

# MURHD560T4

Preferred Device

## MEGAHERTZ™ Power Rectifier

### Features and Benefits

- Ultrafast 30 Nanosecond Recovery Times
- 175°C Operating Junction Temperature
- High Temperature Glass Passivated Junction
- High Voltage Capability to 600 Volts
- These are Pb-Free Devices

### Applications

- Power Supplies
- Inverters
- Free Wheeling Diodes

### Mechanical Characteristics

- Case: Epoxy, Molded
- Epoxy Meets UL 94 V-0 @ 0.125 in
- Weight: 0.4 g (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes:  
260°C Max. for 10 Seconds
- ESD Ratings: Machine Model = C (>400 V)  
Human Body Model = 3B (>8000 V)

### MAXIMUM RATINGS

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 $V_R$ , $T_C = 159^\circ\text{C}$ )	$I_{F(AV)}$	5.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	50	A
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-65 to +175	°C

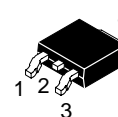
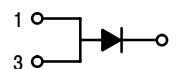
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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



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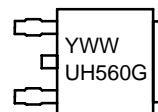
<http://onsemi.com>

**ULTRAFAST RECTIFIER  
5.0 AMPERES  
600 VOLTS**



**DPAK  
CASE 369C**

### MARKING DIAGRAM



UH560G = Device Code  
Y = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping†
MURHD560T4G	DPAK (Pb-Free)	2500 /Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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

# MURHD560T4

## THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.5	$^{\circ}C/W$
Maximum Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	49.5	$^{\circ}C/W$

## ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 2) ( $I_F = 5.0$ Amps, $T_C = 25^{\circ}C$ ) ( $I_F = 5.0$ Amps, $T_C = 125^{\circ}C$ )	$V_F$	2.7 1.65	V
Maximum Instantaneous Reverse Current (Note 2) (Rated dc Voltage, $T_C = 25^{\circ}C$ ) (Rated dc Voltage, $T_C = 125^{\circ}C$ )	$I_R$	10 70	$\mu A$
Maximum Reverse Recovery Time ( $I_F = 1.0$ Amp, $di/dt = 50$ Amps/ $\mu s$ , $V_R = 30$ V, $T_J = 25^{\circ}C$ )	$t_{rr}$	30	ns

- Rating applies when surface mounted on a 1.5 mm FR4 PC board with a 1 oz. thick, 700 mm<sup>2</sup> Cu area.
- Pulse Test: Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$ .

