Power Rectifier, Ultra-Fast Recovery, 2 A, 150 V

SURA8215, MURA220, NRVUA220V

SMA
CASE 403D

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.

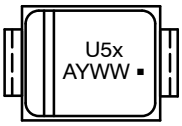
Features

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- High Temperature Glass Passivated Junction
- Low Forward Voltage Drop (0.77 V Max @ 2.0 A, T_J = 150 °C)
- Low Forward Voltage Drop (0.71 V Max @ 1.0 A, T_J = 150 °C)
- NRVUA and SURA8 Prefixes for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable*
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 70 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 Protection:
  - Human Body Model > 4000 V (Class 3)
  - Charged Device Model > 1000 V (Class C5)

MARKING DIAGRAM



U5x = Device Code
x = C for MURA215
= D for MURA220
A = Assembly Location**
Y = Year
WW = Work Week
▪ = Pb-Free Package

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

ORDERING INFORMATION

Device	Package	Shipping†
SURA8215T3G-GA01*	SMA (Pb-Free)	5,000 / Tape & Reel
SURA8215T3G-VF01*		
MURA220T3G		
NRVUA220VT3G*		
NRVUA220VT3G-GA01*		

† 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.

© Semiconductor Components Industries, LLC, 2016

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage MURA215T3G / SURA8215T3G / SURA8215T3G−VF01 / SURA8215T3G−GA01 MURA220T3G / SURA8220T3G / NRVUA220VT3G / NRVUA220VT3G−GA01	V_{RRM} V_{RWM} V_R	 150 200	V
Average Rectified Forward Current @ T_L = 155 °C @ T_L = 135 °C	$I_{F(AV)}$	 1.0 2.0	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	 40	A
Operating Junction Temperature Range	T_J	−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.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Lead (T_L = 25 °C) (Note 1)	Psi_{JL} (Note 2)	24	°C/W
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{\theta JA}$	216	

1. Rating applies when surface mounted on the minimum pad size recommended, PC Board FR-4.
2. In compliance with JEDEC 51, these values (historically represented by $R_{\theta JL}$) are now referenced as Psi_{JL}.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Maximum Instantaneous Forward Voltage (Note 3) (i_F = 2.0 A, T_J = 25 °C) (i_F = 2.0 A, T_J = 150 °C)	v_F	 0.95 0.77	V
Maximum Instantaneous Reverse Current (Note 3) (Rated DC Voltage, T_J = 25 °C) (Rated DC Voltage, T_J = 150 °C)	i_R	 2.0 50	μA
Maximum Reverse Recovery Time (i_F = 1.0 A, di/dt = 50 A/μs)	t_{rr}	 35	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.

3. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

Share Feedback
Your Opinion Matters

TYPICAL CHARACTERISTICS

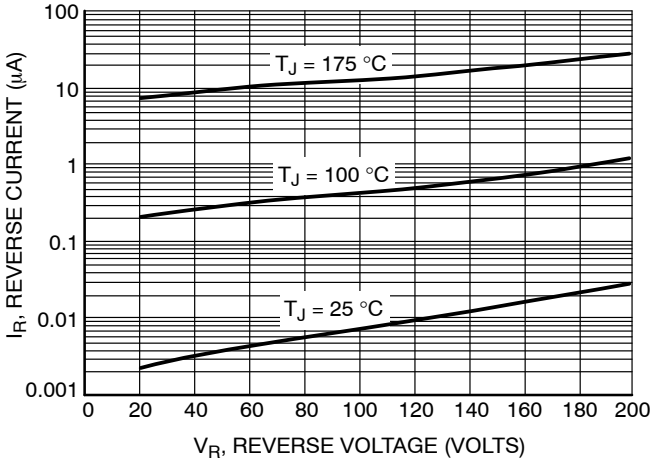


Figure 1. Typical Reverse Current

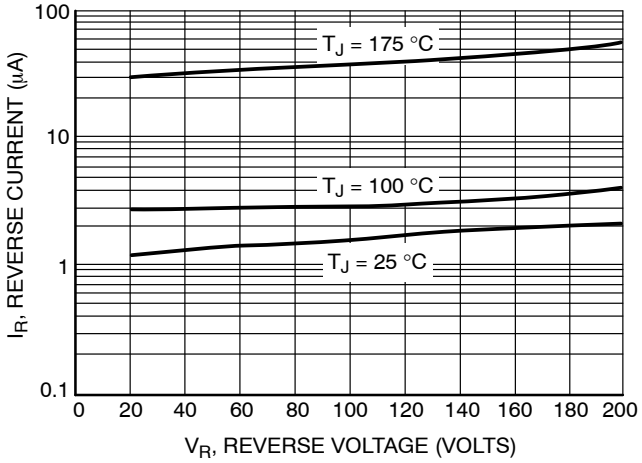


Figure 2. Maximum Reverse Current

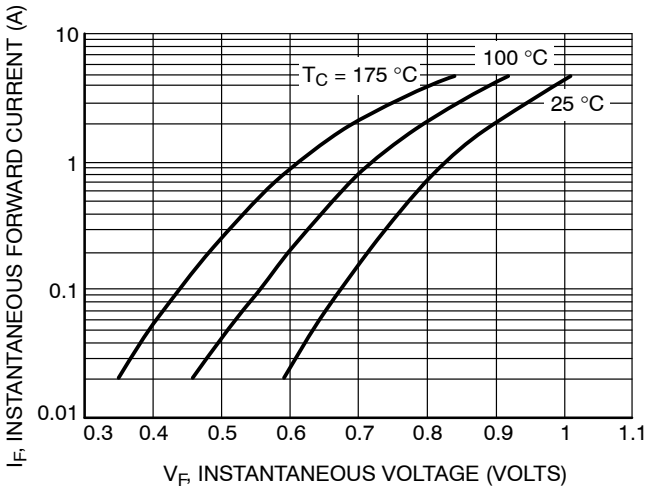


Figure 3. Typical Forward Voltage

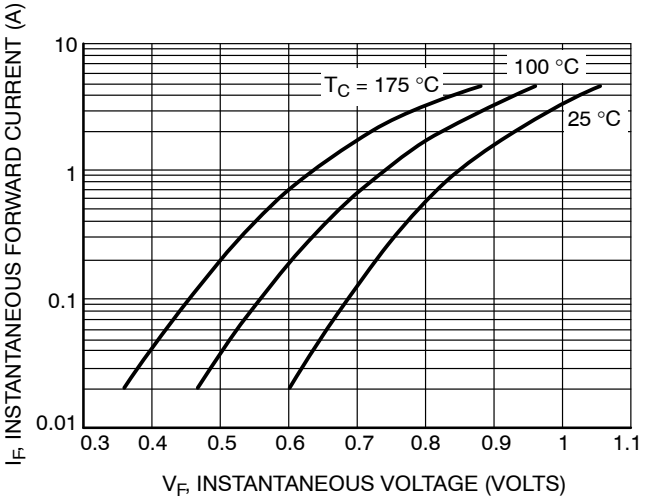


Figure 4. Maximum Forward Voltage

Share Feedback
Your Opinion Matters

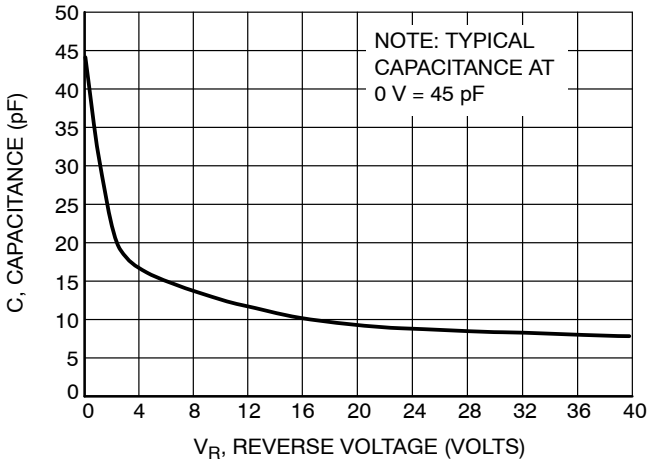


Figure 5. Typical Capacitance

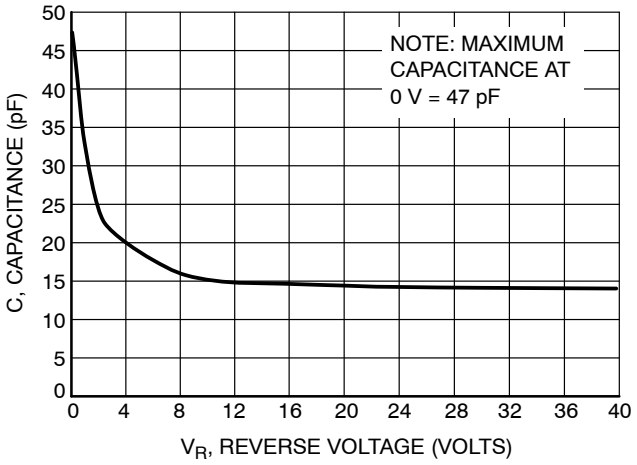


