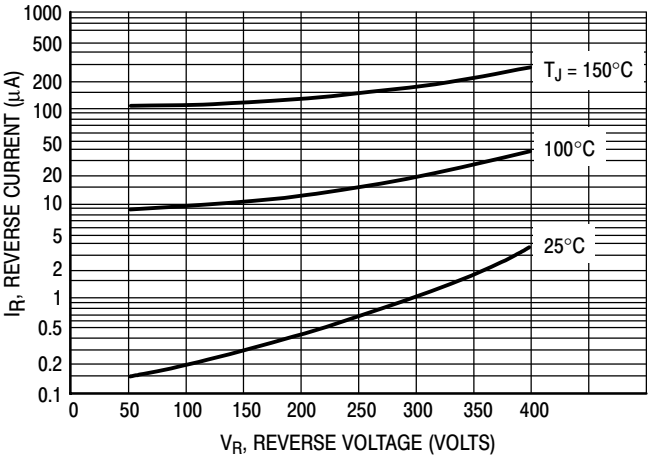


Figure 2. Typical Reverse Current, Per Leg

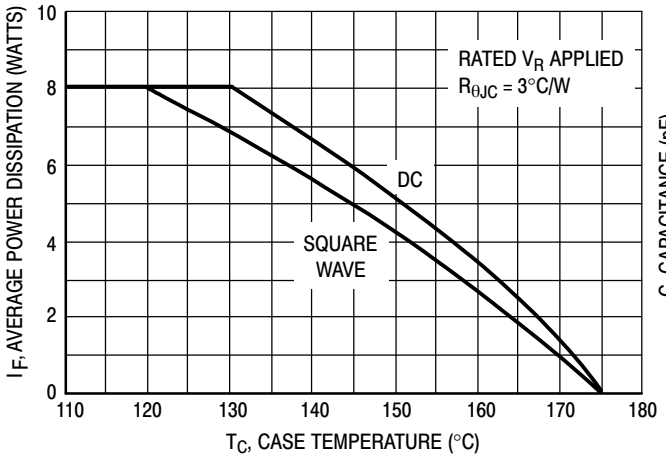


Figure 3. Current Derating, Case

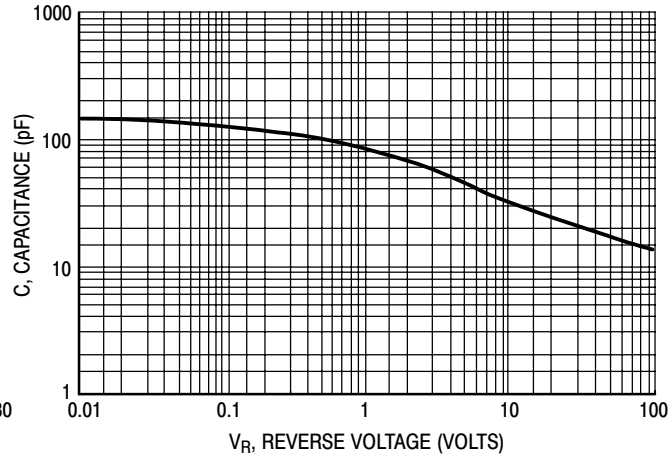


Figure 4. Typical Capacitance, Per Leg

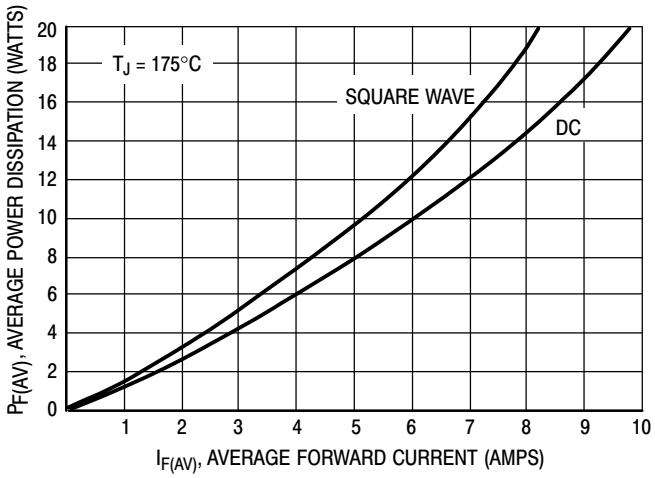
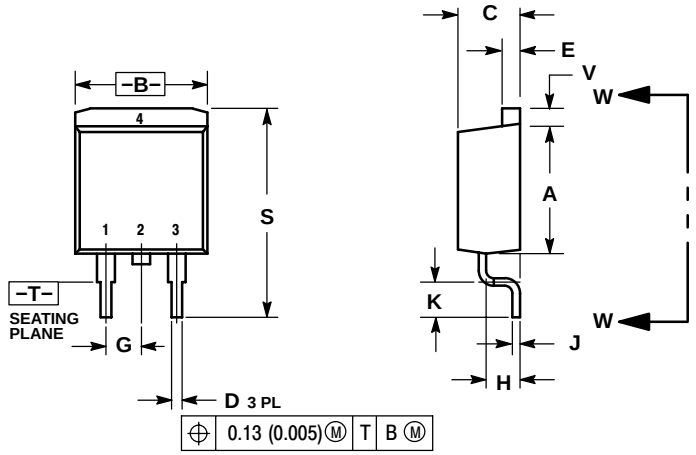


Figure 5. Forward Power Dissipation, Per Leg

PACKAGE DIMENSIONS

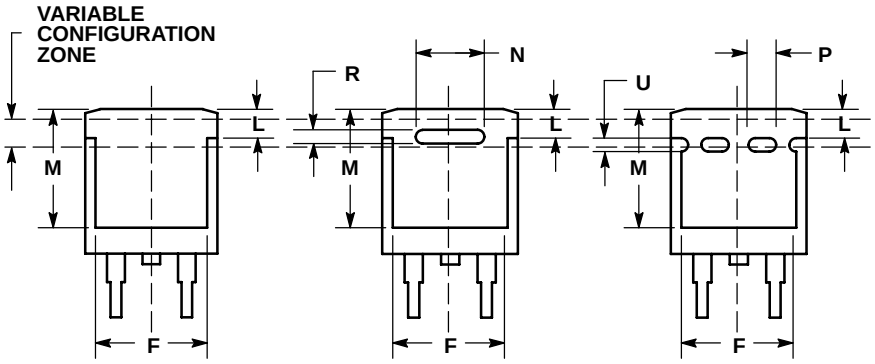
D²PAK 3
CASE 418B−04
ISSUE J



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.

