

## Advanced Schottky Barrier Diodes

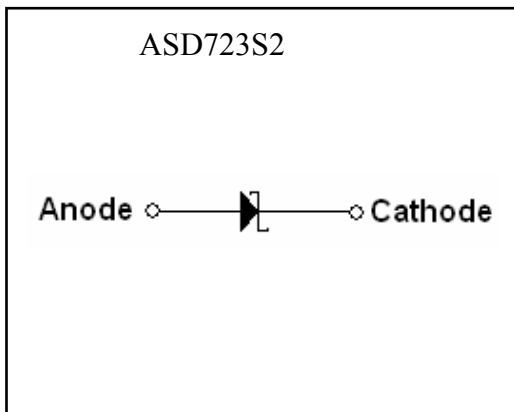
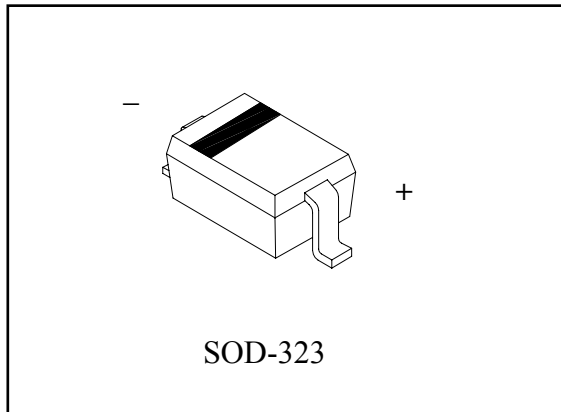
# ASD723S2

**Features:**

- Low turn-on voltage
- Fast switching
- Pb-free package

**Mechanical data:**

- Case: Molded Plastic, JEDEC SOD-323.
- Terminals : Pure tin plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band
- Mounting position: Any
- Weight: 4.8mg (approximately)

**Symbol**

**Outline**

**Absolute Maximum Ratings(Ta=25°C)**

Characteristics	Symbol	Value	Unit
Non-repetitive Peak Reverse Voltage	V <sub>RM</sub>	30	V
Forward Current	I <sub>FM</sub>	200	mA
Forward Surge Current @ 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I <sub>FSM</sub>	1	A
Power dissipation @ T <sub>C</sub> =25°C	P <sub>D</sub>	250	mW
Thermal Resistance, Junction to ambient	R <sub>θJA</sub>	500	°C/W
Capacitance between Terminals @ f=1MHz and applied 10V <sub>DC</sub> Reverse Voltage	C <sub>T</sub>	15	pF
Operating Junction and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-65 to +150	°C



**Electrical Characteristics** (  $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Condition	Symbol	Min	Typ	Max	Unit
Reverse Breakdown	$I_R=100\mu\text{A}$	$V_R$	30	-	-	V
*Forward Voltage	$I_F = 2\text{mA}$	$V_F$	-	260	-	mV
	$I_F = 15\text{mA}$		-	320	-	
	$I_F = 100\text{mA}$		-	420	-	
	$I_F = 200\text{mA}$		-	490	550	
Reverse Current	$V_R = 30\text{V}$	$I_R$	-	-	5	$\mu\text{A}$

\*Pulse Test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$

**Ordering Information**

Device	Package	Shipping	Marking
ASD723S2	SOD-323 (Pb-free package)	3000 pcs / Tape & Reel	S21

**Moisture Sensitivity Level : conform to JEDEC level 1**

Recommended Storage Condition:

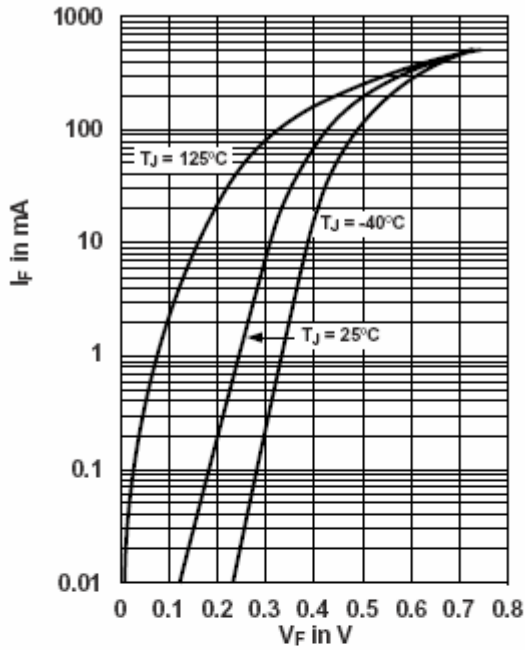
Temperature :  $\leq 30^{\circ}\text{C}$