Figure 6. Maximum Capacitance

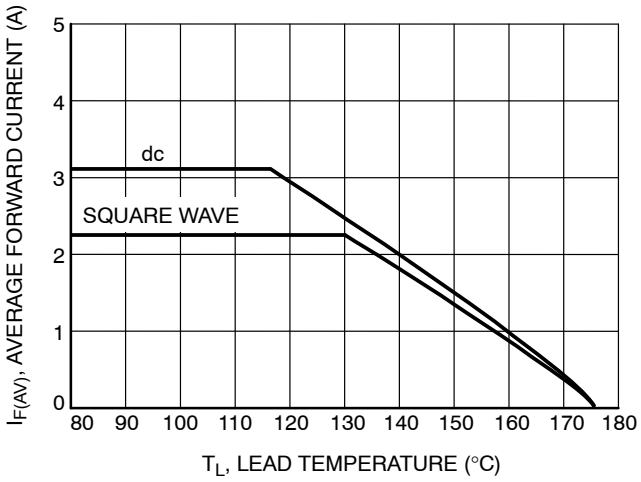


Figure 7. Current Derating, Lead

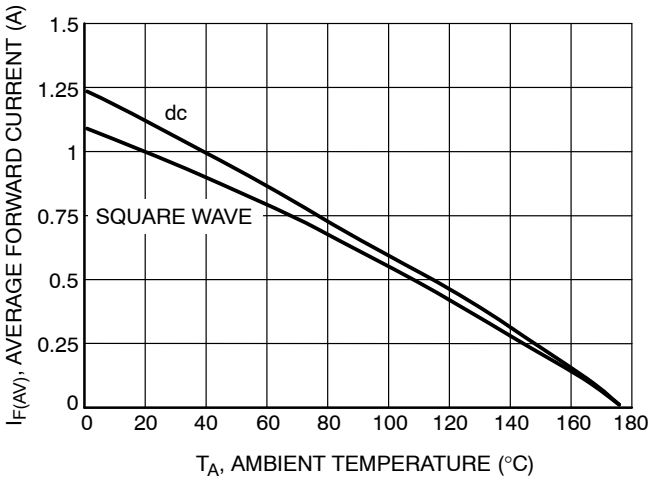


Figure 8. Current Derating, Ambient
(FR-4 Board with Minimum Pad)

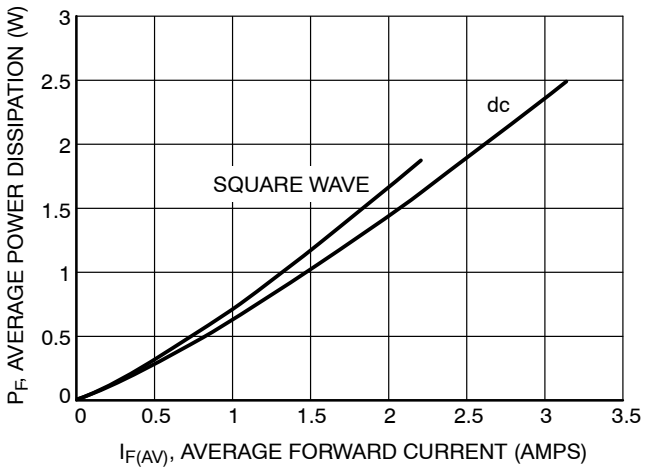


Figure 9. Power Dissipation

Share Feedback
Your Opinion Matters

REVISION HISTORY

Revision	Description of Changes	Date
11	Discontinued devices MURA215T3G, SURA8215T3G and SURA8220T3G removed from Ordering Information table and datasheet.	2/4/2026

This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.

