

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MURAXXT3G-MS

Product specification

SURFACE MOUNT ULTRAFAST POWER RECTIFIERS DIODES

VOLTAGE RANGE: 50 - 600V

CURRENT: 2.0A



Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable
- per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.064 grams (approx.)

Reference News

| PACKAGE OUTLINE | Marking |
|---|---|
|  |  |
| SMA(DO-214AC) | *** Representative VRRM |

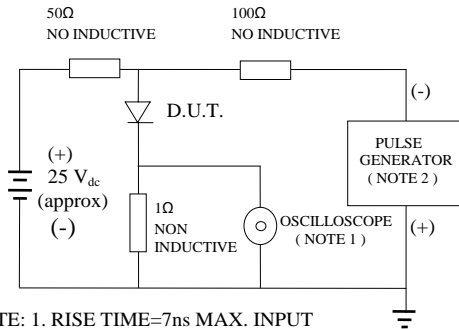
Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic | | Symbol | MURA 205T3G- MS | MURA 210T3G- MS | MURA 215T3G- MS | MURA 220T3G- MS | MURA 230T3G- MS | MURA 240T3G- MS | MURA 260T3G- MS | Unit |
|---|---|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | | V _{RRM} V _{RWM} V _R | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| RMS Reverse Voltage | | V _R (RMS) | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Average Rectified Output Current @T _L = 75℃ | | I _o | 2.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | | I _{FSM} | 40 | | | | 35 | | | A |
| Forward Voltage @I _F = 2.0A | | V _{FM} | 0.95 | | | | 1.25 | | | V |
| Peak Reverse Current At Rated DC Blocking Voltage | @T _A = 25℃ @T _A = 120℃ | I _{RM} | 5.0 250 | | | | | | | μA |
| Reverse Recovery Time (Note 1) | | t _{rr} | 35 | | | | | | | nS |
| Typical Junction Capacitance (Note 2) | | C _j | 20 | | | | 50 | | | pF |
| Typical Thermal Resistance (Note 3) | | R _{θJL} | 40 | | | | | | | ℃/W |
| Operating and Storage Temperature Range | | T _j , T _{STG} | -65 to +150 | | | | | | | ℃ |

Note: 1.Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVE MURAXXT3G-MS

FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MOhms 22PF
2. RISE TIME =10ns MAX. SOURCE IMPEDANCE=50 OHMS

