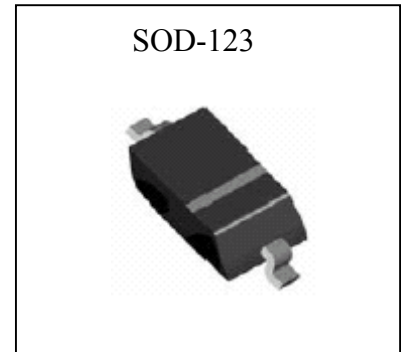


350mA Schottky Barrier Switching Diodes

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



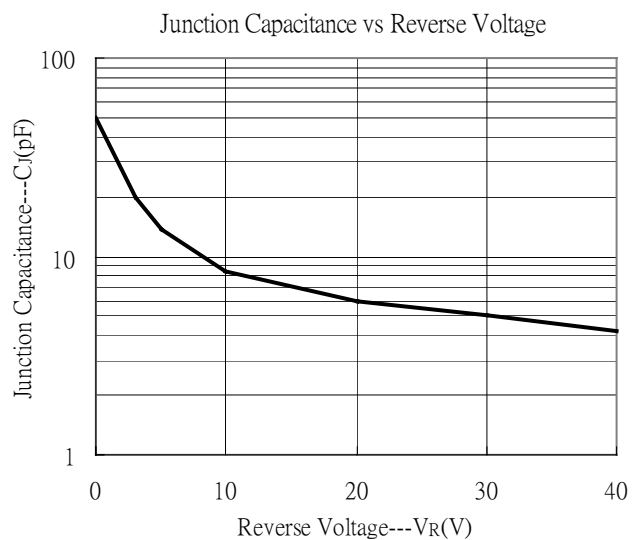
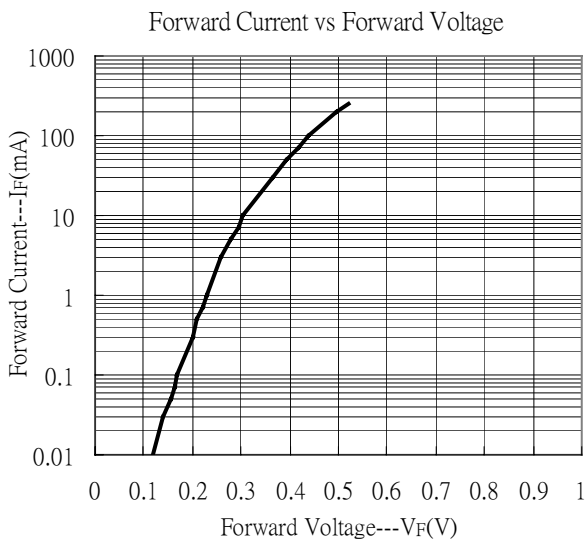
Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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	μA
	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

