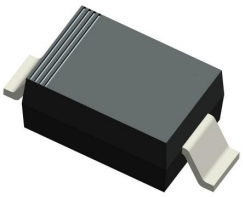
Technical Data
Data Sheet N0992, Rev. B

SD103AW-SD103CW SURFACE MOUNT SCHOTTKY BARRIER DIODE



SOD-123

Features

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material —UL Recognition Flammability Classification 94V-O
- Green Products in Compliance with the ROHS Directive
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Schematic & Pin Configuration

Mechanical Characteristics

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams(approx)

Maximum Ratings@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	SD103AW	SD103BW	SD103CW	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	30	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	21	14	V
Forward Continuous Current	I_{FM}	0.35			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	2			A
Power Dissipation	P_d	400			mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	250			°C/W
Junction Temperature Range	T_J	125			°C
Storage Temperature Range	T_{STG}	-55 to +150			°C

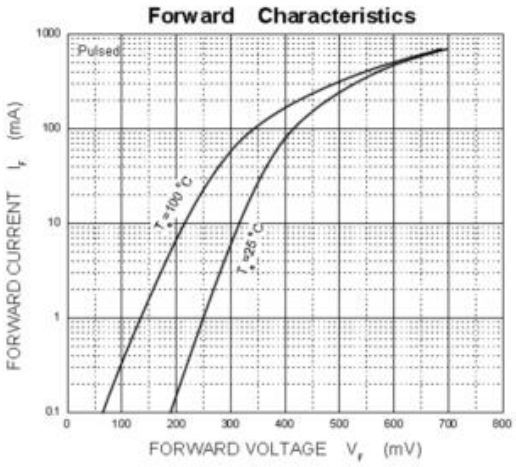
Technical Data
Data Sheet N0992, Rev. B

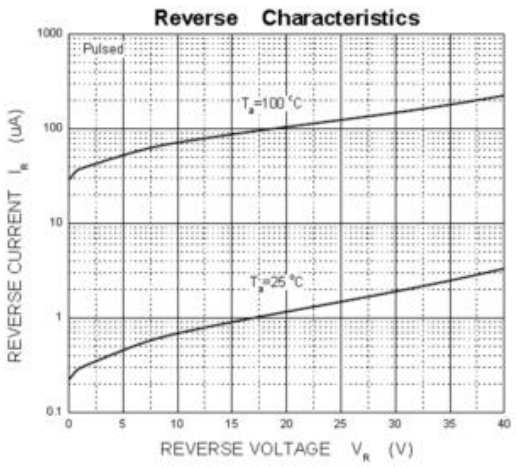
Electrical Characteristics@T_A=25°C unless otherwise specified

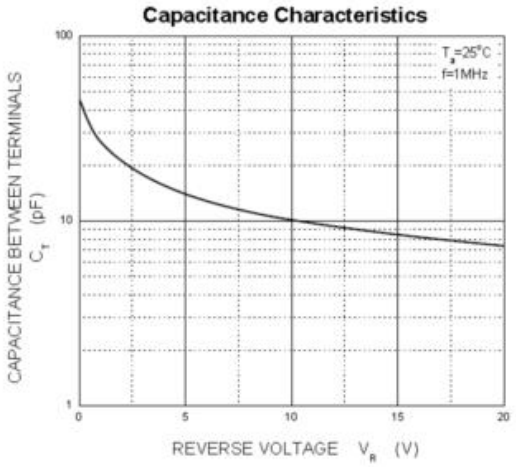
Characteristic	Symbol	Min	Typ	Max	Units	Test Condition
Reverse Breakdown Voltage *	$V_{(BR)}$	40	-	-	V	I_R=100μA SD103AW
		30				I_R=100μA SD103BW
		20				I_R=100μA SD103CW
Forward Voltage *	V_F	-	-	0.37	V	I_F=20mA
		-	-	0.60	V	I_F=200mA
Reverse Leakage Current *	I_R	-	-	5	μA	V_R=30V SD103AW
		-	-			V_R=20V SD103BW
		-	-			V_R=10V SD103CW
Total Capacitance	C_{tot}	-	-	50	pF	V_R=0V,f=1.0MHz
Reverse recovery time	t_{rr}	-	10	-	ns	I_F= I_R=200mA, I_{rr}=0.1×I_R, R_L=100Ω

