

**Small Signal Diode**

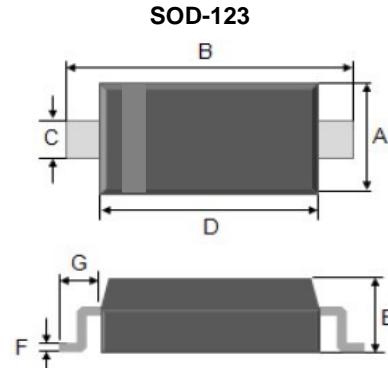


**Features**

- ✧ Low power loss, high current capability, low V<sub>F</sub>
- ✧ Surface device type mounting
- ✧ Moisture sensitivity level 1
- ✧ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧ Pb free version and RoHS compliant
- ✧ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

**Mechanical Data**

- ✧ Case : SOD-123 small outline plastic package
- ✧ Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ High temperature soldering guaranteed: 260°C/10s
- ✧ Polarity : Indicated by cathode band
- ✧ Weight: 8.442mg(approximately)
- ✧ Marking Code: S4,S5,S6



Dimensions	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	3.55	3.85	0.140	0.152
C	0.45	0.65	0.018	0.026
D	2.60	2.80	0.102	0.110
E	1.05	1.25	0.041	0.049
F	0.08	0.15	0.003	0.006
G	0.02 REF		0.50 REF	

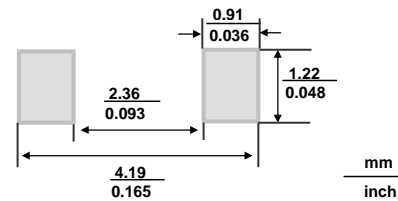
**Ordering Information**

Part No.	Packaging Code	Package	Packing	Marking
SD103AW	RH	SOD-123	3K / 7" Reel	S4
SD103BW	RH	SOD-123	3K / 7" Reel	S5
SD103CW	RH	SOD-123	3K / 7" Reel	S6
SD103AW	RHG	SOD-123	3K / 7" Reel	S4
SD103BW	RHG	SOD-123	3K / 7" Reel	S5
SD103CW	RHG	SOD-123	3K / 7" Reel	S6

**Pin Configuration**



**Suggested PAD Layout**



**Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified.

**Maximum Ratings**

Type Number	Symbol	SD103AW	SD103BW	SD103CW	Units
Power Dissipation	P <sub>D</sub>	400			mW
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	40	30	20	V
Reverse Voltage	V <sub>R</sub>	28	21	14	V
Mean Forward Current @ TL=100°C (Lead Temperature)	I <sub>O</sub>	350			mA
Repetitive Peak Forward Current @ t ≤ 1.0s	I <sub>FRM</sub>	1.5			A
Thermal Resistance (Junction to Ambient)	R <sub>θJA</sub>	300			°C/W
Junction Temperature	T <sub>J</sub>	125			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to + 125			°C

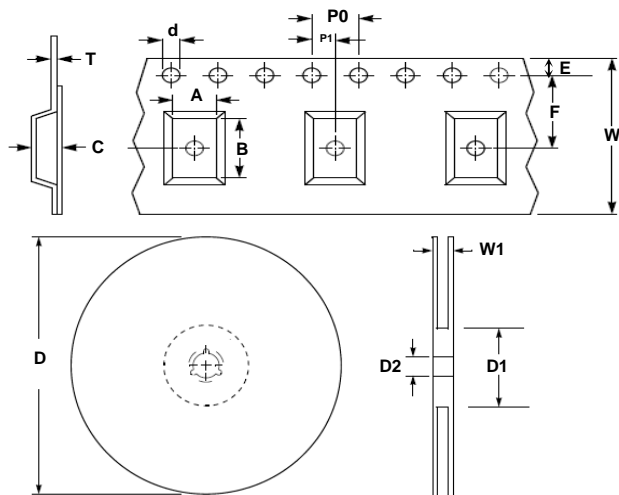
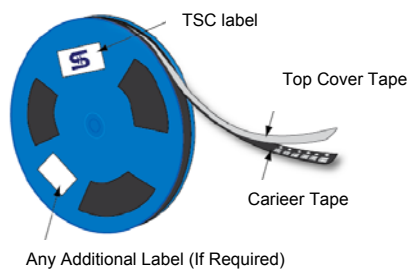
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#### Maximum Ratings

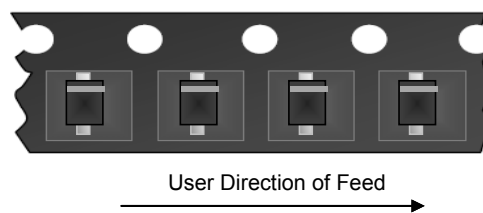
Rating at 25°C ambient temperature unless otherwise specified.

