

MURH840CT

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 28 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package
- Epoxy Meets UL94, V_O @ 1/8"
- High Temperature Glass Passivated Junction
- High Voltage Capability to 400 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: UH840

MAXIMUM RATINGS

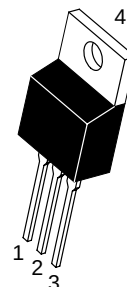
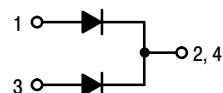
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	V
Average Rectified Forward Current (Rated V_R , $T_C = 120^\circ\text{C}$) Per Leg Total Device	$I_{F(AV)}$	4.0 8.0	A
Peak Repetitive Forward Current per Diode Leg (Rated V_R , Square Wave, 20 kHz, $T_C = 120^\circ\text{C}$)	I_{FM}	16	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



ON Semiconductor™

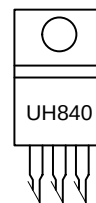
<http://onsemi.com>

**ULTRAFAST
RECTIFIER
8.0 AMPERES
400 VOLTS**



TO-220AB
CASE 221A
PLASTIC

MARKING DIAGRAM



UH840 = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MURH840CT	TO-220	50 Units/Rail

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

MURH840CT

THERMAL CHARACTERISTICS (Per Diode Leg)

Rating	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (Per Diode Leg)

Maximum Instantaneous Forward Voltage (Note 1.) ($i_F = 4.0$ Amps, $T_C = 150^{\circ}\text{C}$) ($i_F = 4.0$ Amps, $T_C = 25^{\circ}\text{C}$)	V_F	1.9 2.2	Volts
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 ($I_F = 1.0$ Amp, $di/dt = 50$ Amps/ μs)	t_{rr}	28	ns