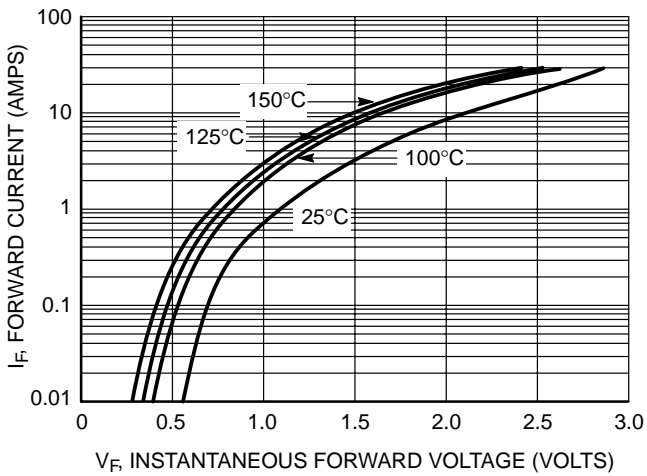


Figure 1. Typical Forward Voltage

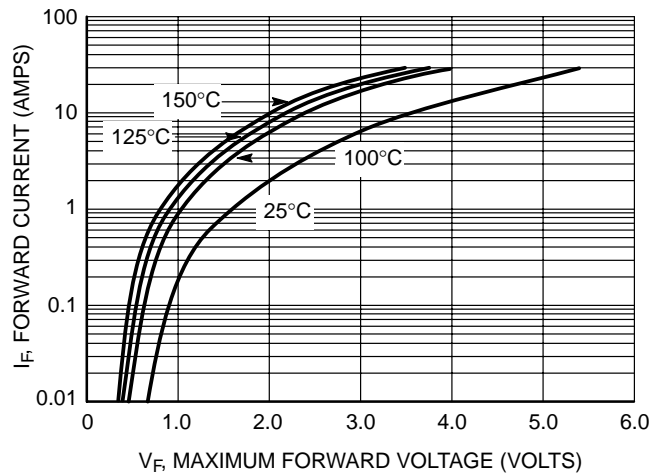


Figure 2. Maximum Forward Voltage

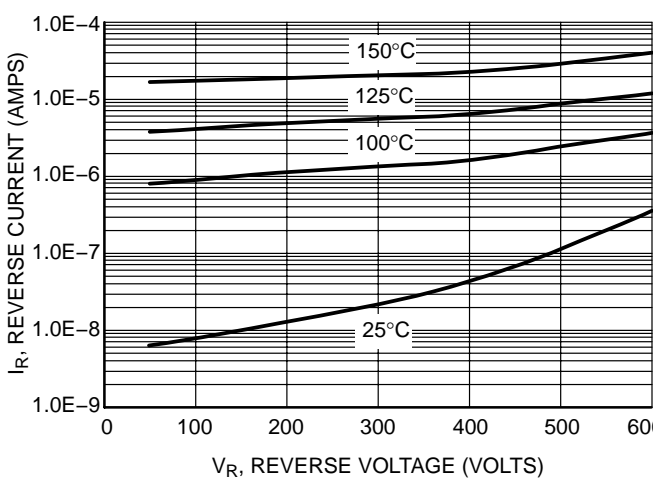


Figure 3. Typical Reverse Current

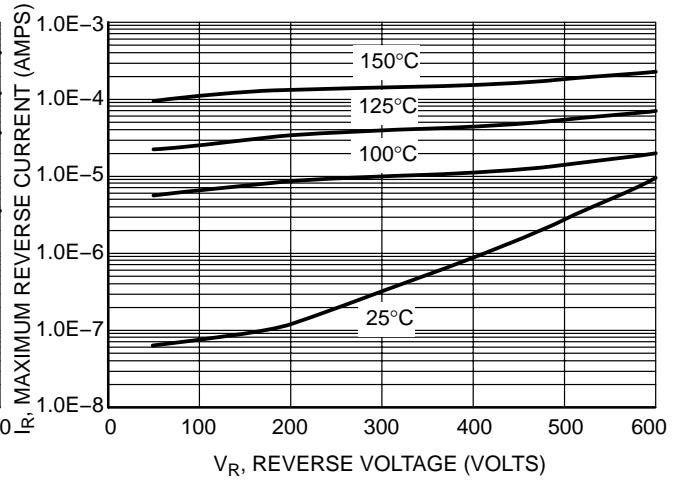


Figure 4. Maximum Reverse Current

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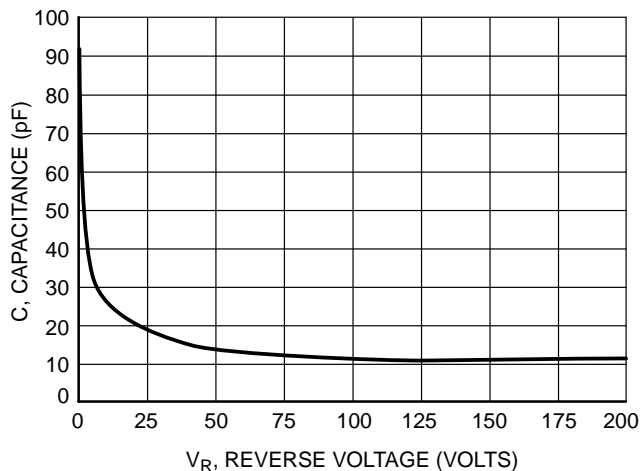