Humidity :  $\leq 85\% \text{ RH}$

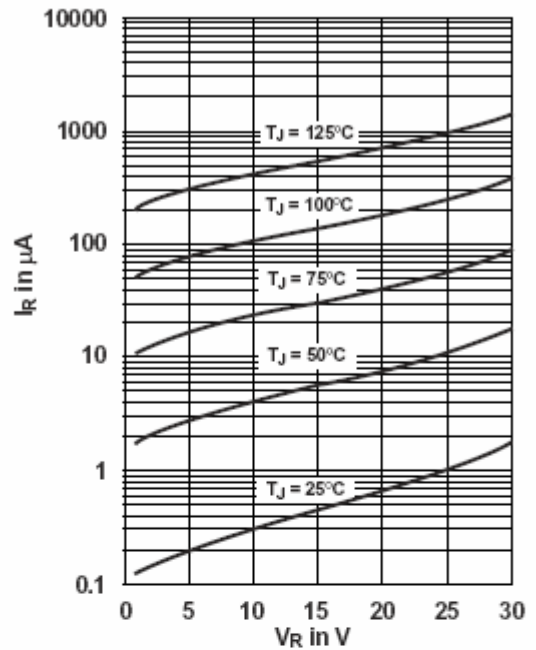
Floor Life : unlimited

**Characteristic Curves**

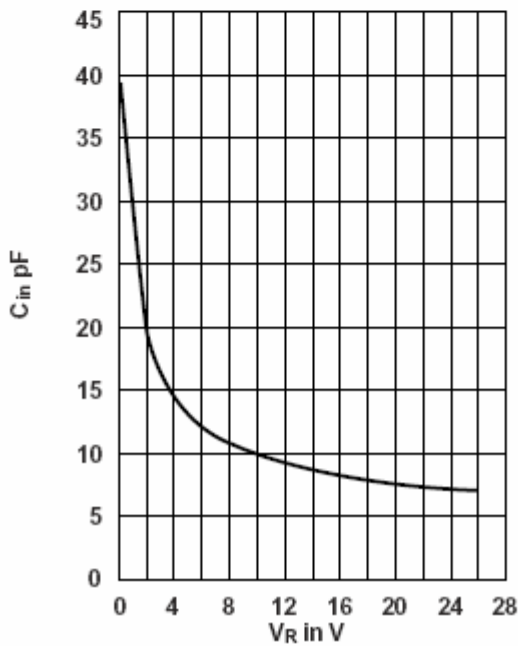
**Forward Voltage Forward Current at Various Temperatures (Typical Values)**