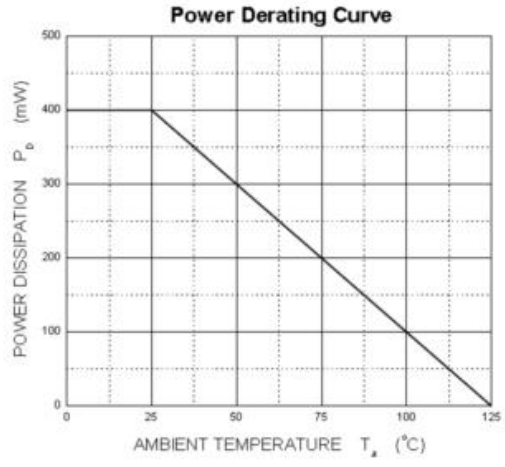
* Pulse width < 300 μs, duty cycle < 2%

Ratings and Characteristics Curves









Technical Data
Data Sheet N0992, Rev. B

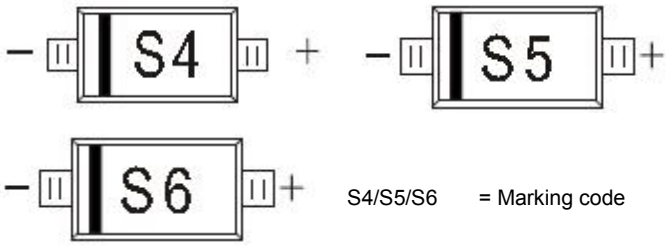
RoHS

Ordering Information

Device	Package	Shipping
SD103AW-SD103CW	SOD-123 (Pb-Free)	3000pcs / reel

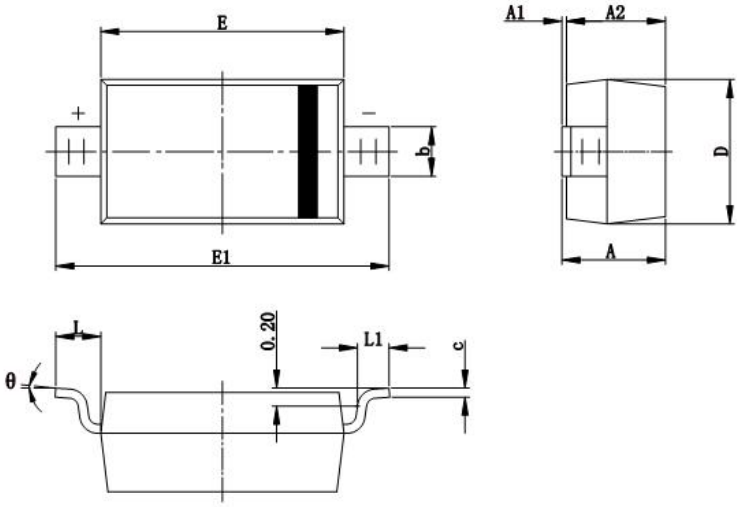
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



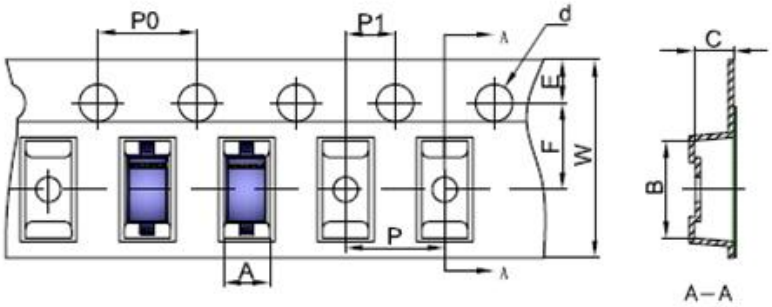
S4/S5/S6 = Marking code

Mechanical Dimensions SOD-123



SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF.		0.020 REF.	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Carrier Tape Specification SOD-123



SYMBOL	Millimeters	
	Min.	Max.
A	1.80	1.90
B	3.89	3.99
C	1.52	1.62
d	1.45	1.65
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

Technical Data
Data Sheet N0992, Rev. B

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 Diode Solutions 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 Diode Solutions 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 Diode Solution 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 Diode Solutions 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 Diode Solutions.
6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.
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..