

Features

- Low Forward Voltage Drop
- Very Small SMD Package

Applications

- Low Voltage Rectification
- High Efficiency DC/DC Conversion
- Switch Mode Power Supply
- Inverse Polarity Protection
- Low Power Consumption Applications



SOD-123 top view



Schematic diagram



Marking and pin assignment



Halogen-Free

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{RRM}	Peak Repetitive Reverse Voltage	20	V
V _{RWM}	Working Peak Reverse Voltage		V
V _{R(RMS)}	RMS Reverse Voltage	14	V
I _F	Forward Continuous Current	2	A
I _{FSM}	Non-repetitive Peak Forward Surge Current@t= 8.3ms	9	A
P _D	Power Dissipation	Note 1	mW
		Note 2	
R _{ΘJA}	Thermal Resistance from Junction to Ambient	Note 1	°C/W
		Note 2	
T _J	Operating Junction Temperature Range	-40~+125	°C
T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

1:Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

2:Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1cm2.

ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

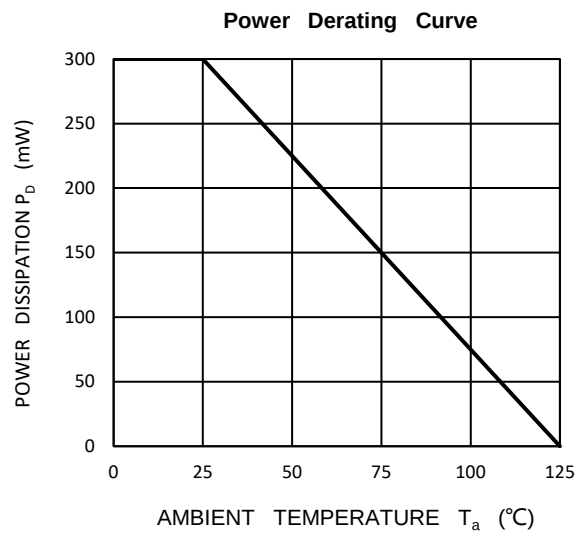
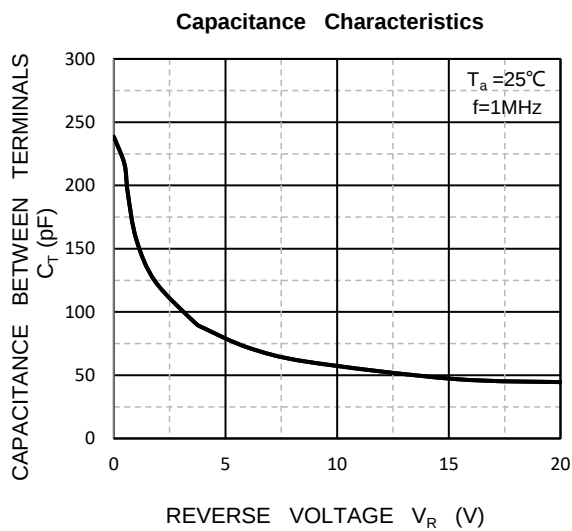
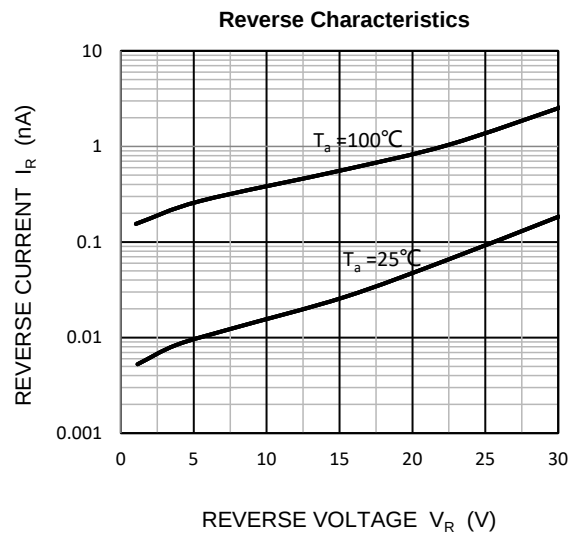
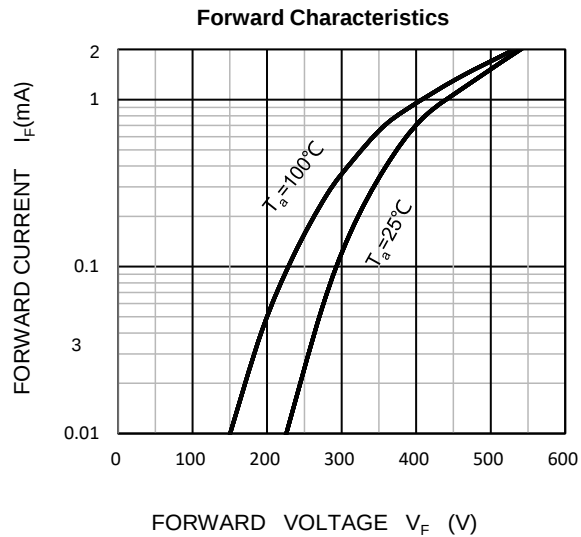
Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _(BR)	Reverse voltage	I _R =1mA	20	--	--	V
I _R	Reverse voltage leakage current	V _R =10V	--	--	80	μA
		V _R =20V	--	--	100	
V _F *	Forward voltage	I _{F1} =1A	--	--	0.45	V
		I _{F1} =2A	--	--	0.55	
C _{tot}	Total capacitance	V _R =4V,f=1MHz	--	--	120	pF

