

Features

- Low Forward Voltage Drop.



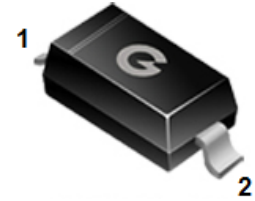
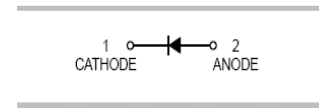
Typical Applications

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



Mechanical Data

- Case: SOD-123.
- Molding Compound, UL Flammability Classification Rating 94V-0.
- Terminals: Tin Plated Leads, Solderable Per MIL-STD-202, Method 208.



B2020W

SOD-123

Ordering Information

Part Number	Package	Shipping	Marking Code
B2020W□	SOD-123	3000/Tape Reel	SH

□: none is for Lead Free package;

“G” is for Halogen Free package.

Maximum Ratings (@T_A=25°C unless otherwise specified)

Parameter	Symbol	Values	Units
Peak Repetitive Reverse Voltage	V _{RRM}	20	V
Working Peak Reverse Voltage	V _{RWM}	20	V
RMS Reverse Voltage	V _{R(RMS)}	14	V
Maximum Average Forward Output Current	I _{F(AV)}	2	A
Peak Forward Surge Current, 8.3ms Single Half-sine-wave	I _{FSM}	10	A

Thermal Characteristics

Parameter	Symbol	Values	Units
Power Dissipation ^(Note1)	P _D	300	mW
Power Dissipation ^(Note2)		670	
Thermal Resistance from Junction to Ambient ^(Note1)	R _{θJA}	333	°C/W
Thermal Resistance from Junction to Ambient ^(Note2)		149	
Operating Junction Temperature Range	T _J	125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Notes: 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 (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Reverse breakdown voltage	$V_{(BR)}$	$I_R=1\text{mA}$	20	-	-	V
Forward Voltage	V_F^*	$I_F=1\text{A}$	-	-	0.45	V
		$I_F=2\text{A}$	-	-	0.55	
Maximum Peak Reverse Current	I_R	$V_R=10\text{V}$ $V_R=20\text{V}$	-	-	80 100	μA

*Pulse test: $t_p \leq 300 \mu\text{s}$; $\delta \leq 0.02$.

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG 1.TYPICAL REVERSE CHARACTERISTIC

