

**0.5A surface mount Schottky diode**

# RB0540S2

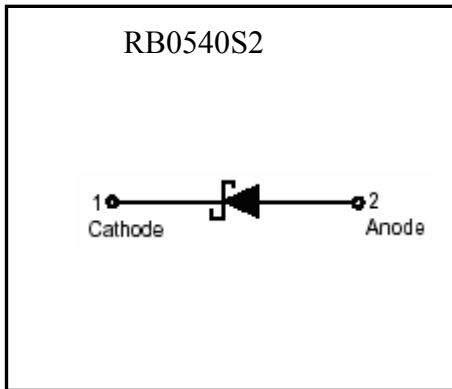
**Features**

- High current capability, low forward voltage drop
- High surge current capability
- Guardring for over voltage protection
- Low power loss, high efficiency
- Ultra high-speed switching
- Low profile surface mounted package in order to minimize board space

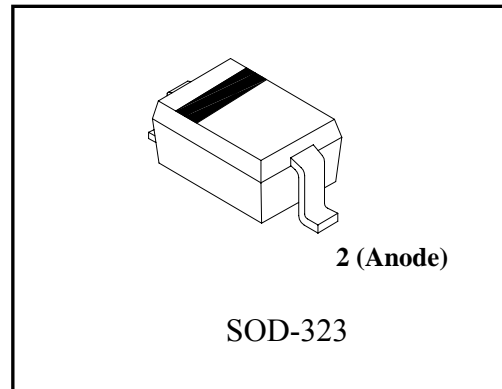
**Mechanical data**

- Case : Molded plastic, SC-76/SOD323
- Epoxy : UL94-V0 rated flame retardant
- Terminals : Plated terminals, solderable per MIL-STD-750 method 2026
- Polarity : Indicated by cathode band
- Mounting position : Any
- Weight : approx. 0.0045 gram

**Symbol**

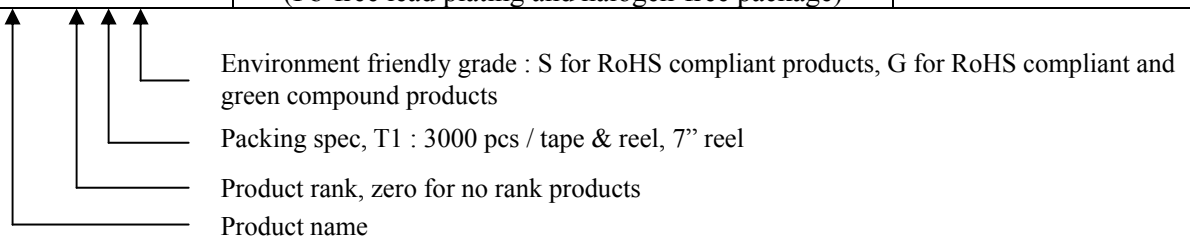


**Outline**



**Ordering Information**

Device	Package	Shipping
RB0540S2-0-T1-G	SOD-323 (Pb-free lead plating and halogen-free package)	3000 pcs / tape & reel