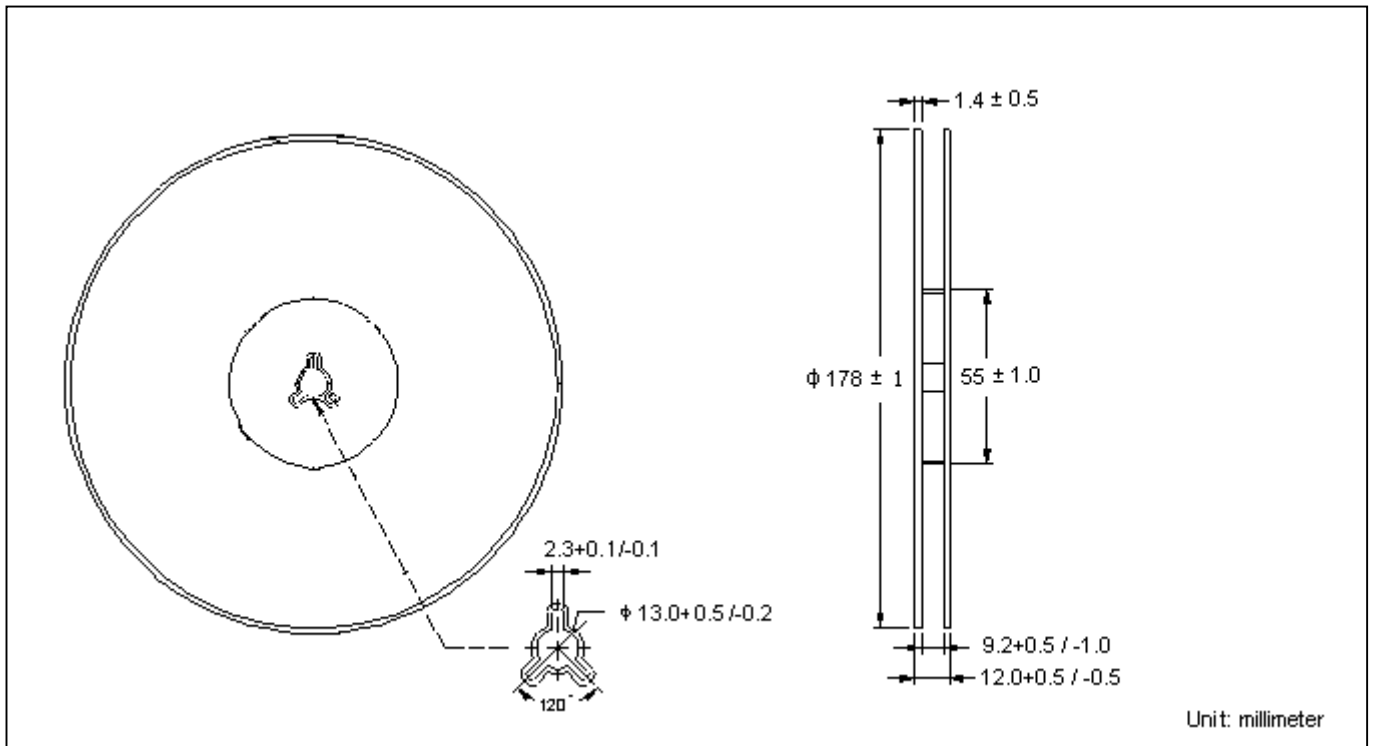
Ordering Information

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

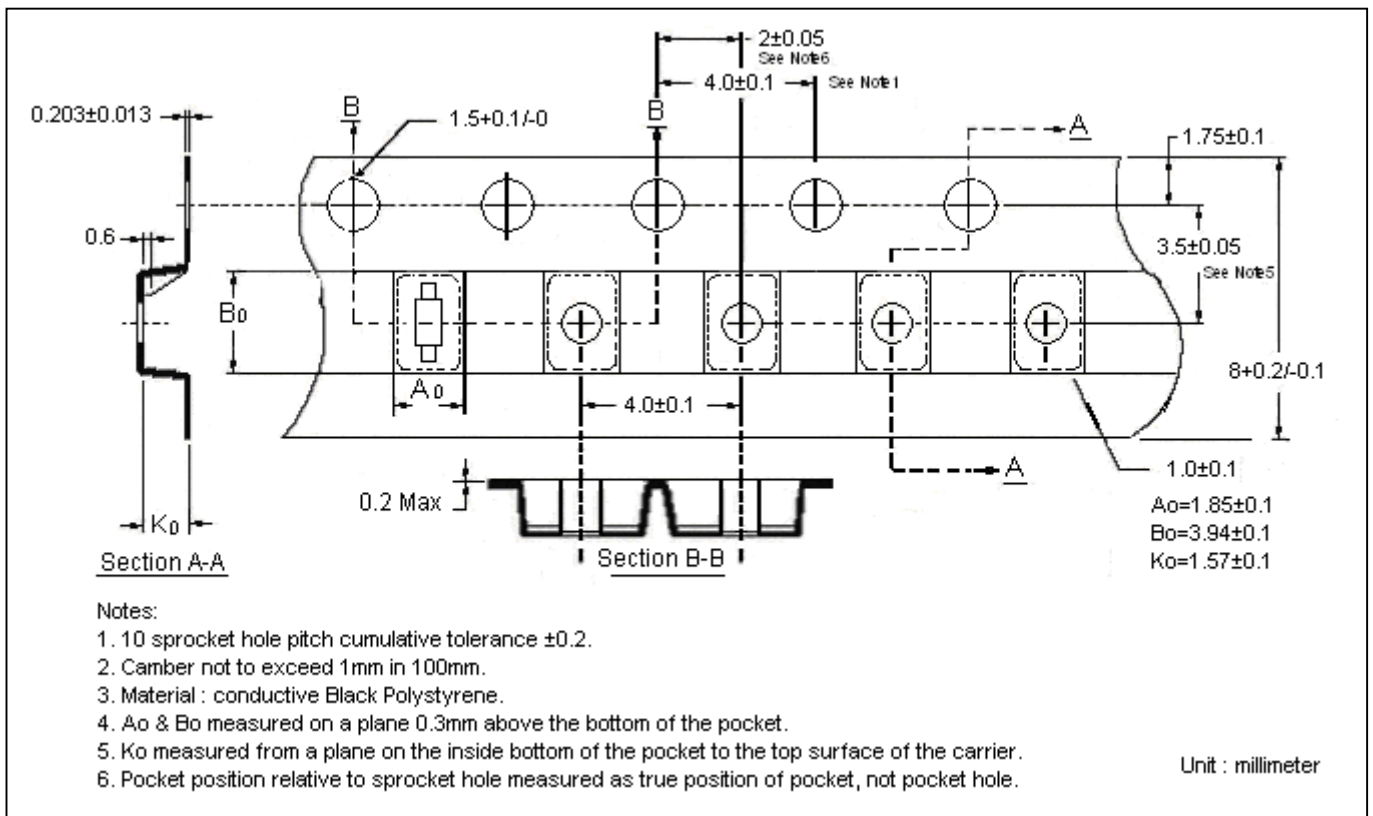
Characteristic Curves



Reel Dimension



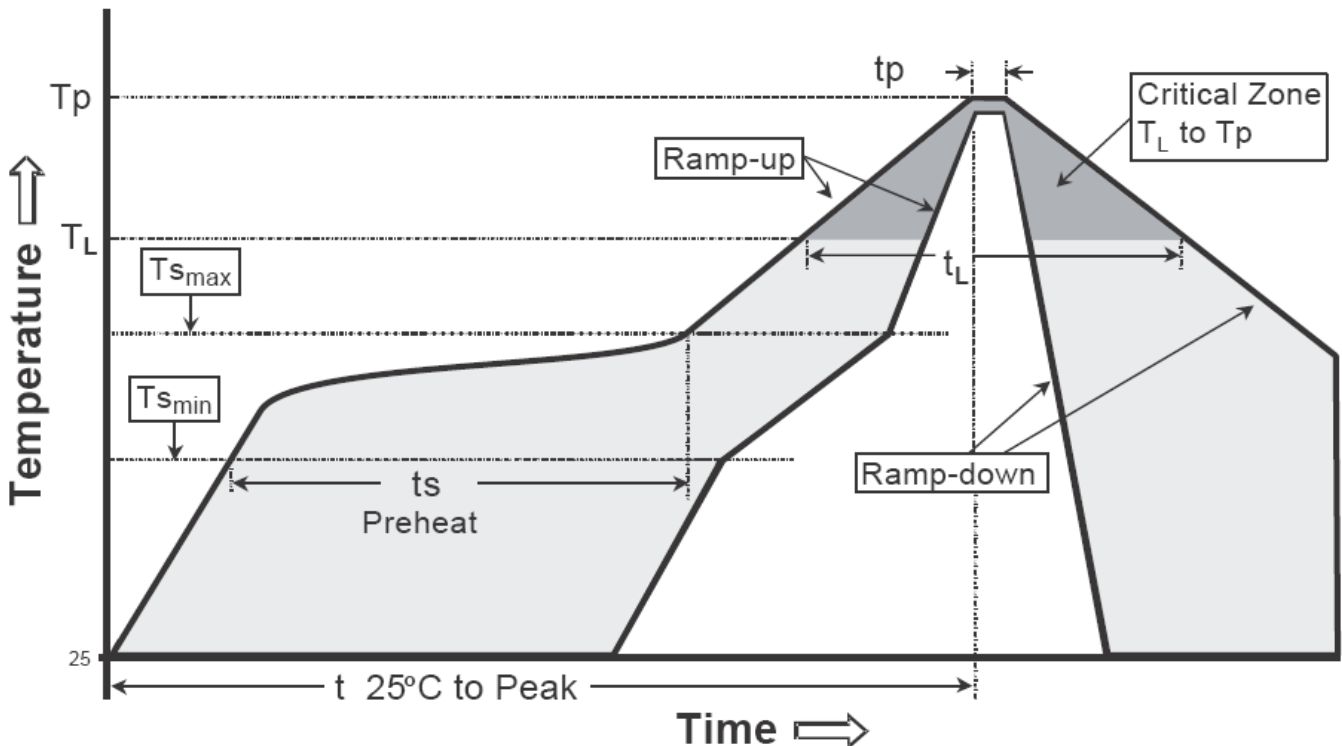
Carrier Tape Dimension



Recommended wave soldering condition

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

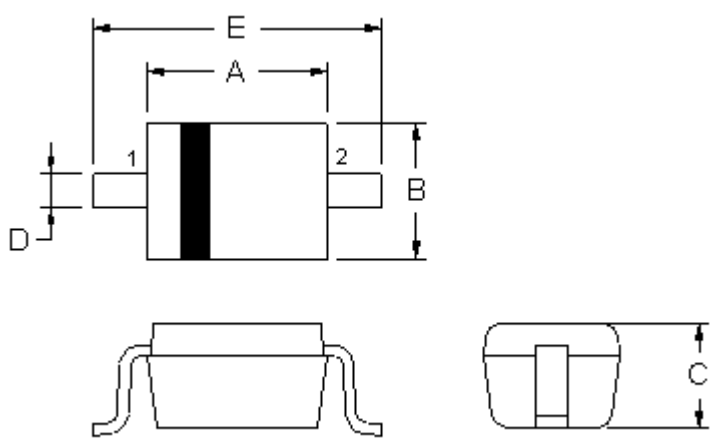
Recommended temperature profile for IR reflow



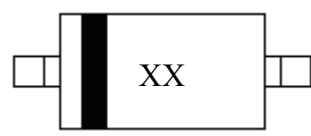
Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T _{s min})	100°C	150°C
-Temperature Max(T _{s max})	150°C	200°C
-Time(t _{s min} to t _{s max})	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T _L)	183°C	217°C
- Time (t _L)	60-150 seconds	60-150 seconds
Peak Temperature(T _P)	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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