# onsemi

# Power Rectifiers, Ultra-Fast Recovery

# **MURS260, SURS8260**

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

#### Features

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- High Temperature Glass Passivated Junction
- Low Forward Voltage Drop (1.20 Volts Max @ 2.0 A, T<sub>J</sub> = 150°C)
- AEC-Q101 Qualified and PPAP Capable
- SURS8 Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb-Free and are RoHS Compliant

#### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 95 mg (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
- Polarity: Polarity Band Indicates Cathode Lead
- ESD Ratings:
  - Human Body Model = 3B (> 8 kV)
  - Charged Device Model > 1000 V

#### MAXIMUM RATINGS

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	I <sub>F(AV)</sub>	2.0 @ T <sub>L</sub> = 125°C	А
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I <sub>FSM</sub>	35	A
Operating Junction Temperature	TJ	- 65 to +175	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

\*For additional information on our Pb–Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

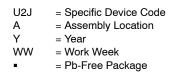
## ULTRAFAST RECTIFIERS 2 AMPERES 600 VOLTS



SMB CASE 403A

#### MARKING DIAGRAM





(Note: Microdot may be in either location)

#### **ORDERING INFORMATION**

Device	Package	Shipping <sup>†</sup>
MURS260T3G	SMB (Pb-Free)	2,500 / Tape & Reel
SURS8260T3G	SMB (Pb-Free)	2,500 / Tape & Reel
SURS8260T3G-VF01	SMB (Pb-Free)	2,500 / Tape & Reel
SURS8260T3G-GA01	SMB (Pb-Free)	2,500 / 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.

### MURS260, SURS8260

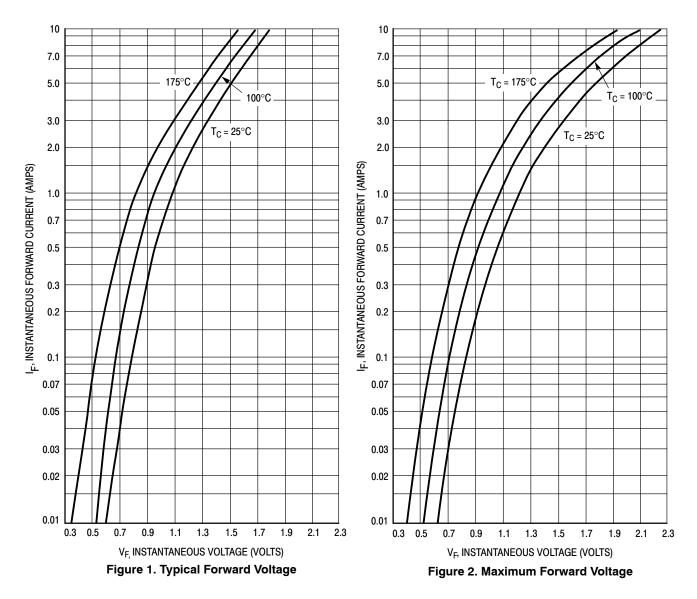
#### THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Lead	$R_{\theta JL}$		°C/W
$(T_L = 25^{\circ}C)$		13	

#### **ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) ( $i_F = 2.0 \text{ A}, T_J = 25^{\circ}\text{C}$ ) ( $i_F = 2.0 \text{ A}, T_J = 150^{\circ}\text{C}$ )	VF	1.45 1.20	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_J = 25^{\circ}C$ ) (Rated DC Voltage, $T_J = 150^{\circ}C$ )	i <sub>R</sub>	5.0 150	μΑ
Maximum Reverse Recovery Time ( $i_F = 1.0 \text{ A}$ , di/dt = 50 A/µs) ( $i_F = 0.5 \text{ A}$ , $i_R = 1.0 \text{ A}$ , $I_R$ to 0.25 A)	t <sub>rr</sub>	75 50	ns
Maximum Forward Recovery Time (i <sub>F</sub> = 1.0 A, di/dt = 100 A/μs, Rec. to 1.0 V)	t <sub>fr</sub>	50	ns

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



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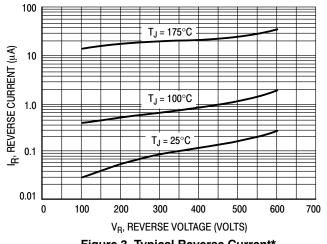
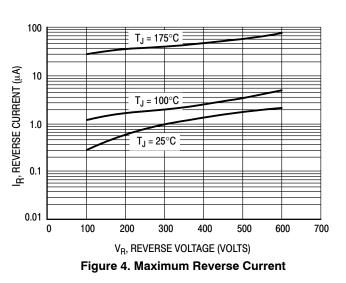
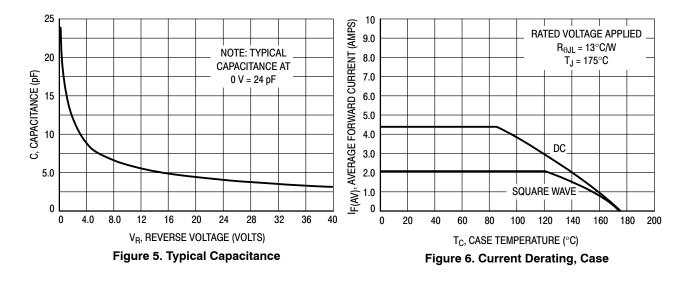
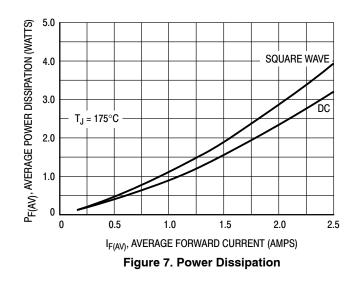


Figure 3. Typical Reverse Current\*

\* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if applied  $V_R$  is sufficiently below rated  $V_R$ .



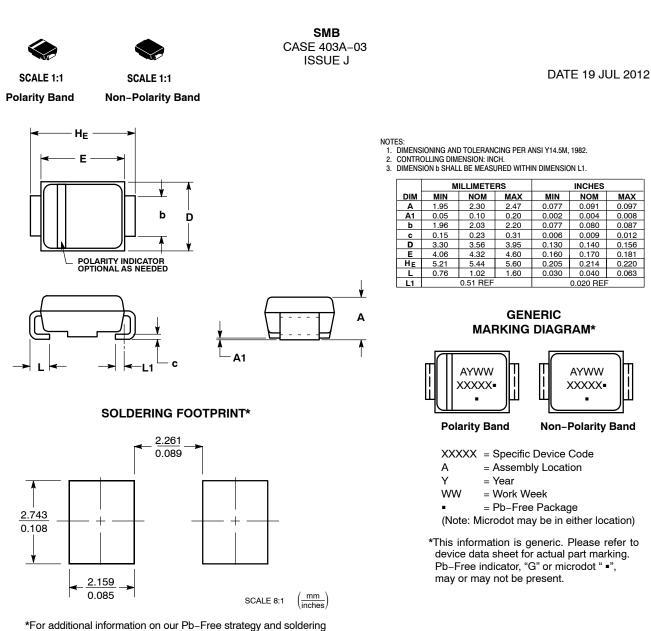




#### MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

**ON Semiconductor®** 





details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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