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SEMICONDUCTOR



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## MURSXXT3G-MS

Product specification



**SURFACE MOUNT ULTRAFAST POWER RECTIFIERS DIODES****VOLTAGE RANGE: 50 - 600V****CURRENT: 3.0A****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-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable
- per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (approx.)

**Reference News**

PACKAGE OUTLINE	Marking
	
SMC(DO-214AB)	*** 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	MURS305 T3G-MS	MURS310 T3G-MS	MURS315 T3G-MS	MURS320 T3G-MS	MURS330 T3G-MS	MURS340 T3G-MS	MURS360 T3G-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 @ $T_L = 75^\circ\text{C}$	$I_o$	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100							A
Forward Voltage @ $I_F = 3.0\text{A}$	$V_{FM}$	0.95				1.25		1.7	V
Peak Reverse Current At Rated DC Blocking Voltage	$I_{RM}$					5.0			$\mu\text{A}$
						500			
Reverse Recovery Time (Note 1)	$t_{rr}$	35							nS
Typical Junction Capacitance (Note 2)	$C_j$	45							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	16							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^\circ\text{C}$

Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ . See figure 5.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on P.C. Board with 8.0mm<sup>2</sup> land area.

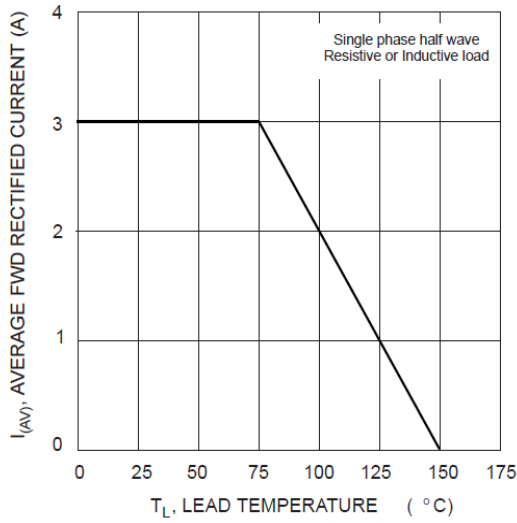


Fig. 1 Forward Current Derating Curve

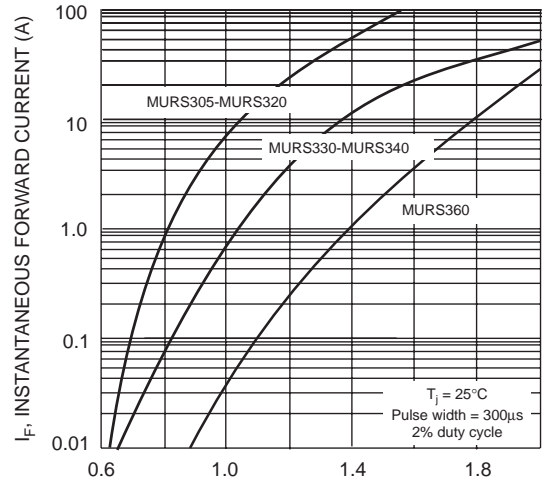


Fig. 2 Typical Forward Characteristics

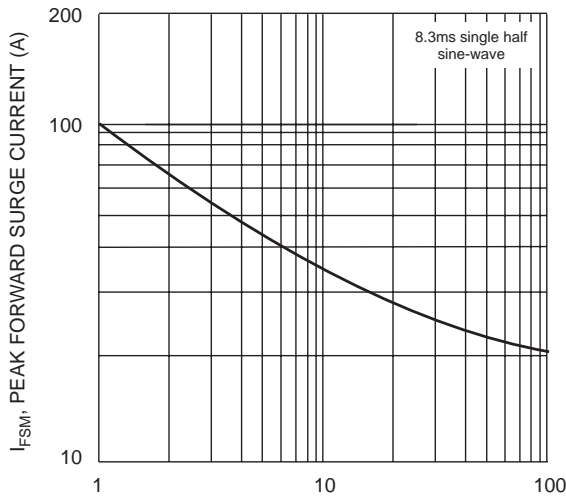


Fig. 3 Peak Forward Surge Current

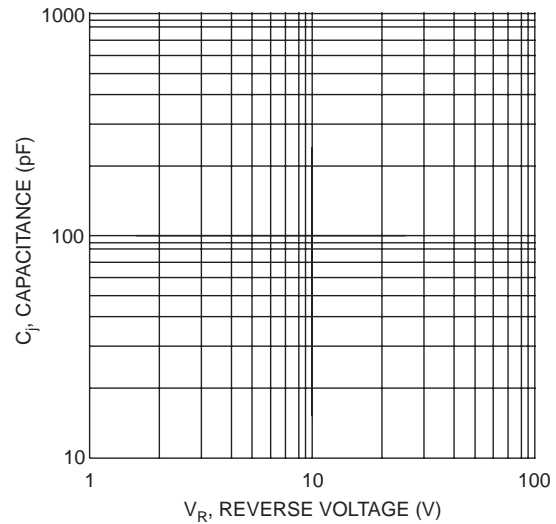
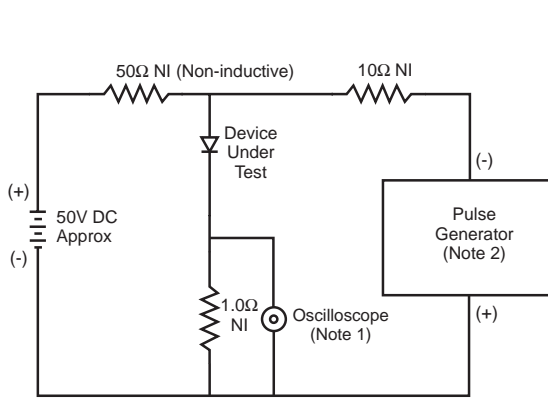
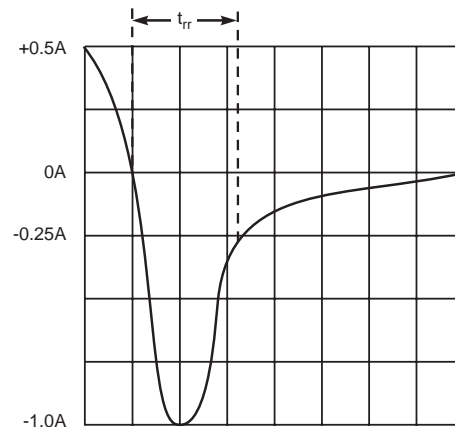


Fig. 4 Typical Junction Capacitance



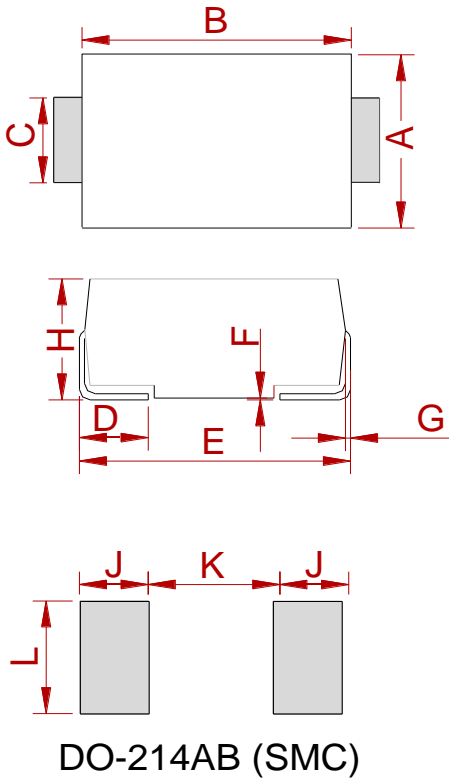
- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

**PACKAGE MECHANICAL DATA**



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	2.40		0.094	
K		4.20		0.165
L	3.30		0.130	

**REEL SPECIFICATION**

P/N	PKG	QTY
MURSXXXT3G-MS	SMC	2500

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