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

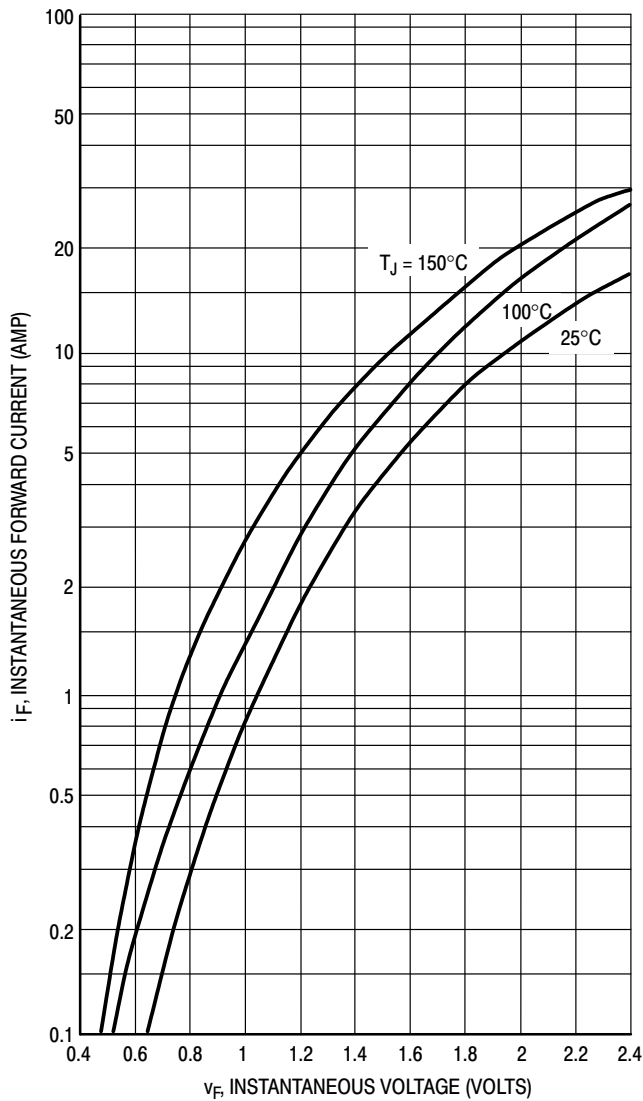


Figure 1. Typical Forward Voltage

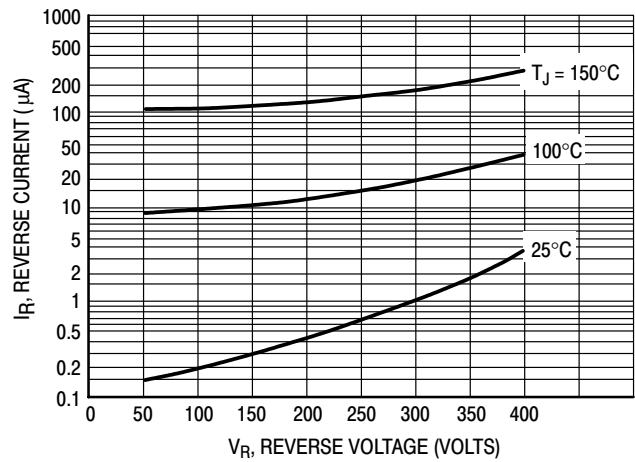


Figure 2. Typical Reverse Current, Per Leg

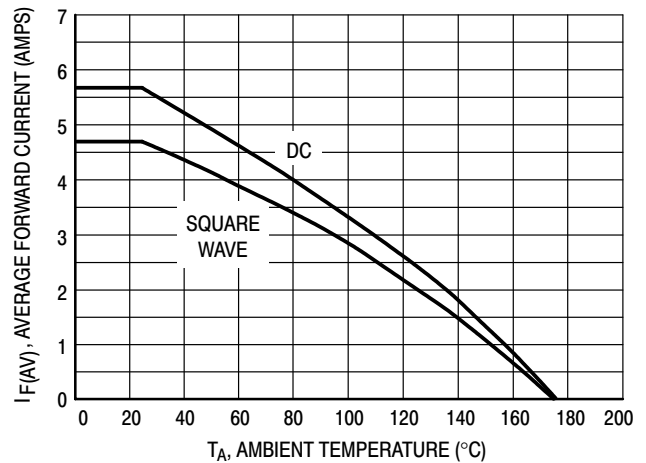


Figure 3. Forward Current Derating, Ambient, Per Leg

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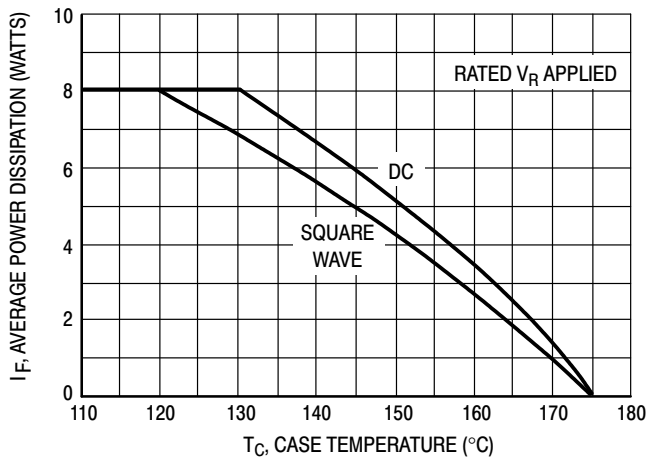


Figure 4. Current Derating, Case, Per Leg

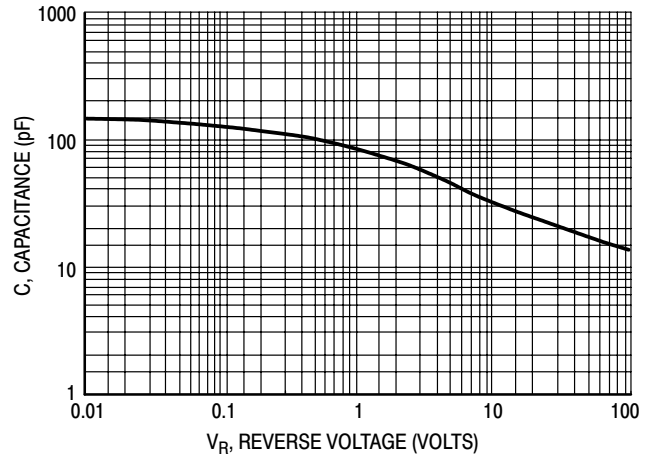


Figure 5. Typical Capacitance, Per Leg

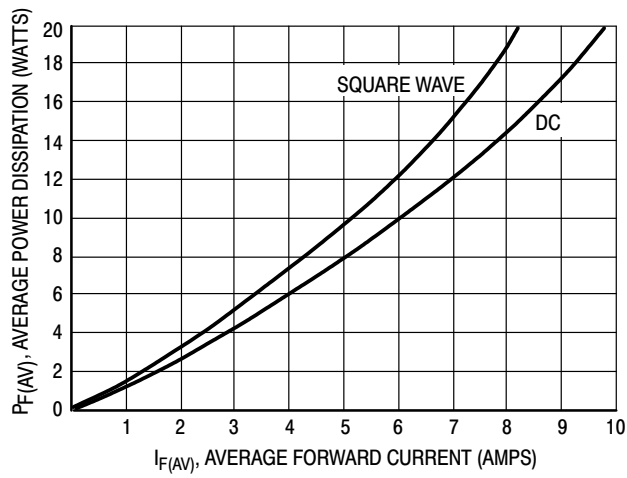


Figure 6. Forward Power Dissipation, Per Leg

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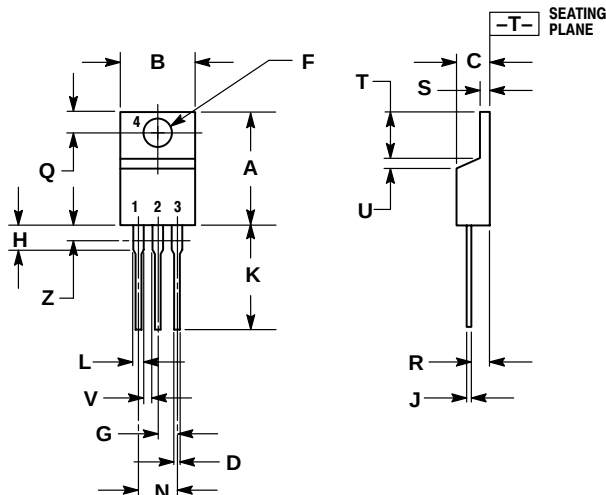
PACKAGE DIMENSIONS

TO-220 THREE-LEAD

TO-220AB

CASE 221A-09

ISSUE AA



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

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