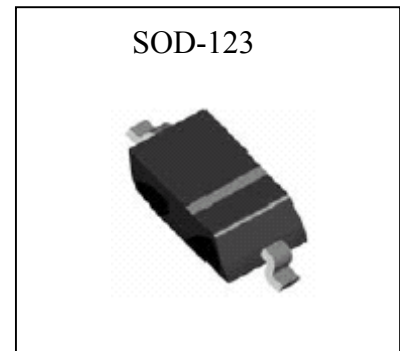


**350mA Schottky Barrier Switching Diodes**

# SD103ASH thru SD103CSH


**Features**

- Low forward voltage drop
- Guard ring construction for transient protection
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- Pb-free lead plating and Halogen-free package

**Mechanical Data**

- Case: Molded plastic, JEDEC SOD-123.
- Terminals: Pure tin plated, solderable per MIL-STD-202 method 208
- Polarity: Indicated by cathode band.
- Weight: 0.01 gram approximately

**Maximum Ratings and Electrical Characteristics**

(Rating at 25°C ambient temperature unless otherwise specified. )

Parameter	Symbol	Type			Units
		SD103A	SD103B	SD103C	
Repetitive peak reverse voltage	$V_{RRM}$	40	30	20	V
Working peak reverse voltage	$V_{RWM}$	40	30	20	V
Maximum RMS voltage	$V_{RMS}$	28	21	14	V
Maximum DC blocking voltage	$V_R$	40	30	20	V
Forward continuous current	$I_{FM}$	350			mA
Repetitive peak forward current @ $t \leq 1.0s$	$I_{FRM}$	1.5			A
Power dissipation	$P_D$	400			mW
Maximum thermal resistance, Junction to ambient	$R_{\theta JA}$	250			°C/W
Operating and storage temperature range	$T_J; T_{STG}$	-65 ~ +125			°C



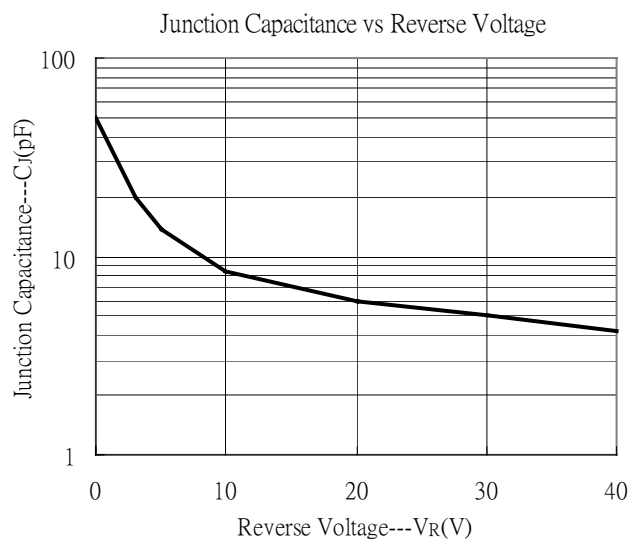
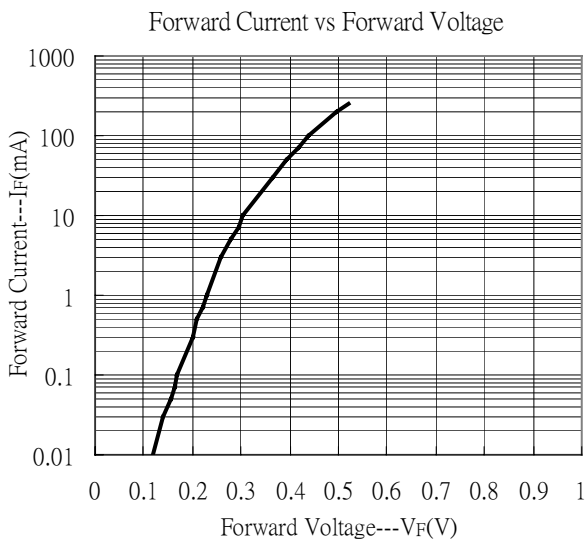
**Electrical Characteristics @  $T_A=25^\circ\text{C}$  unless otherwise specified**