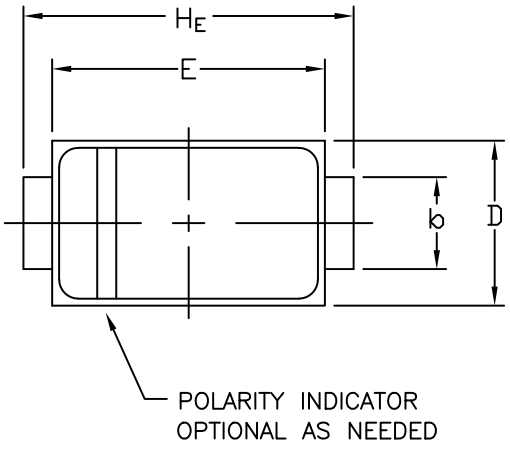
Share Feedback
Your Opinion Matters

SMA
CASE 403D
ISSUE J

DATE 22 OCT 2021

STYLE 1 STYLE 2

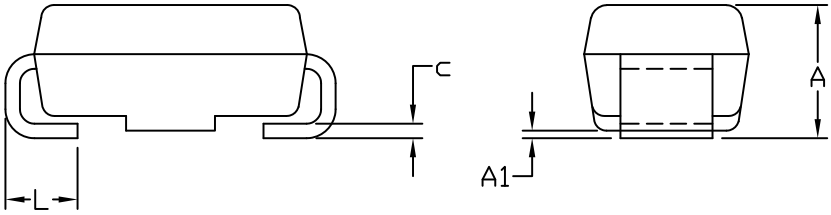
SCALE 1:1



NOTES:

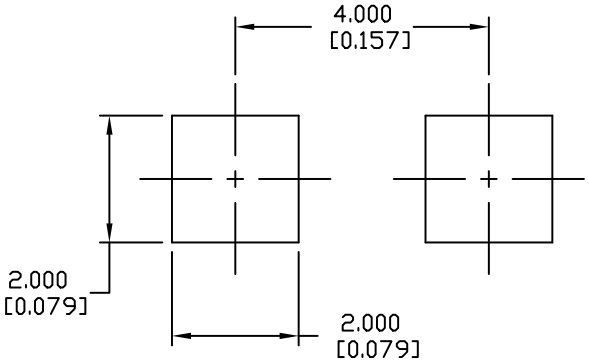
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCHES
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L.

	MILLIMETERS			INCHES		
DIM	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	1.97	2.10	2.20	0.078	0.083	0.087
A1	0.05	0.10	0.20	0.002	0.004	0.008
b	1.27	1.45	1.63	0.050	0.057	0.064
c	0.15	0.28	0.41	0.006	0.011	0.016
D	2.29	2.60	2.92	0.090	0.103	0.115
E	4.06	4.32	4.57	0.160	0.170	0.180
HE	4.83	5.21	5.59	0.190	0.205	0.220
L	0.76	1.14	1.52	0.030	0.045	0.060



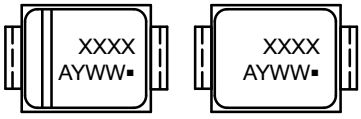
STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

STYLE 2:
NO POLARITY



RECOMMENDED
MOUNTING FOOTPRINT

GENERIC MARKING DIAGRAM*



STYLE 1 STYLE 2

XXXX = Specific Device Code
A = Assembly Location
Y = Year
WW = Work Week
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

DOCUMENT NUMBER:	**98AON04079D**	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped “CONTROLLED COPY” in red.	
DESCRIPTION:	**SMA**		**PAGE 1 OF 1**

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba **onsemi** or its subsidiaries in the United States and/or other countries. **onsemi** reserves the right to make changes without further notice to any products herein. **onsemi** makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. **onsemi** does not convey any license under its patent rights nor the rights of others.

onsemi, ONSEMI , and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent−Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as−is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support
For additional information, please contact your local Sales Representative at
www.onsemi.com/support/sales