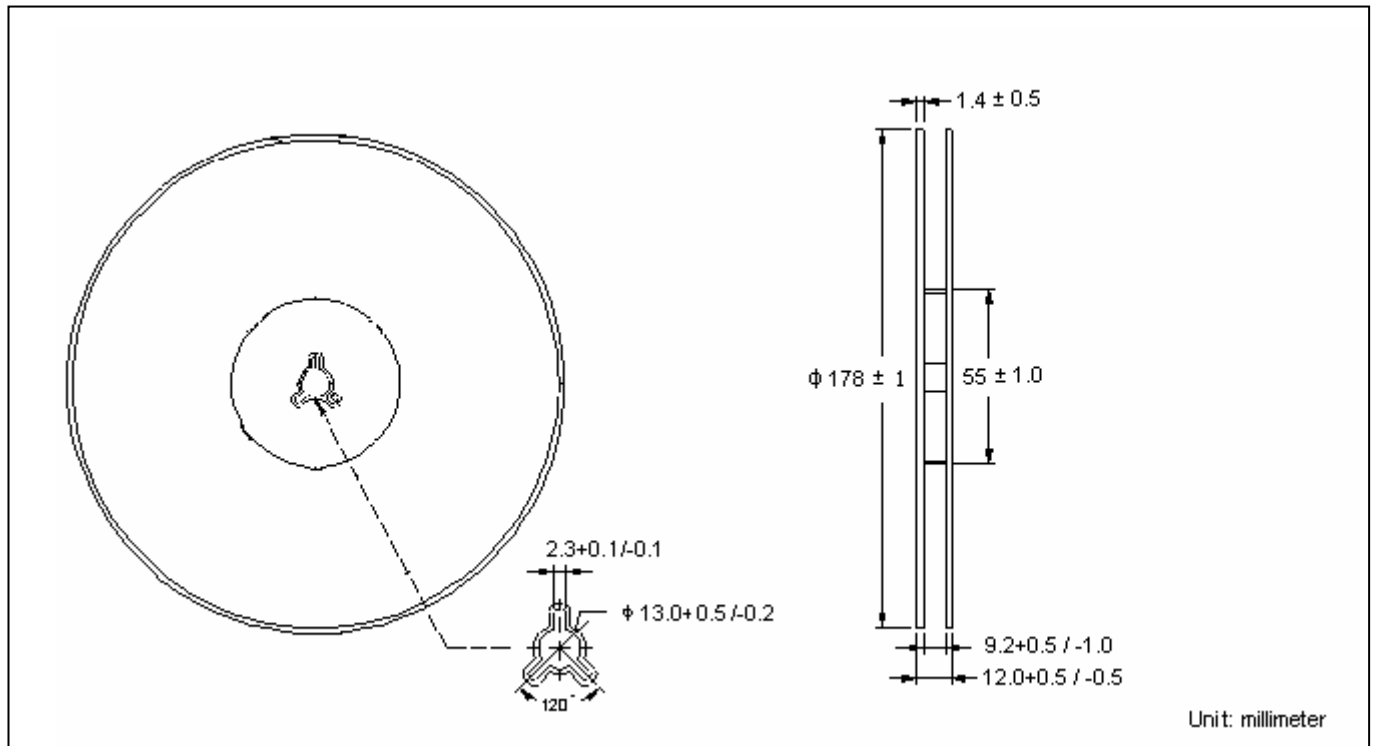
**Typical Variation of Reverse Current at Various Temperatures**