Parameters		Symbol	Conditions	Min	Typ.	Max	Unit
Reverse breakdown voltage	SD103A	$V_R$	$I_R=100\mu\text{A}$	40	-	-	V
	SD103B			30	-	-	
	SD103C			20	-	-	
Forward voltage		$V_F$	$I_F=20\text{mA}$ $I_F=200\text{mA}$	-	-	370 600	mV mV
Reverse current	SD103A	$I_{RM}$	$V_R=30\text{V}$	-	-	5	$\mu\text{A}$
	SD103B		$V_R=20\text{V}$				
	SD103C		$V_R=10\text{V}$				
Junction Capacitance		$C_J$	$V_R=0\text{V}, f=1\text{MHz}$	-	50	-	pF
Reverse recovery time		$t_{rr}$	$I_F=I_R=200\text{mA}, I_{rr}=0.1\times I_R,$ $R_L=100\Omega$	-	10	-	ns

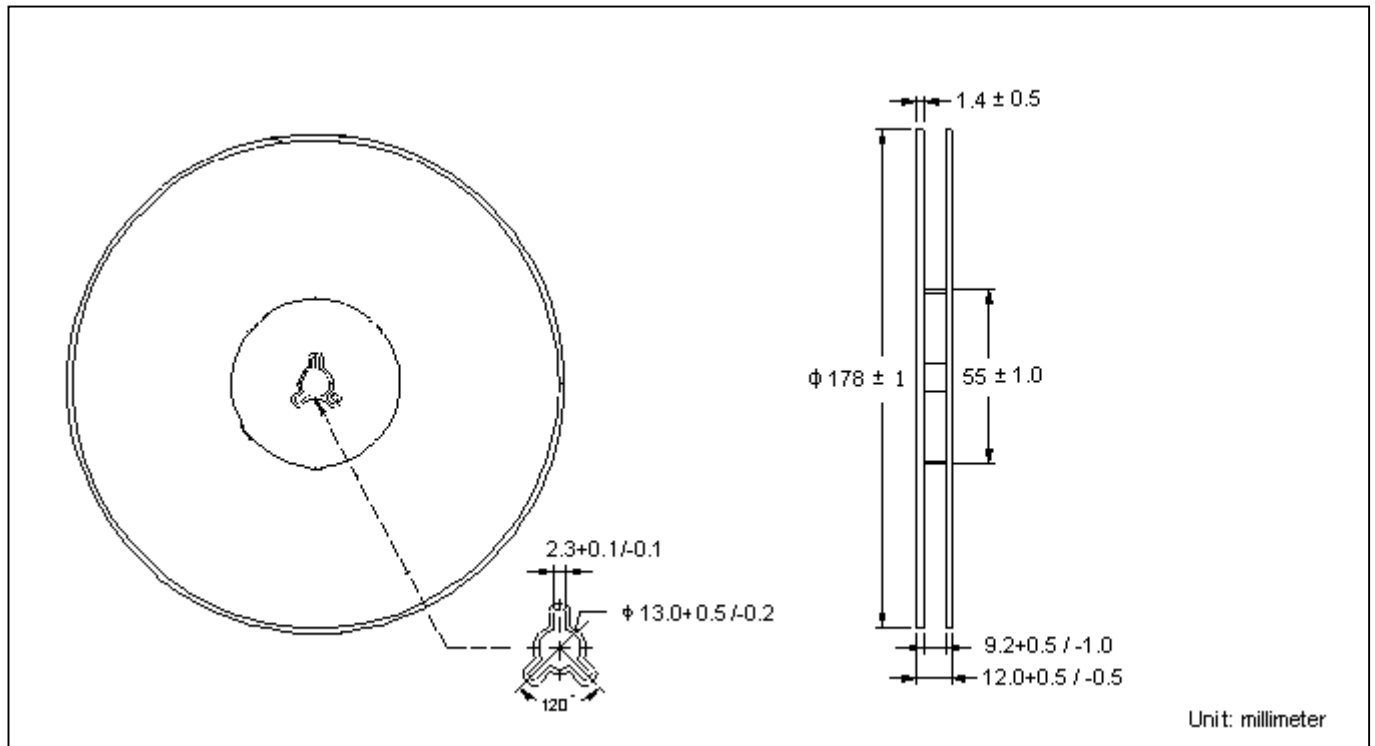
**Ordering Information**

Device	Package	Shipping	Marking
SD103ASH	SOD-123 (Pb-free lead plating and Halogen-free package)	3000 pcs / Tape & Reel	S4
SD103BSH	SOD-123 (Pb-free lead plating and Halogen-free package)	3000 pcs / Tape & Reel	S5
SD103CSH	SOD-123 (Pb-free lead plating and Halogen-free package)	3000 pcs / Tape & Reel	S6