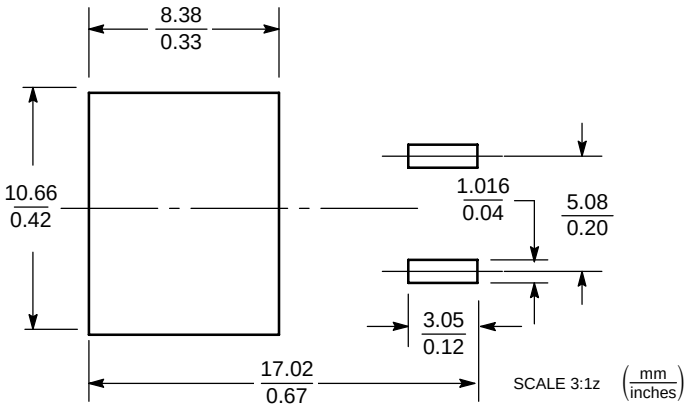
	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
F	0.310	0.350	7.87	8.89
G	0.100 BSC		2.54 BSC	
H	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.090	0.110	2.29	2.79
L	0.052	0.072	1.32	1.83
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 3:
PIN 1. ANODE
2. CATHODE
3. ANODE
4. CATHODE



VIEW W−W 1 | VIEW W−W 2 | VIEW W−W 3

SOLDERING FOOTPRINT*



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

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