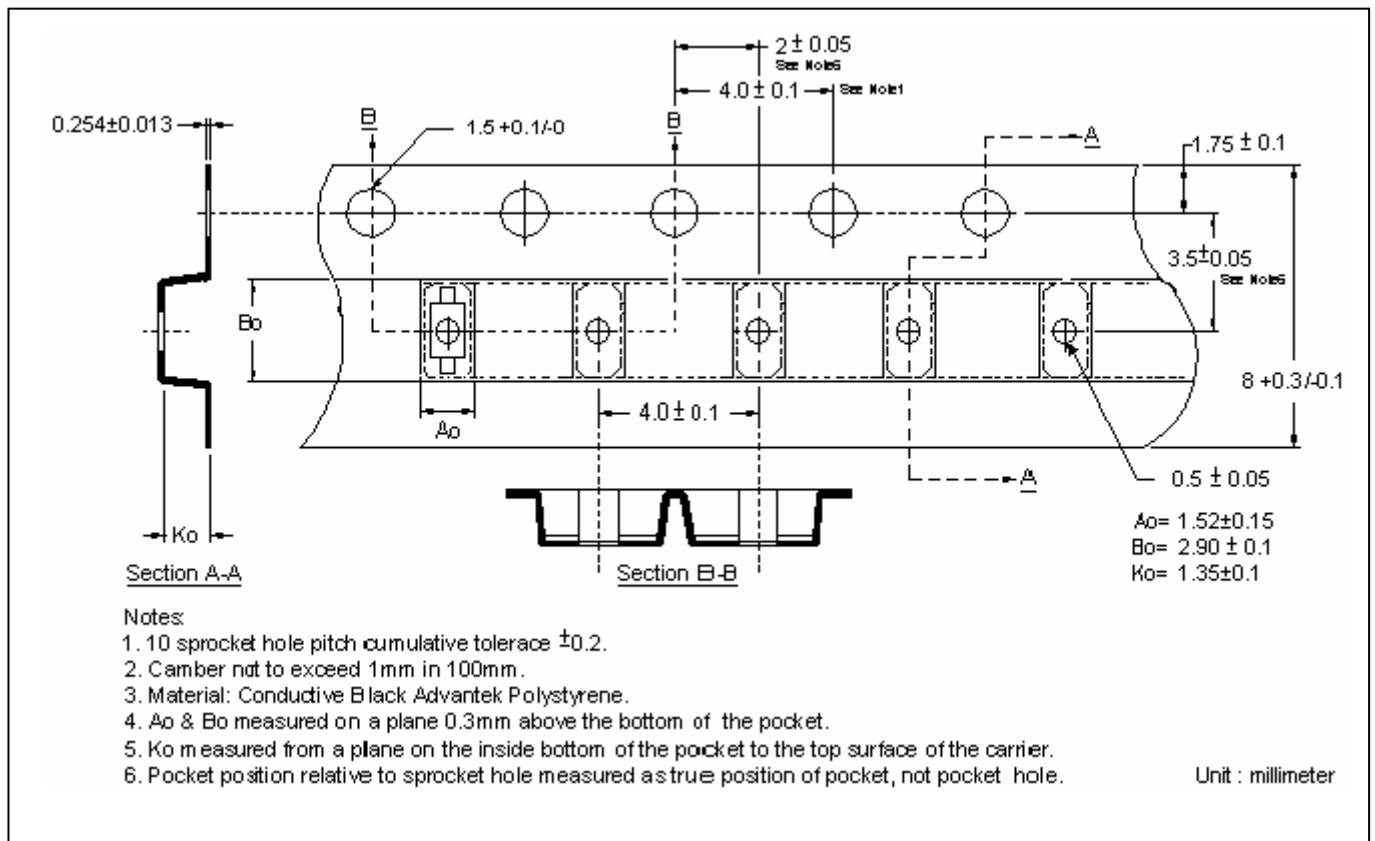
**Typical Capacitance  $^\circ\text{C}$  vs. Reverse Applied Voltage  $V_R$**