Figure 5. Typical Capacitance

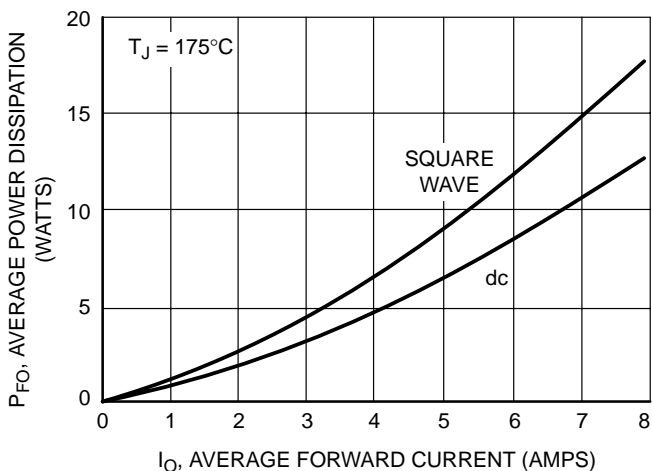


Figure 6. Forward Power Dissipation

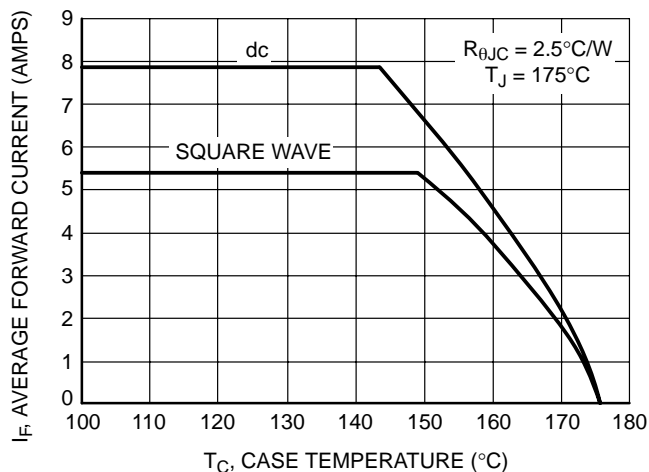


Figure 7. Current Derating

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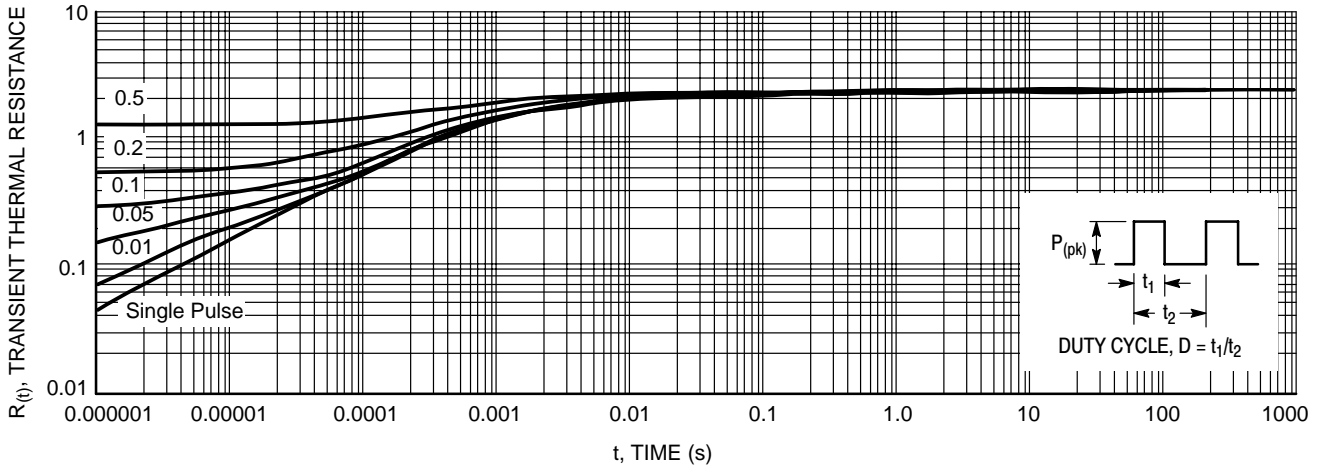