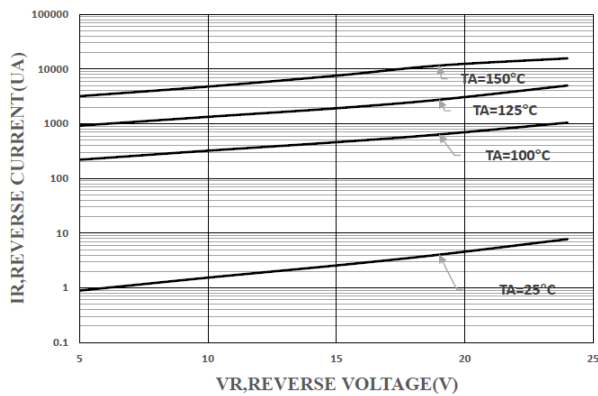


FIG 2.TYPICAL FORWARD CHARACTERISTIC

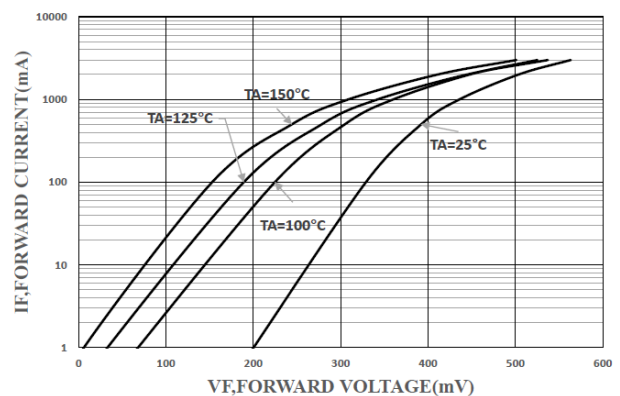


FIG 3.CAPACITANCE VS REVERSE VOLTAGE
 $T_A=25^{\circ}\text{C}$
 $F=1\text{MHZ}$

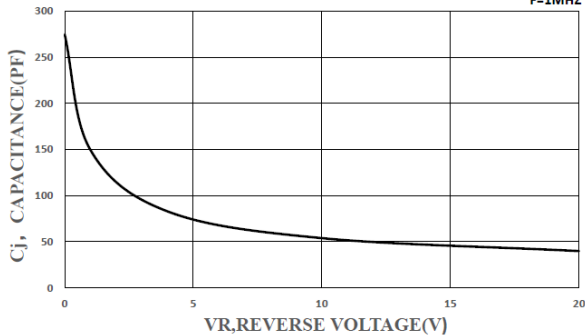
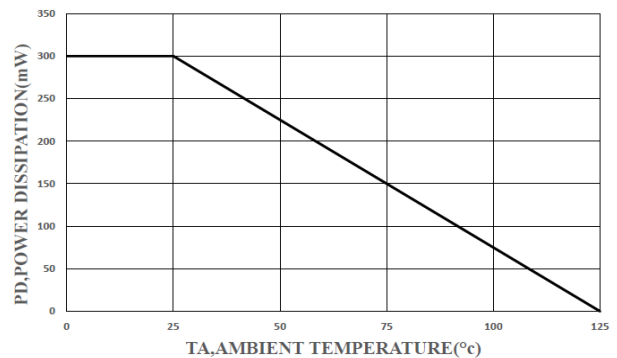
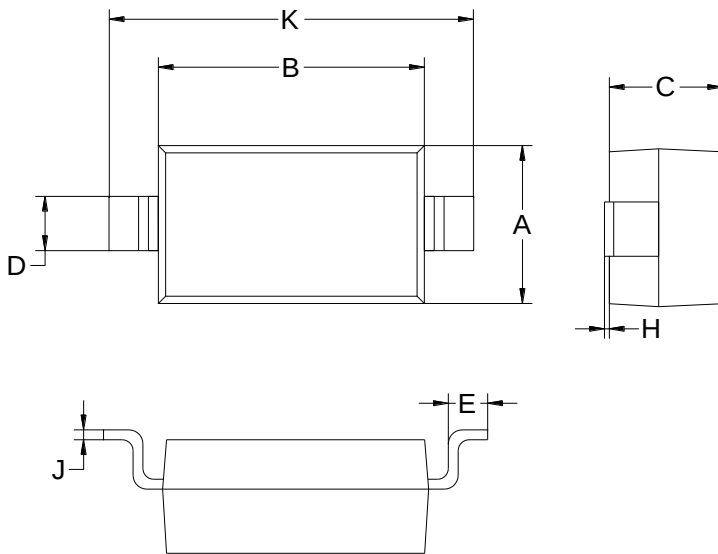


FIG 4.DERATING CURVE(P_d - T_A)



Package Outline Dimensions(unit:mm)

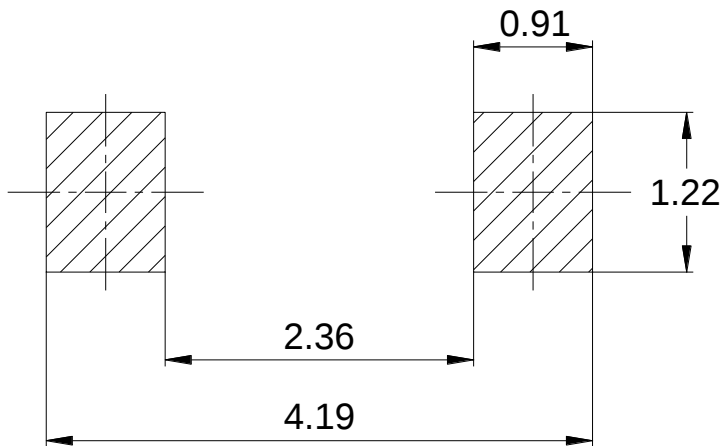
SOD-123



SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

Mounting Pad Layout(unit:mm)

SOD-123



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