Type Number	Symbol	Min	Typ	Max	Units
Reverse Breakdown Voltage (Minimum value)	SD103AW	$I_R = 10\mu A$	40	-	V
	SD103BW	$I_R = 10\mu A$	30		
	SD103CW	$I_R = 10\mu A$	20		
Forward Voltage (Maximum value)		$I_F = 20mA$	$V_F$	0.37	V
		$I_F = 200mA$		0.60	
Reverse Leakage Current (Maximum value)	SD103AW	$V_R = 30V$	$I_R$	5	$\mu A$
	SD103BW	$V_R = 20V$			
	SD103CW	$V_R = 10V$			
Junction Capacitance		$V_R=0, f=1.0MHz$	$C_J$	50	pF

### Carrier & Reel specification



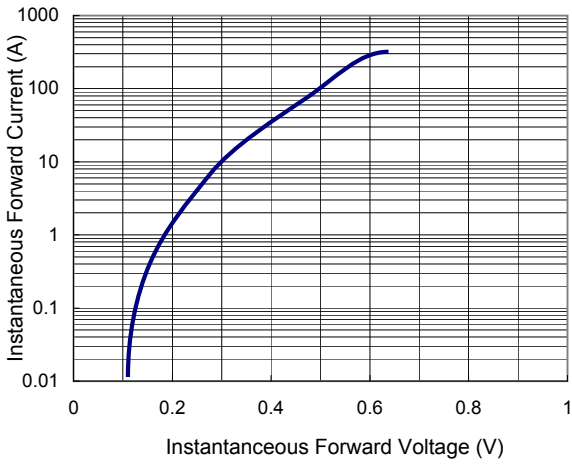
Item	Symbol	Dimension (mm)
Carrier width	A	3.15 ±0.10
Carrier length	B	3.94 ±0.05
Carrier depth	C	1.35 ±0.10
Sprocket hole	d	1.75 ±0.10
Reel outside diameter	D	178 ±1
Reel inner diameter	D1	54.4 ±0.40
Feed hole width	D2	13.0 ±0.20
Sprocket hole position	E	1.75 ±0.10
Punch hole position	F	3.50 ±0.05
Sprocket hole pitch	P0	4.00 ±0.10
Embossment center	P1	2.00 ±0.05
Overall tape thickness	T	0.22 ±0.05
Tape width	W	8.10 ±0.20
Reel width	W1	12.3 ±0.20



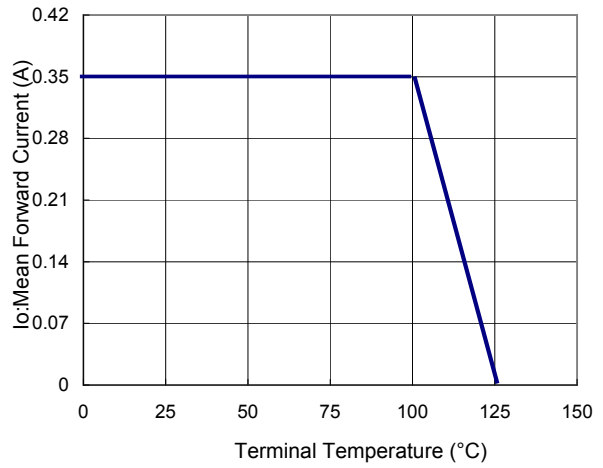
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**Rating and Characteristic Curves**

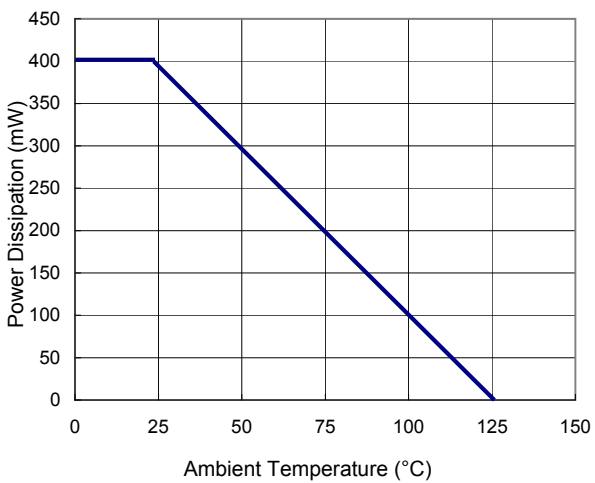
**FIG 1 Typical Forward Characteristics**



**FIG 2 Forward Current Derating Curve**



**FIG 3 Admissible Power Dissipation Curve**



**FIG 4 Typical Junction Capacitance**