Figure 8. Thermal Response, Junction to Case

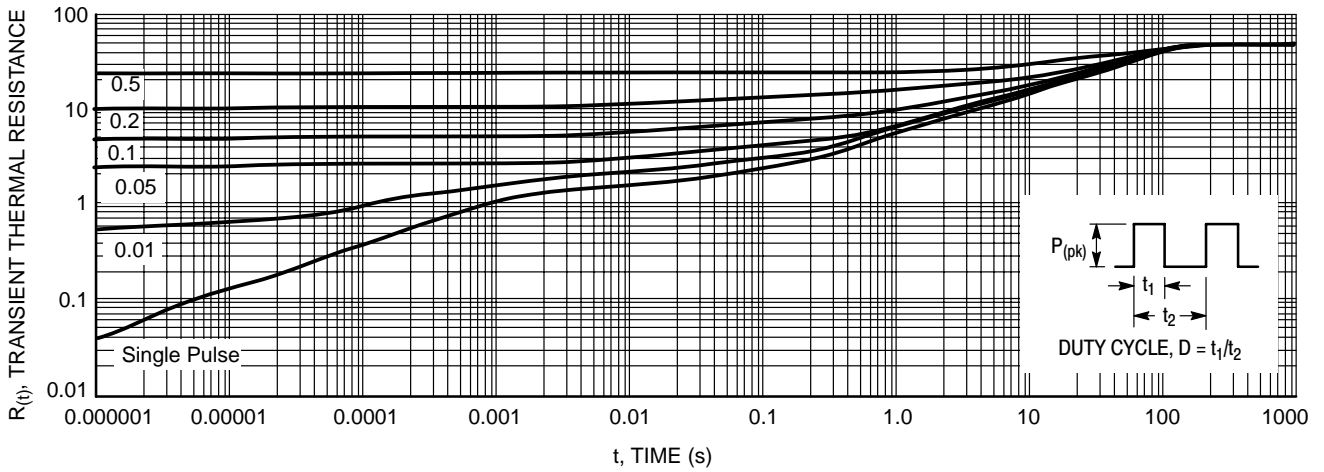
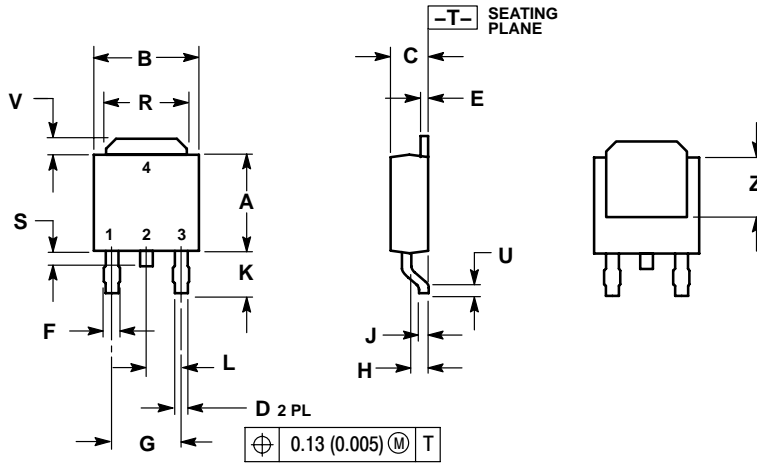


Figure 9. Thermal Response, Junction to Ambient

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## PACKAGE DIMENSIONS

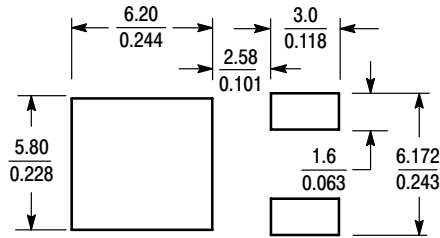
DPAK  
CASE 369C-01  
ISSUE O



- NOTES:  
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.  
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.245	5.97	6.22
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.018	0.023	0.46	0.58
F	0.037	0.045	0.94	1.14
G	0.180 BSC		4.58 BSC	
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090 BSC		2.29 BSC	
R	0.180	0.215	4.57	5.45
S	0.025	0.040	0.63	1.01
U	0.020	---	0.51	---
V	0.035	0.050	0.89	1.27
Z	0.155	---	3.93	---

## RECOMMENDED FOOTPRINT



SCALE 3:1  $\left(\frac{\text{mm}}{\text{inches}}\right)$

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**MURHD560/D**