**Reel Dimension**



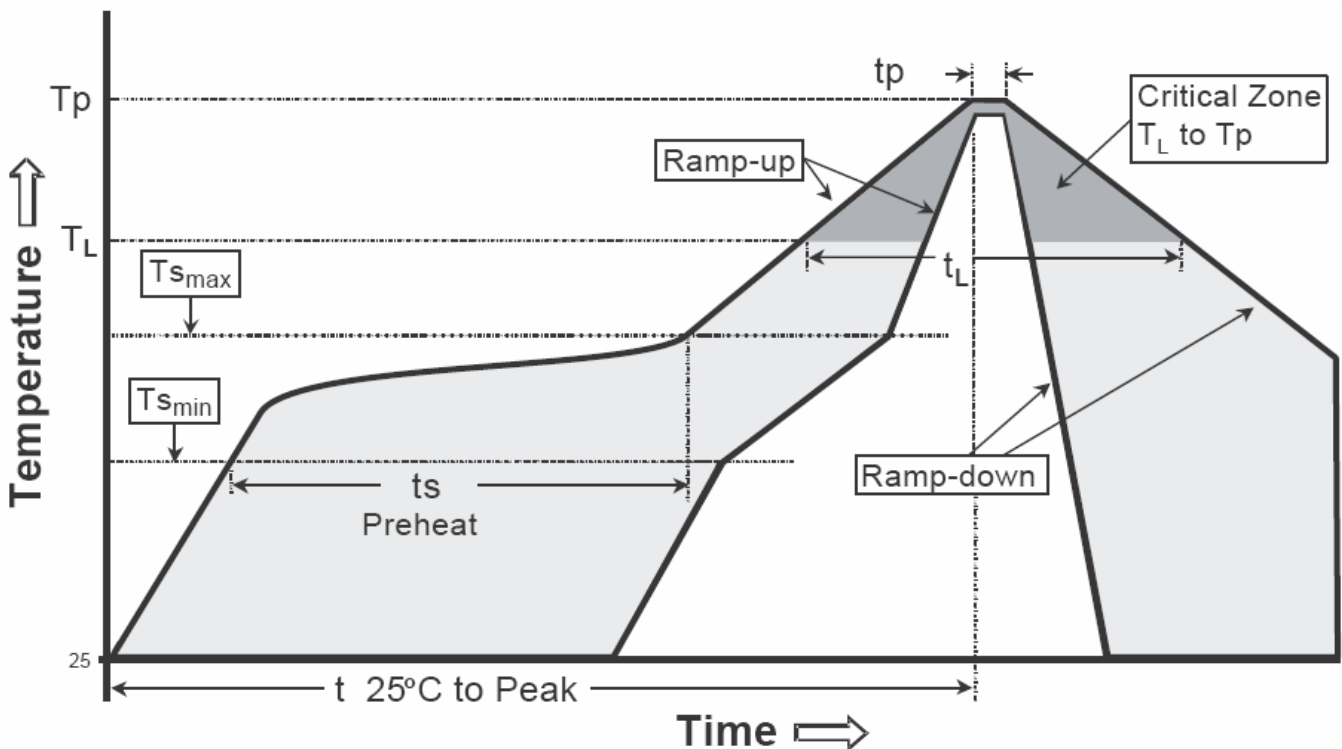
**Carrier Tape Dimension**



## Recommended wave soldering condition

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

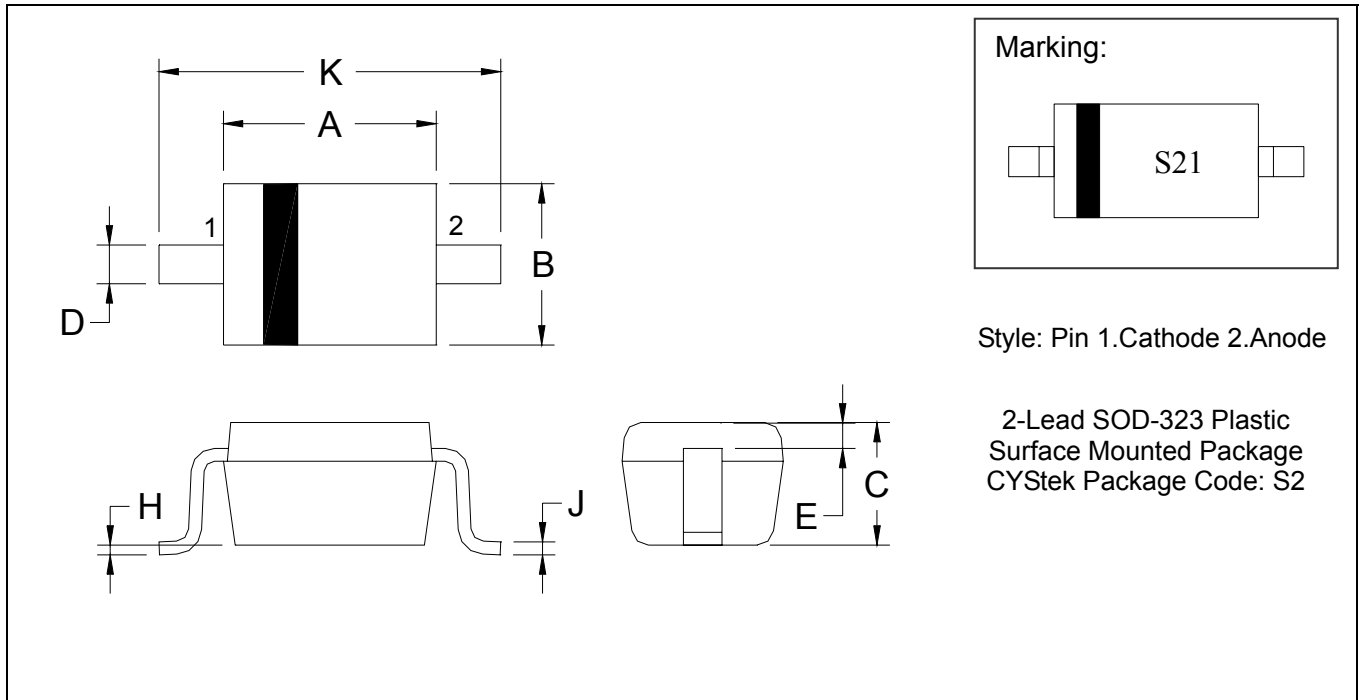
## Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T <sub>s min</sub> )	100°C	150°C
-Temperature Max(T <sub>s max</sub> )	150°C	200°C
-Time(t <sub>s min</sub> to t <sub>s max</sub> )	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T <sub>L</sub> )	183°C	217°C
- Time (t <sub>L</sub> )	60-150 seconds	60-150 seconds
Peak Temperature(T <sub>P</sub> )	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-323 Dimension**



Style: Pin 1.Cathode 2.Anode

2-Lead SOD-323 Plastic  
 Surface Mounted Package  
 CYStek Package Code: S2

\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060	-	0.15	-
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

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: 42 Alloy ;pure tin plated
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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