MURS320 ULTRAFAST RECTIFIERS

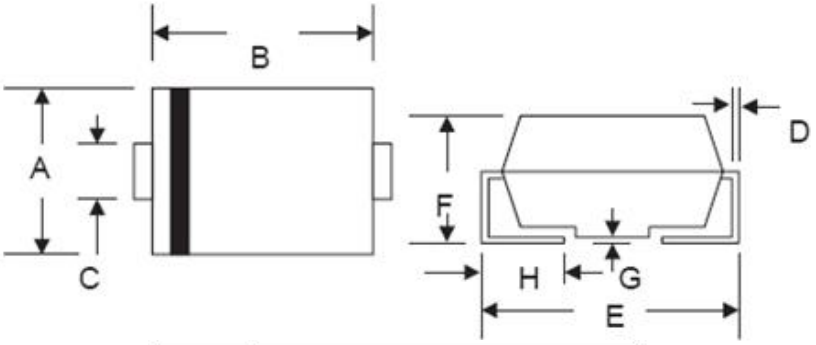
Applications:

- Switching Power Supply
- Power Switching Circuits
- General Purpose

Features:

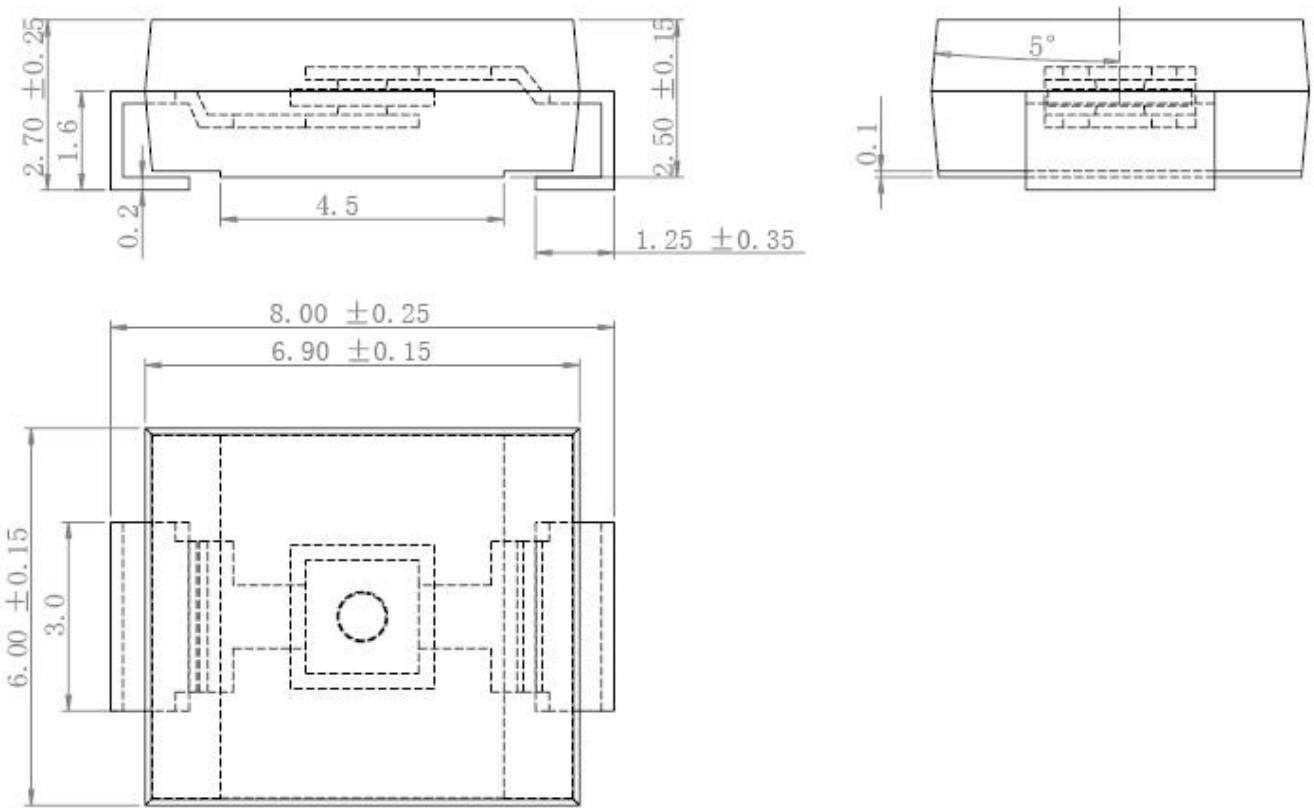
- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions (In mm / Inches) and Marking:



