

MURS260T3G, SURS8260T3G

Surface Mount Ultrafast Power Rectifiers

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

- Pb-Free Package is Available
- 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, $T_J = 150^\circ\text{C}$)
- SURS8 Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable

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:
 - ◆ Machine Model = C (> 400 V)
 - ◆ Human Body Model = 3B (> 8 kV)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Average Rectified Forward Current	$I_{F(AV)}$	2.0 @ $T_L = 125^\circ\text{C}$	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	35	A
Operating Junction Temperature	T_J	-65 to +175	$^\circ\text{C}$

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.



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ULTRAFAST RECTIFIERS 2 AMPERES 600 VOLTS



SMB
CASE 403A

MARKING DIAGRAM



- U2J = Specific Device Code
- A = Assembly Location*
- Y = Year
- WW = Work Week
- = Pb-Free Package

(Note: Microdot may be in either location)

*The Assembly Location Code (A) is front side optional. In cases where the Assembly Location is stamped in the package bottom (molding ejector pin), the front side assembly code may be blank.

ORDERING INFORMATION

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

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THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) ($i_F = 2.0\text{ A}$, $T_J = 25^\circ\text{C}$) ($i_F = 2.0\text{ A}$, $T_J = 150^\circ\text{C}$)	V_F	1.45 1.20	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_J = 25^\circ\text{C}$) (Rated DC Voltage, $T_J = 150^\circ\text{C}$)	i_R	5.0 150	μA
Maximum Reverse Recovery Time ($i_F = 1.0\text{ A}$, $di/dt = 50\text{ A}/\mu\text{s}$) ($i_F = 0.5\text{ A}$, $i_R = 1.0\text{ A}$, I_R to 0.25 A)	t_{rr}	75 50	ns
Maximum Forward Recovery Time ($i_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V)	t_{fr}	50	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

