

# MURHB860CT

Preferred Device

## MEGAHERTZ™ Power Rectifier

### D<sup>2</sup>PAK Power Surface Mount Package

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

- Package Designed for Power Surface Mount Applications
- Ultrafast 35 Nanosecond Recovery Times
- 175°C Operating Junction Temperature
- 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
- Short Heat Sink Tab Manufactured — Not Sheared!
- Similar in Size to Industry Standard TO-220 Package

#### 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
- Shipped 50 units per plastic tube
- Available in 24 mm Tape and Reel, 800 units per reel by adding a "T4" suffix to the part number
- Marking: UH860

#### MAXIMUM RATINGS (Per Leg)

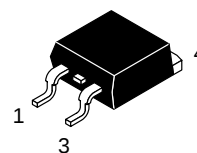
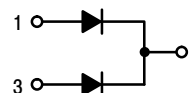
| Rating                                                                                                            | Symbol                          | Value       | Unit |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                            | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 600         | V    |
| Average Rectified Forward Current<br>(Rated $V_R$ , $T_C = 120^\circ\text{C}$ ) Total Device                      | $I_{F(AV)}$                     | 4.0<br>8.0  | A    |
| Peak Repetitive Forward Current<br>(Rated $V_R$ , Square Wave,<br>20 kHz, $T_C = 120^\circ\text{C}$ )             | $I_{FM}$                        | 8.0         | A    |
| Non-Repetitive Peak Surge Current<br>(Surge Applied at Rated Load<br>Conditions Halfwave, Single<br>Phase, 60 Hz) | $I_{FSM}$                       | 100         | A    |
| Operating Junction and Storage<br>Temperature Range                                                               | $T_J, T_{stg}$                  | -65 to +175 | °C   |



ON Semiconductor™

<http://onsemi.com>

**ULTRAFAST  
RECTIFIER  
8.0 AMPERES  
600 VOLTS**



D<sup>2</sup>PAK  
CASE 418B  
STYLE 3

#### MARKING DIAGRAM



UH860 = Device Code

#### ORDERING INFORMATION

| Device       | Package            | Shipping        |
|--------------|--------------------|-----------------|
| MURHB860CT   | D <sup>2</sup> PAK | 50 Units/Rail   |
| MURHB860CTT4 | D <sup>2</sup> PAK | 800/Tape & Reel |

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

# MURHB860CT

## THERMAL CHARACTERISTICS (Per Leg)

| Rating                                          | Symbol          | Value | Unit                        |
|-------------------------------------------------|-----------------|-------|-----------------------------|
| Maximum Thermal Resistance, Junction to Case    | $R_{\theta JC}$ | 3.0   | $^{\circ}\text{C}/\text{W}$ |
| Maximum Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 50    | $^{\circ}\text{C}/\text{W}$ |

## ELECTRICAL CHARACTERISTICS (Per Leg)

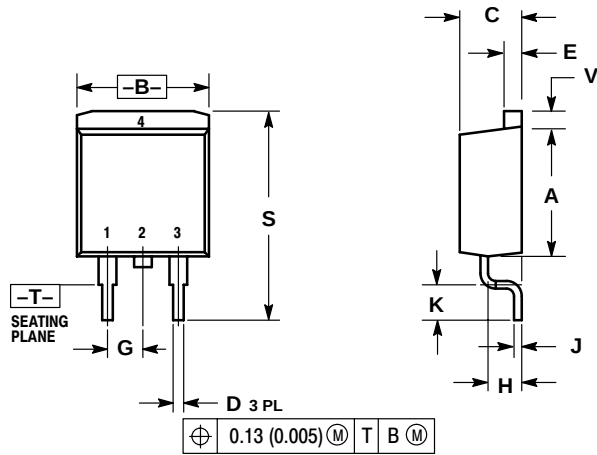
| Characteristic                                                                                                                                           | Symbol   | Max | Unit          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|---------------|
| Maximum Instantaneous Forward Voltage (Note 1.)<br>( $I_F = 4.0$ Amps, $T_C = 150^{\circ}\text{C}$ )<br>( $I_F = 4.0$ Amps, $T_C = 25^{\circ}\text{C}$ ) | $V_F$    | 2.5 | Volts         |
|                                                                                                                                                          |          | 2.8 |               |
| Maximum Instantaneous Reverse Current (Note 1.)<br>(Rated dc Voltage, $T_C = 150^{\circ}\text{C}$ )<br>(Rated dc Voltage, $T_C = 25^{\circ}\text{C}$ )   | $I_R$    | 500 | $\mu\text{A}$ |
|                                                                                                                                                          |          | 10  |               |
| Maximum Reverse Recovery Time ( $I_F = 1.0$ Amp, $di/dt = 50$ Amps/ $\mu\text{s}$ )                                                                      | $t_{rr}$ | 35  | ns            |

1. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

# MURHB860CT

## PACKAGE DIMENSIONS

D<sup>2</sup>PAK  
CASE 418B-03  
ISSUE D



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

| 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  |
| 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  |
| 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

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