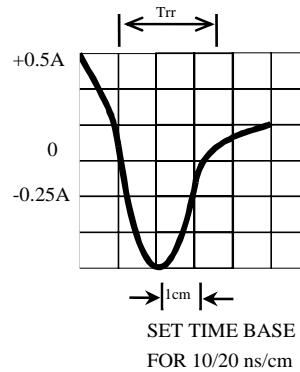


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

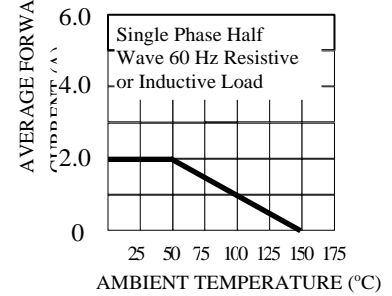


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

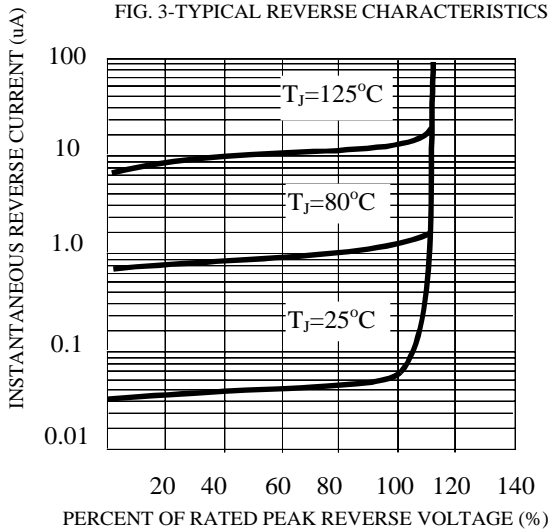


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

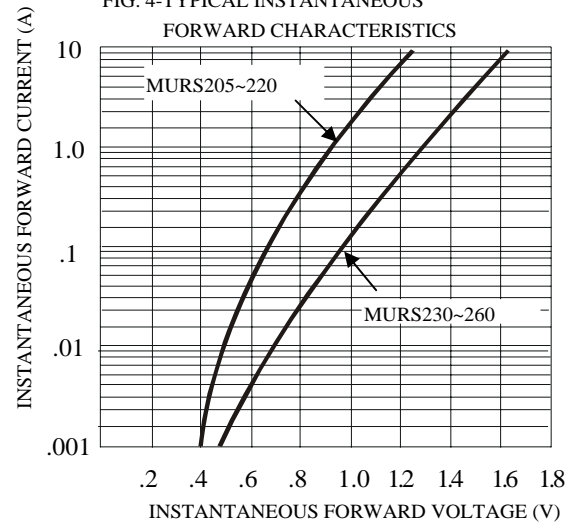


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

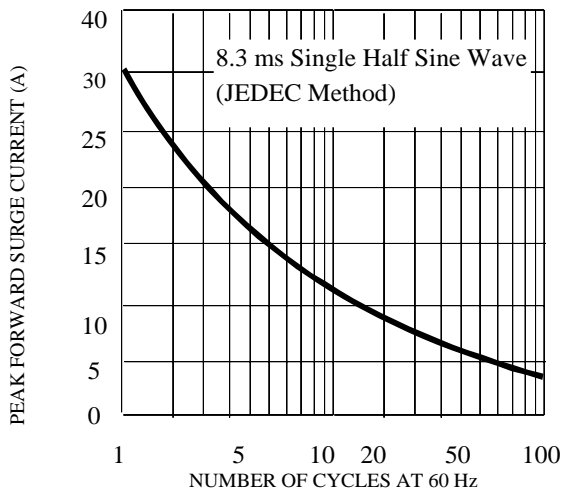
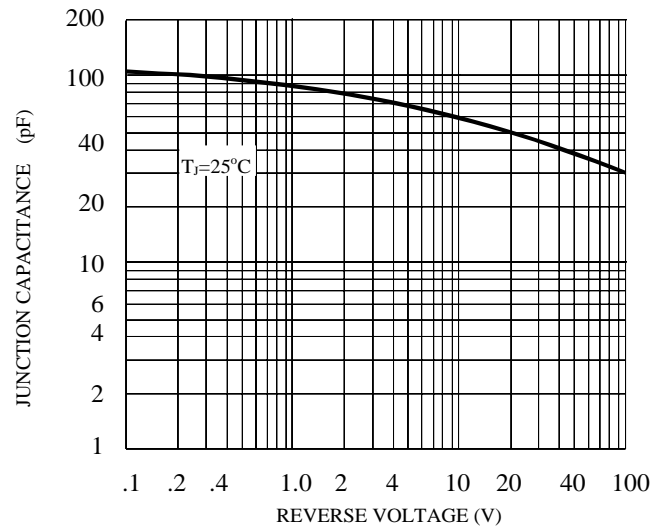
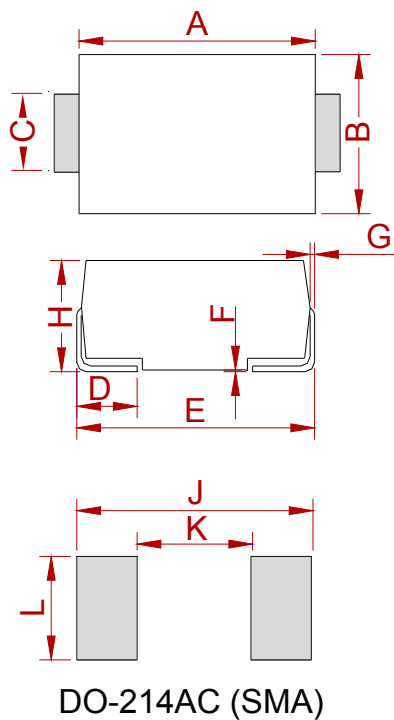


FIG. 6-TYPICAL JUNCTION CAPACITANCE



PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | |
|------|-------------|-------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 4.25 | 4.65 | 0.167 | 0.183 |
| B | 2.50 | 2.90 | 0.098 | 0.114 |
| C | 1.35 | 1.65 | 0.053 | 0.065 |
| D | 0.76 | 1.52 | 0.030 | 0.060 |
| E | 4.93 | 5.28 | 0.194 | 0.208 |
| F | 0.051 | 0.203 | 0.002 | 0.008 |
| G | 0.15 | 0.31 | 0.006 | 0.012 |
| H | 1.98 | 2.41 | 0.078 | 0.095 |
| J | 6.50 | | 0.256 | |
| K | | 2.30 | | 0.090 |
| L | 1.70 | | 0.067 | |

REEL SPECIFICATION

| P/N | PKG | QTY |
|--------------|---------------|------|
| MURAXXT3G-MS | DO-214AC(SMA) | 2000 |

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specification of any and all MSKSEMI Semiconductor products described or contained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

■ MSKSEMI Semiconductor strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringement of intellectual property rights or other rights of third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the MSKSEMI Semiconductor product that you intend to use.