Preferred Device

# MEGAHERTZ™ Power Rectifier

... designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 35 Nanosecond Recovery Times
- 175°C Operating Junction Temperature
- Popular TO-220 Package
- Epoxy Meets UL94, V<sub>O</sub> @ 1/8"
- High Temperature Glass Passivated Junction
- High Voltage Capability to 600 Volts
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating @ Both Case and Ambient Temperatures

#### **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: UH860

#### MAXIMUM RATINGS (Per Leg)

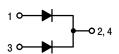
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	600	V
Average Rectified Forward Current (Rated V <sub>R</sub> , T <sub>C</sub> = 120°C) Total Device	I <sub>F(AV)</sub>	4.0 8.0	A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20 kHz, T <sub>C</sub> = 120°C)	I <sub>FM</sub>	16	А
Non–Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I <sub>FSM</sub>	100	A
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +175	°C

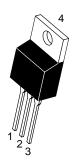


## ON Semiconductor™

http://onsemi.com

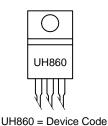
ULTRAFAST RECTIFIER 8.0 AMPERES 600 VOLTS





TO-220AB CASE 221A PLASTIC

#### **MARKING DIAGRAM**



#### **ORDERING INFORMATION**

Device	Package	Shipping
MURH860CT	TO-220	50 Units/Rail

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

#### THERMAL CHARACTERISTICS (Per Leg)

Rating	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{ heta JC}$	3.0	°C/W

#### **ELECTRICAL CHARACTERISTICS** (Per Leg)

Maximum Instantaneous Famuard Voltage (Note 1.)	.,		Volts
Maximum Instantaneous Forward Voltage (Note 1.) ( $i_F = 4.0 \text{ Amps}, T_C = 150^{\circ}\text{C}$ )	VF	2.5	VOIIS
(1 )			
$(i_F = 4.0 \text{ Amps}, T_C = 25^{\circ}C)$		2.8	
Maximum Instantaneous Reverse Current (Note 1.)	i <sub>R</sub>		μΑ
(Rated dc Voltage, T <sub>C</sub> = 150°C)	K	500	
(Rated dc Voltage, T <sub>C</sub> = 25°C)		10	
(Nation do Voltago, 10 = 20 0)		10	
Maximum Reverse Recovery Time	t <sub>rr</sub>	35	ns
$(I_F = 1.0 \text{ Amp, di/dt} = 50 \text{ Amps/}\mu\text{s})$	"		
(.F), and 30 /,po/po/			

<sup>1.</sup> Pulse Test: Pulse Width = 300  $\mu$ s, Duty Cycle  $\leq$  2.0%

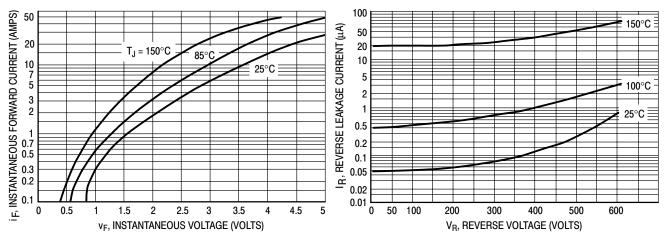


Figure 1. Typical Forward Voltage, Per Leg

Figure 2. Typical Reverse Leakage Current, Per Leg

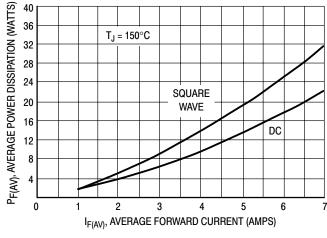


Figure 3. Typical Forward Dissipation, Per Leg

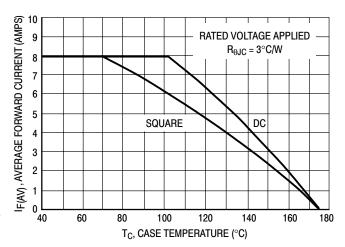


Figure 4. Typical Current Derating, Case, Per Leg

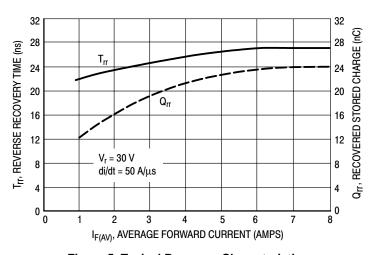


Figure 5. Typical Recovery Characteristics

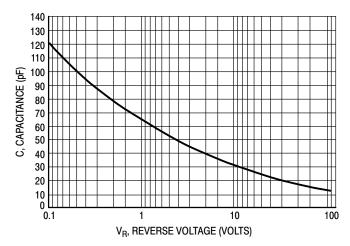
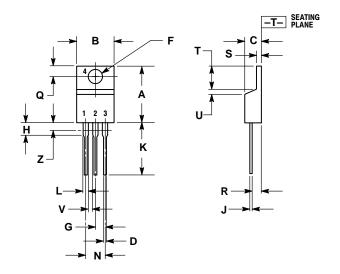


Figure 6. Typical Capacitance, Per Leg

#### PACKAGE DIMENSIONS

### TO-220 THREE-LEAD TO-220AB

CASE 221A-09 ISSUE AA



#### NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ANSI
- Y14.5M, 1982. CONTROLLING DIMENSION: INCH.
- DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
Α	0.570	0.620	14.48	15.75
В	0.380	0.405	9.66	10.28
С	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
Н	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
٧	0.045		1.15	
Z		0.080		2.04

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