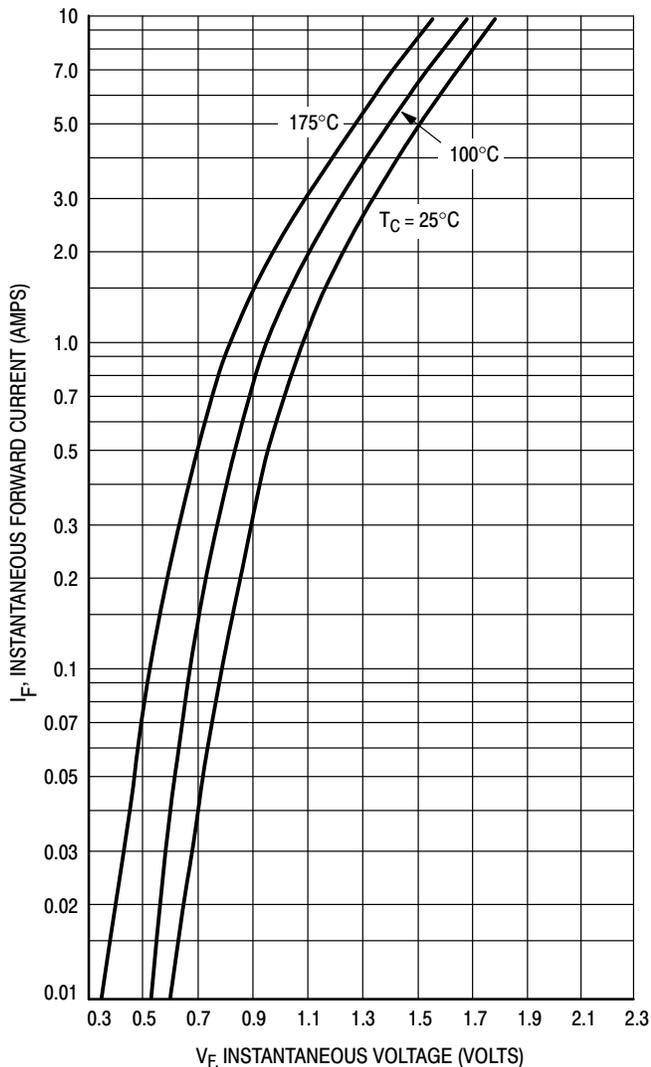


Figure 1. Typical Forward Voltage

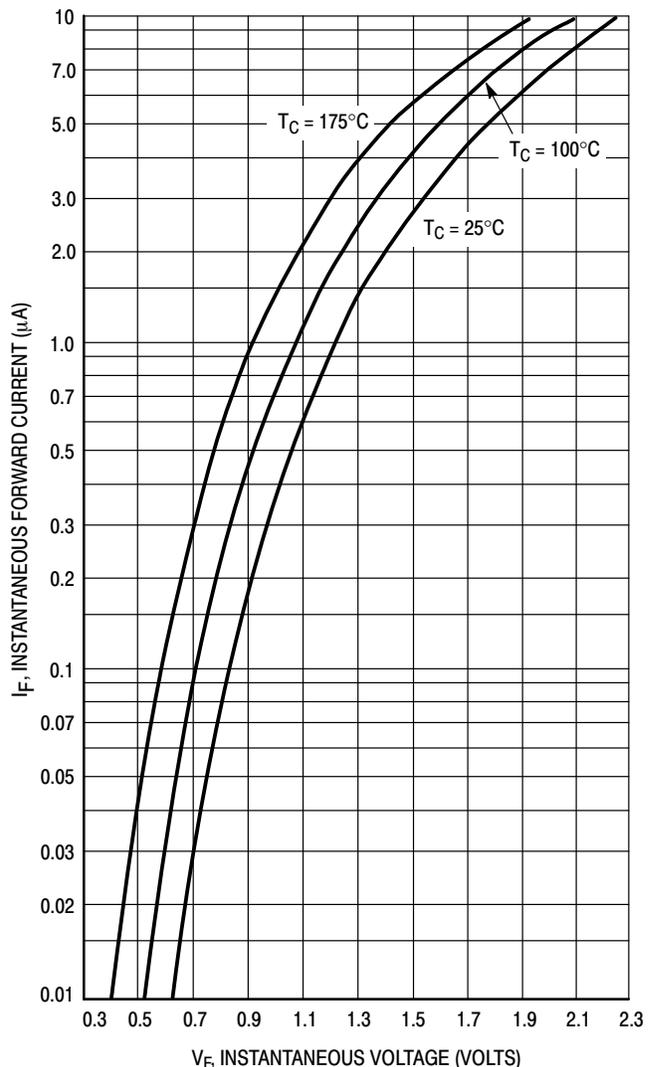


Figure 2. Maximum Forward Voltage

MURS260T3G, SURS8260T3G

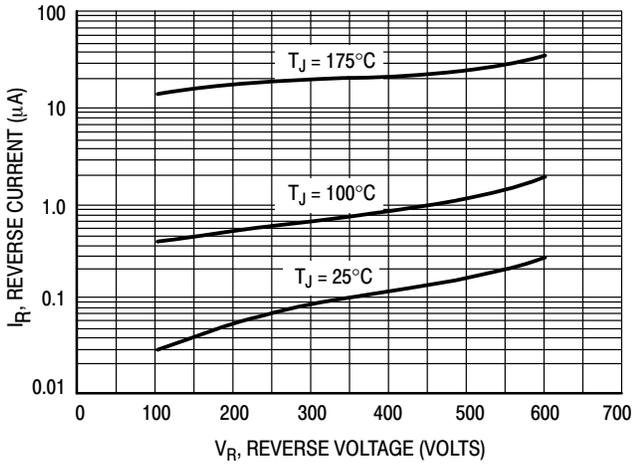


Figure 3. Typical Reverse Current*

* 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 .