	SMC/DO-214AB			
Dim.	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.25	0.305	0.325
F	2.00	2.95	0.079	0.116
G	0.051	0.203	0.002	0.008
H	0.76	1.60	0.030	0.063
	In mm		In inch	

OPTION 1



OPTION 2(JK)

SMC

MURS320

Technical Data
Data Sheet N0162 Rev. A

Green Products

Marking Diagram:

Where XXXXX is YYWWL

U = Device Type
3 = Forward Current (3A)
20 = Reverse Voltage (200V)
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
MURS320	SMC (Pb-Free)	3000pcs/reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings and Electrical Characteristics

@T_A=25°C unless otherwise specified Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	MURS320	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
Average Rectified Output Current @T_L = 145°C	Io	3.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	75	A
Forward Voltage (Note 1) @I_F = 3.0A, T_J=25°C	V_{FM1}	0.9	V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 100°C	I_R	5.0 30	μA
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	80	K/W
Maximum Reverse Recovery Time (Note 2)	Trr	35	ns
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C
Approximate Weight	wt	0.23	g
Case Style	SMC		

Note: 1. Mounted on P.C. Board with 14mm^2 (0.13mm thick) copper pad.
2. Measured with I_F=0.5A; I_R=1.0A; I_{RR}=0.25A.