*Pulse test: tp ≤ 300 μs; δ ≤ 0.02.

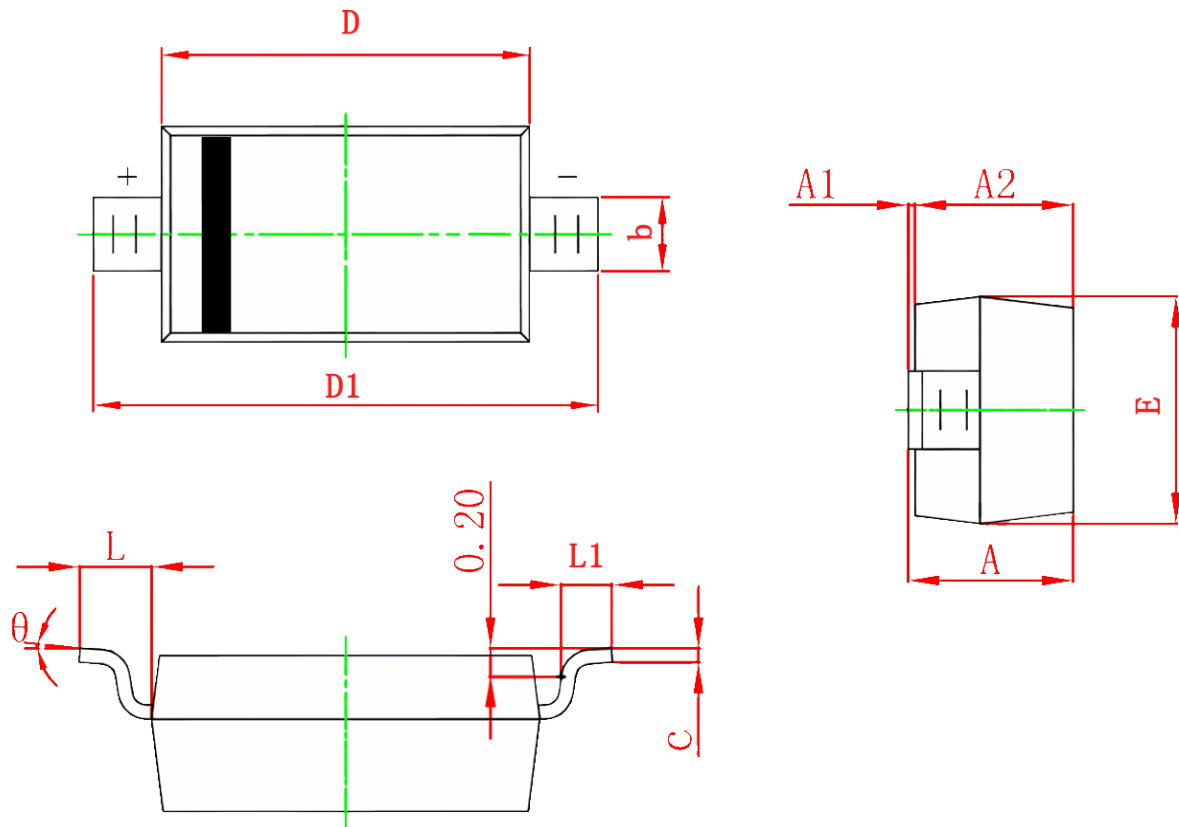
Ordering Information (Example)

Type	Package	Marking	Minimum	Inner Box	Outer	Delivery
B2020W	SOD-123	SH	3,000	45,000	180,000	7"reel

Typical Operating Characteristics



SOD-123 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In 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	2.600	2.800	0.102	0.110
D1	3.550	3.850	0.140	0.152
E	1.500	1.700	0.059	0.067
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°