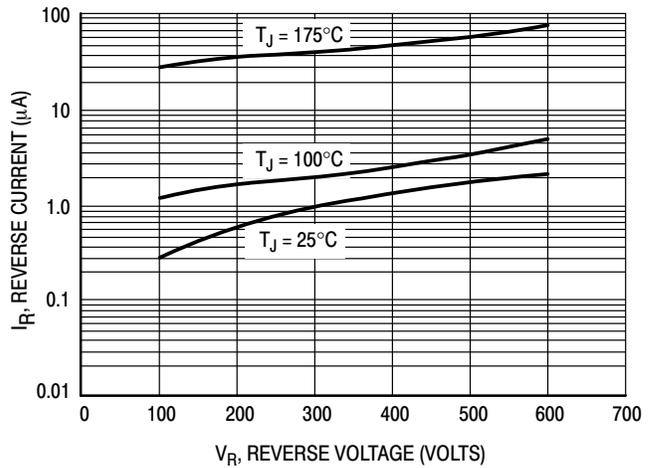


Figure 4. Maximum Reverse Current

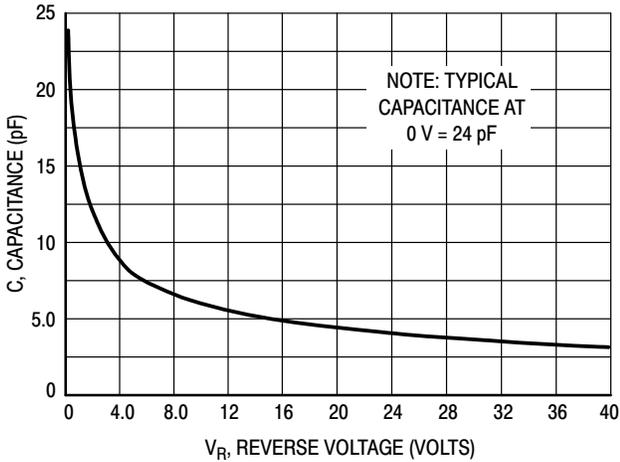


Figure 5. Typical Capacitance

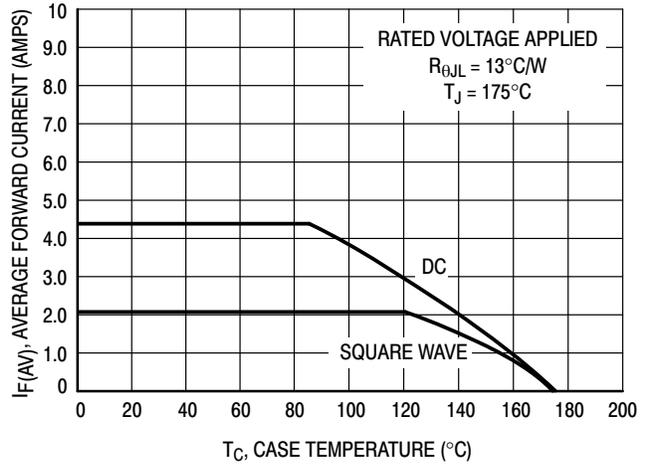


Figure 6. Current Derating, Case

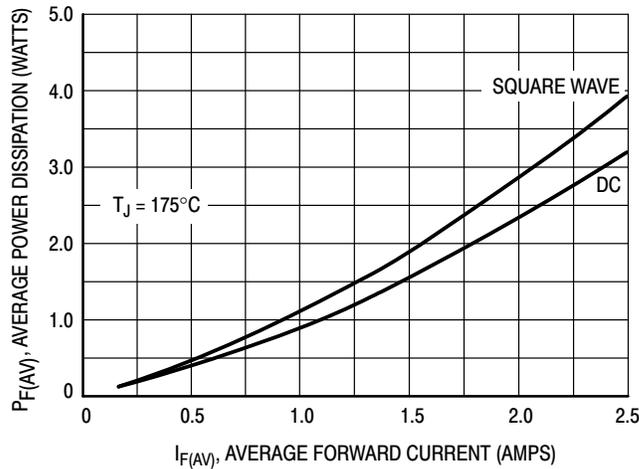
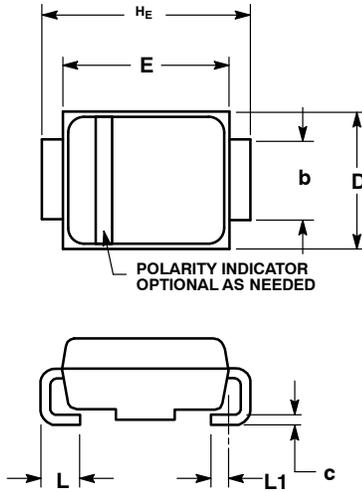


Figure 7. Power Dissipation

MURS260T3G, SURS8260T3G

PACKAGE DIMENSIONS

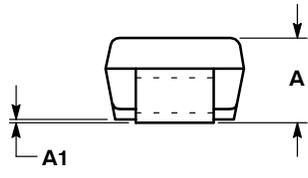
SMB
CASE 403A-03
ISSUE J



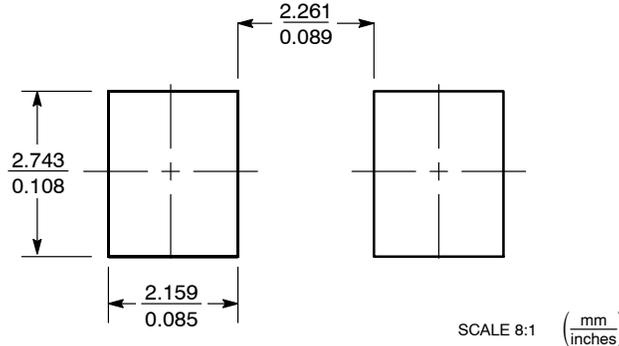
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L1.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.95	2.30	2.47	0.077	0.091	0.097
A1	0.05	0.10	0.20	0.002	0.004	0.008
b	1.96	2.03	2.20	0.077	0.080	0.087
c	0.15	0.23	0.31	0.006	0.009	0.012
D	3.30	3.56	3.95	0.130	0.140	0.156
E	4.06	4.32	4.60	0.160	0.170	0.181
HE	5.21	5.44	5.60	0.205	0.214	0.220
L	0.76	1.02	1.60	0.030	0.040	0.063
L1	0.51 REF			0.020 REF		



SOLDERING FOOTPRINT*



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

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