

Small Signal Diode

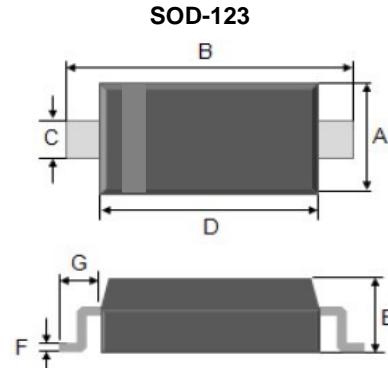


Features

- ✧ Low power loss, high current capability, low V_F
- ✧ 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	

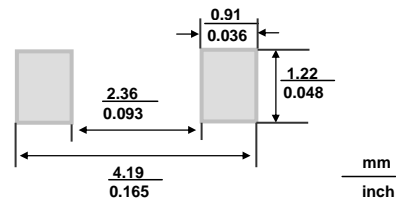
Ordering Information

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_D	400			mW
Repetitive Peak Reverse Voltage	V_{RRM}	40	30	20	V
Reverse Voltage	V_R	28	21	14	V
Mean Forward Current @ $T_L=100^\circ\text{C}$ (Lead Temperature)	I_O	350			mA
Repetitive Peak Forward Current @ $t \leq 1.0\text{s}$	I_{FRM}	1.5			A
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	300			$^\circ\text{C/W}$
Junction Temperature	T_J	125			$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to + 125			$^\circ\text{C}$

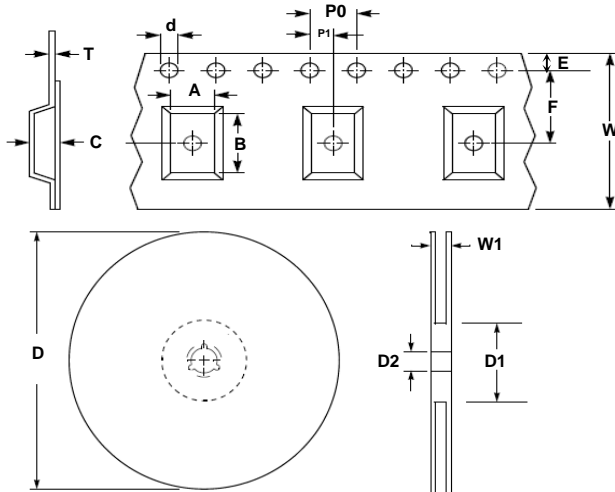
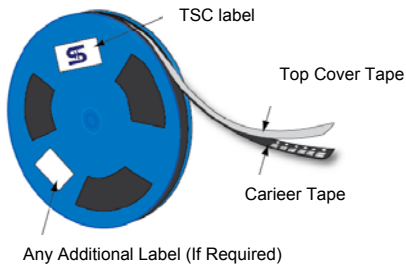
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Maximum Ratings

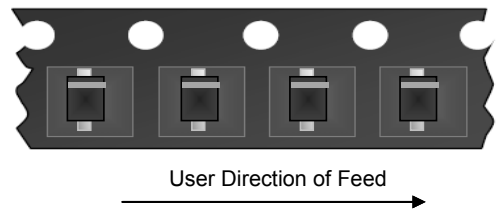
Rating at 25°C ambient temperature unless otherwise specified.

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	μA
	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

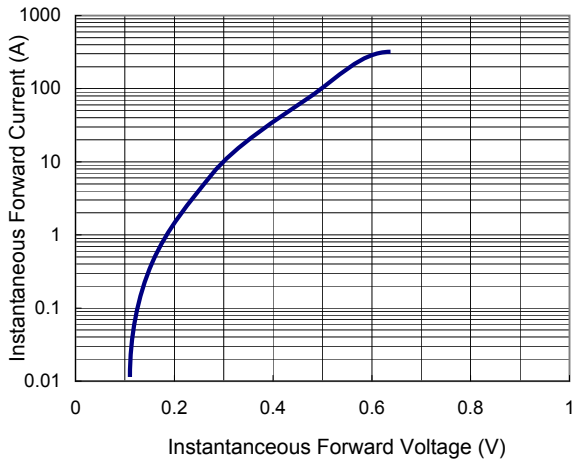


FIG 2 Forward Current Derating Curve

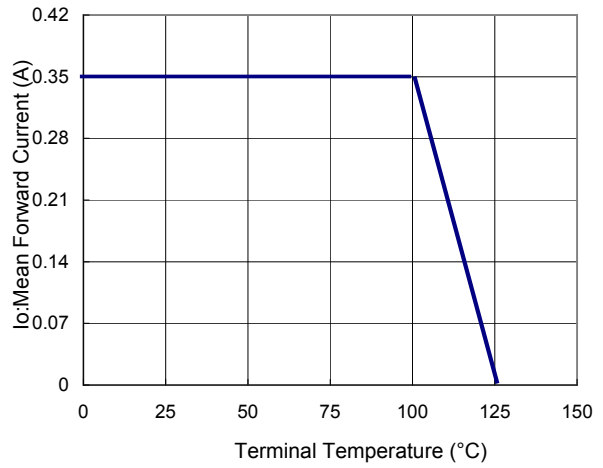


FIG 3 Admissible Power Dissipation Curve

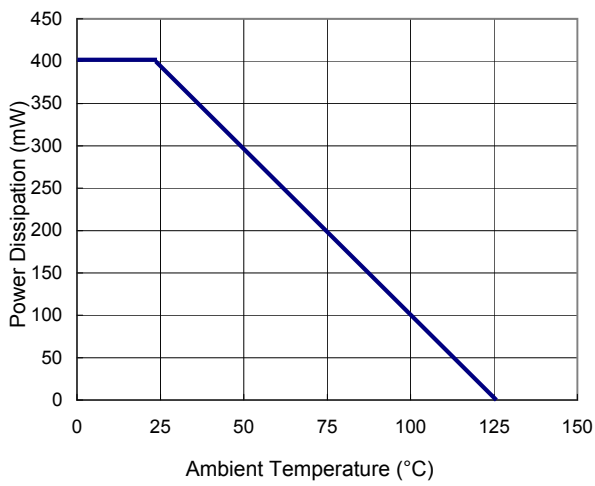


FIG 4 Typical Junction Capacitance

