

MURHB860CT

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 35 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 to 600 V
- Low Leakage Specified @ 150°C Case Temperature
- Short Heat Sink Tab Manufactured – Not Sheared!
- Similar in Size to Industry Standard TO-220 Package
- 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 and Mounting Surface 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	600	V
Average Rectified Forward Current (Rated V_R , $T_C = 120^\circ\text{C}$) Total Device	$I_{F(AV)}$	4.0 8.0	A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz, $T_C = 120^\circ\text{C}$)	I_{FM}	8.0	A
Non-Replicative 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

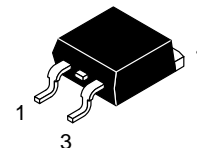
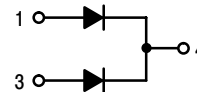
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



ON Semiconductor®

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ULTRAFAST RECTIFIER 8.0 AMPERES, 600 VOLTS



D²PAK
CASE 418B
STYLE 3

MARKING DIAGRAM



A = Assembly Location
Y = Year
WW = Work Week
UH860 = Device Code
G = Pb-Free Package
AKA = Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping†
MURHB860CT	D ² PAK	50 Units/Rail
MURHB860CTG	D ² PAK (Pb-Free)	50 Units/Rail
MURHB860CTT4	D ² PAK	800/Tape & Reel
MURHB860CTT4G	D ² PAK (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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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

ELECTRICAL CHARACTERISTICS (Per Leg)

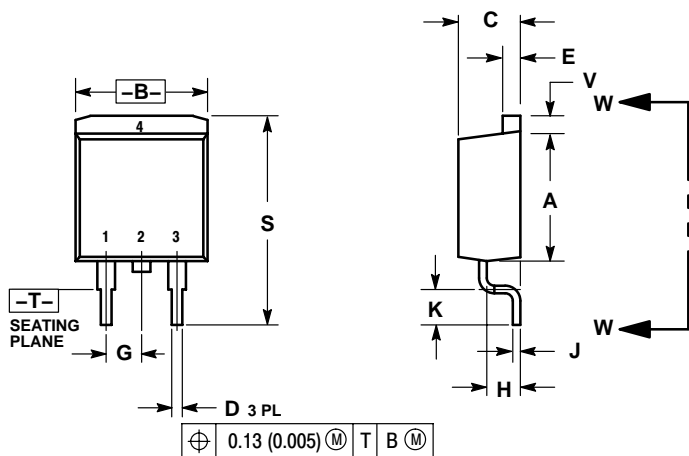
Characteristic	Symbol	Max	Unit
Maximum Instantaneous Forward Voltage (Note 1) ($I_F = 4.0$ A, $T_C = 150^\circ\text{C}$) ($I_F = 4.0$ A, $T_C = 25^\circ\text{C}$)	V_F	2.5 2.8	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_C = 150^\circ\text{C}$) (Rated DC Voltage, $T_C = 25^\circ\text{C}$)	i_R	500 10	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ A, $di/dt = 50$ A/ μs)	t_{rr}	35	ns

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

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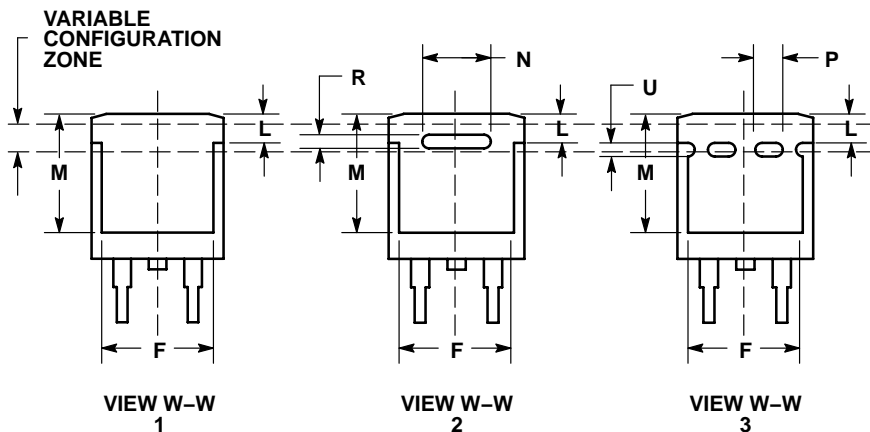
PACKAGE DIMENSIONS

D²PAK 3
CASE 418B-04
ISSUE J



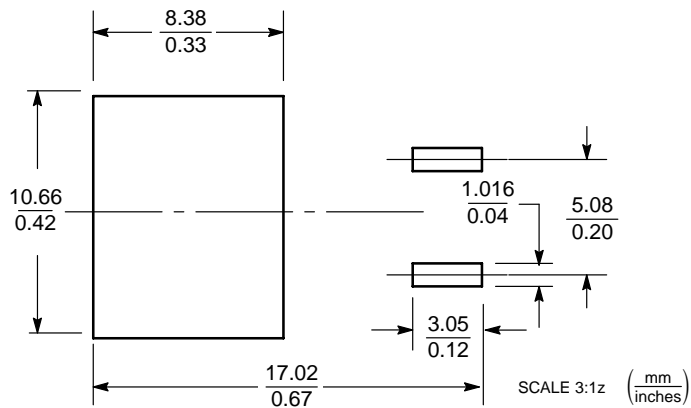
- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. 418B-01 THRU 418B-03 OBSOLETE, NEW STANDARD 418B-04.

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


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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