Figure 1
Typical Forward Characteristics

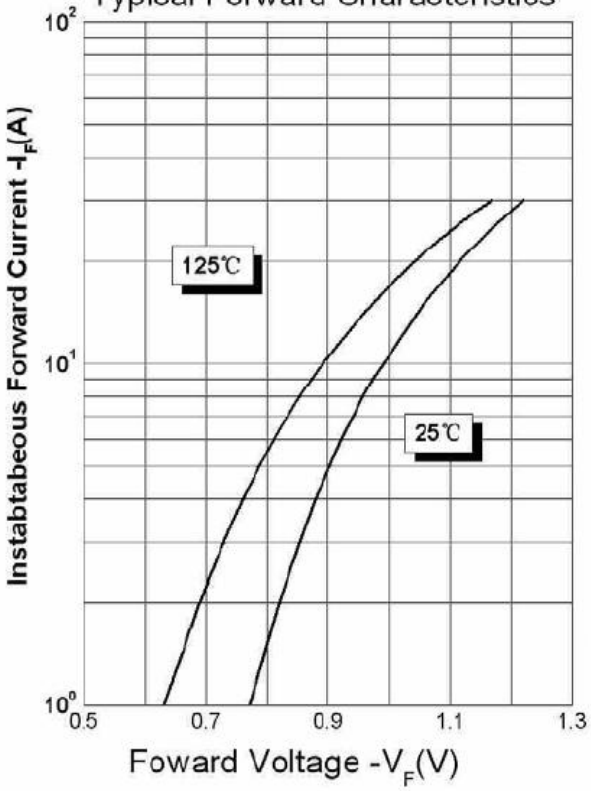


Figure 2
Typical Reverse Characteristics

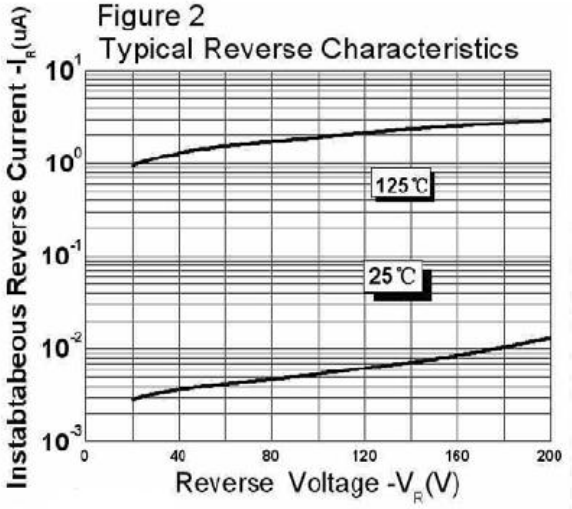
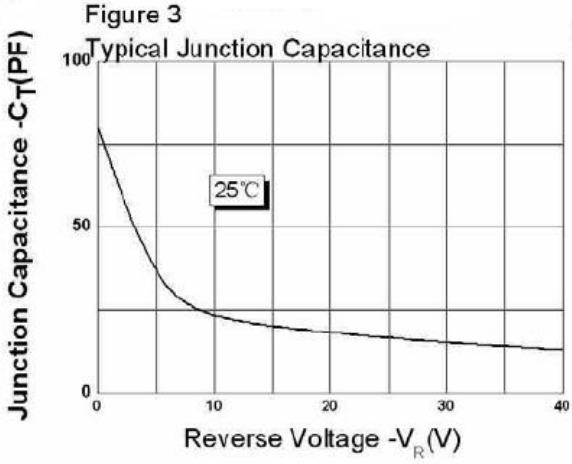


Figure 3
Typical Junction Capacitance



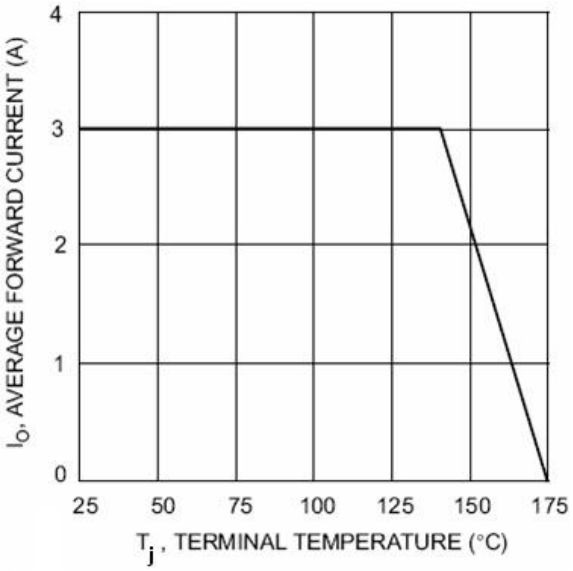


Fig.4-Forward Current Derating Curve

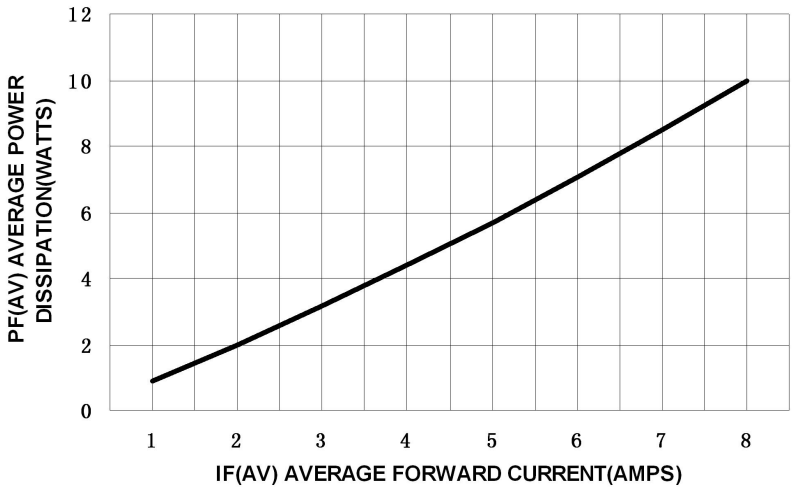


Fig.5- Power Dissipation

MURS320

Technical Data
Data Sheet N0162 Rev. A

Green Products

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .

3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..