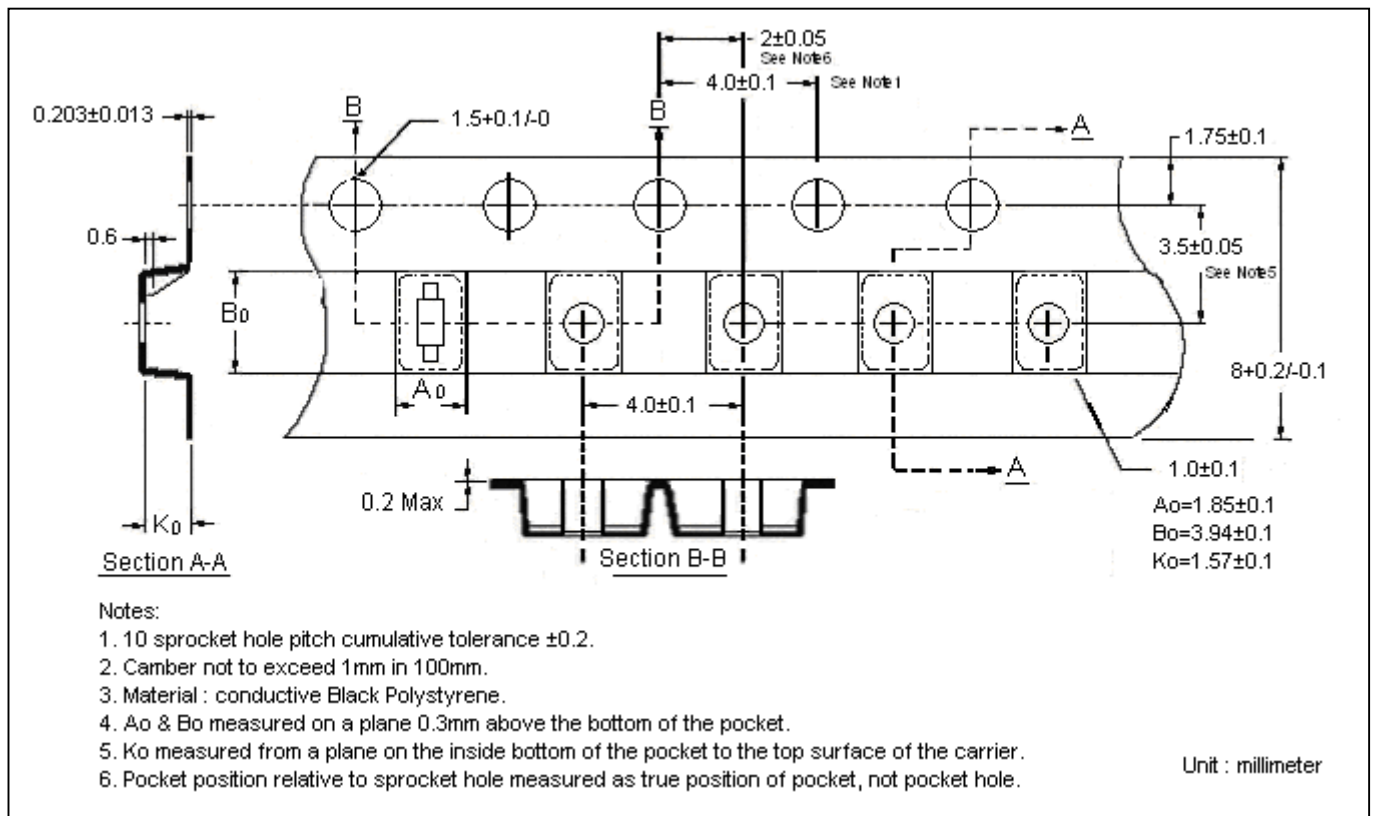
**Characteristic Curves**



### Reel Dimension



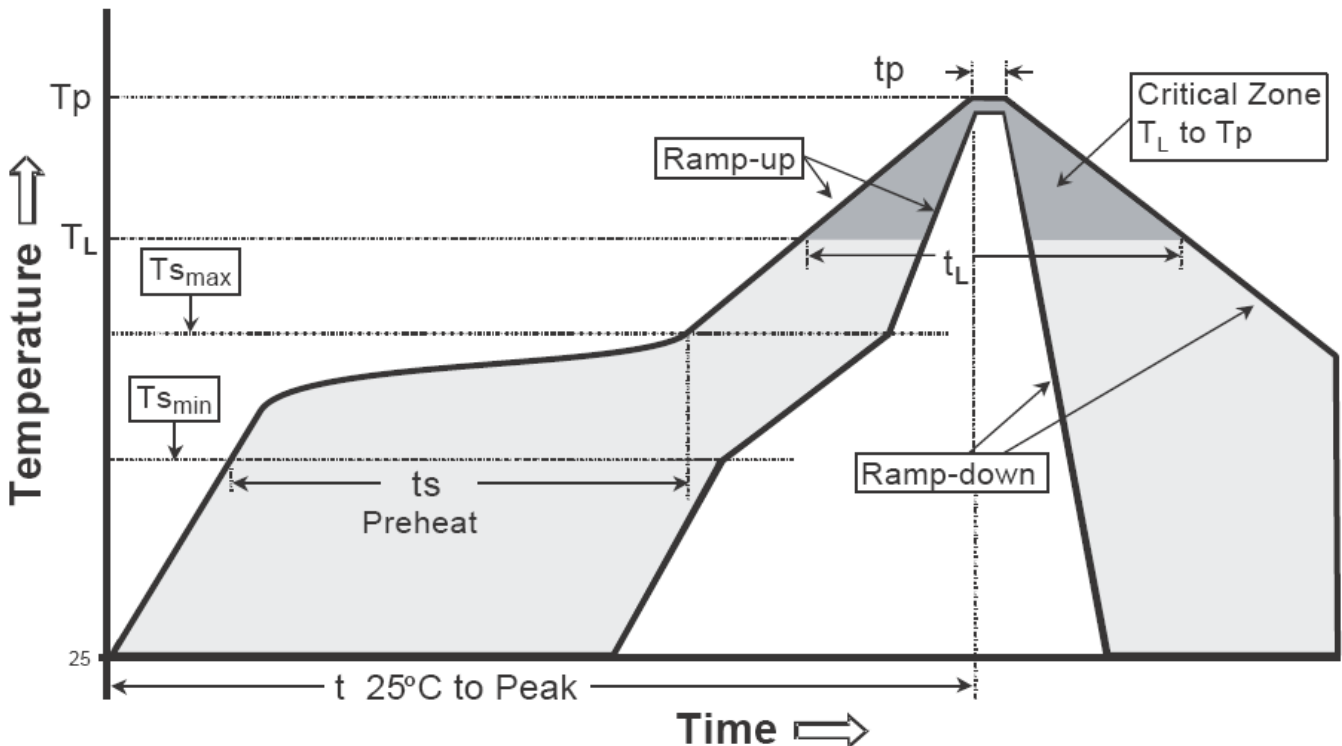
### Carrier Tape Dimension



**Recommended wave soldering condition**

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

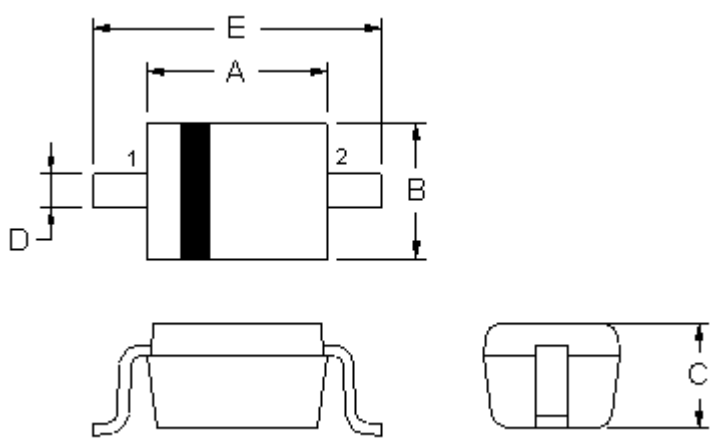
**Recommended temperature profile for IR reflow**




Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	60-150 seconds
Peak Temperature(Tp)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

**SOD-123 Dimension**



Marking:



Device	SD103A	SD103B
Marking	S4	S5

Device	SD103C	
Marking	S6	

2-Lead SOD-123 Plastic  
 Surface Mounted Package  
 CYStek Package Code: SH

Style: Pin 1.Cathode 2.Anode

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.102	0.110	2.600	2.800	D	0.018	0.026	0.450	0.650
B	0.059	0.067	1.500	1.700	E	0.140	0.152	3.550	3.850
C	0.041	0.049	1.050	1.250					

**Notes:** 1.Controlling dimension : millimeters.  
 2.Lead thickness specified per L/F drawing with solder plating.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: Pure tin plated
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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