**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

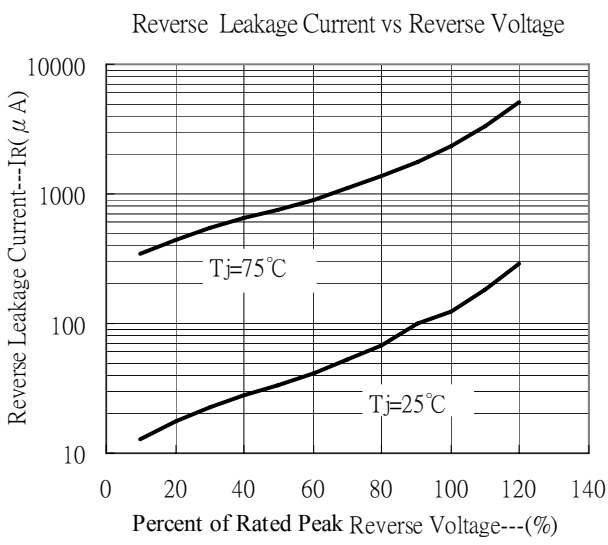
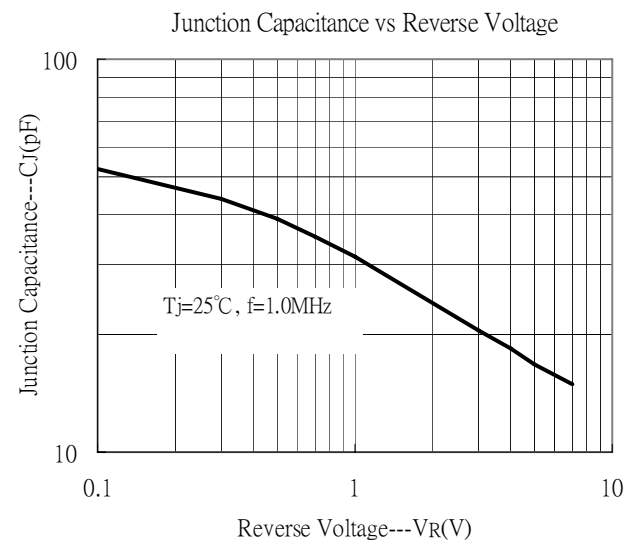
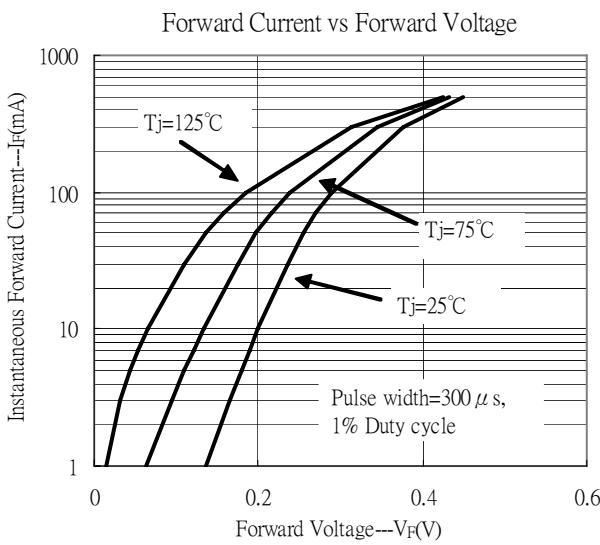
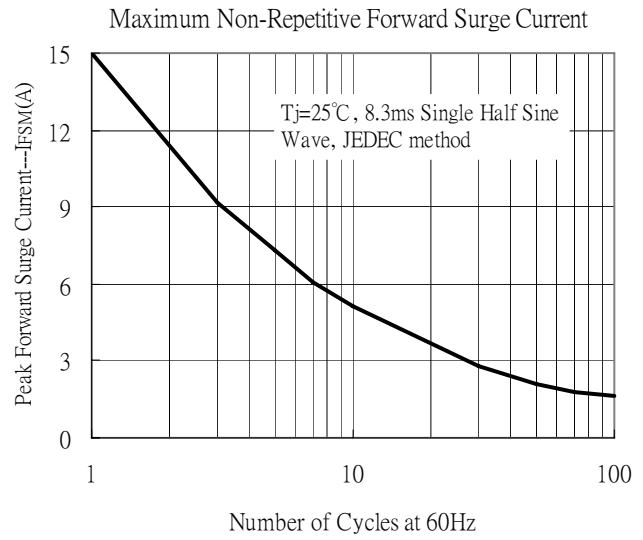
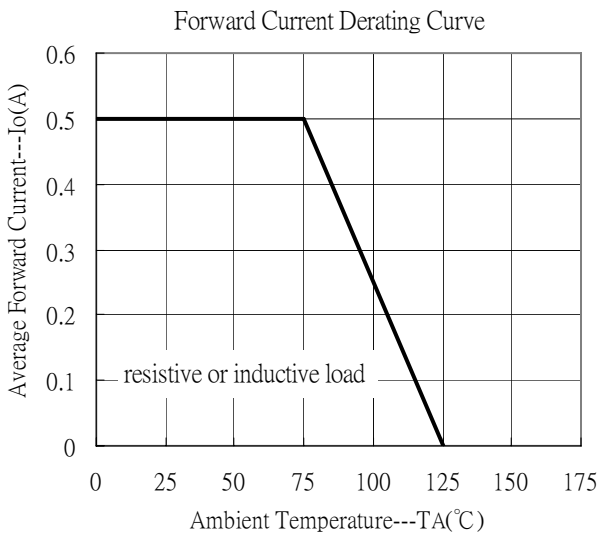
Parameters	Conditions	Symbol	Min	Typ	Max	Units
Repetitive peak reverse voltage		$V_{RRM}$			40	V
RMS voltage		$V_{RMS}$			28	V
Continuous reverse voltage		$V_R$			40	V
Forward rectified current		$I_O$			0.5	A
	Single phase half wave, 60Hz @ $T_J=25^{\circ}\text{C}$	$I_{F(AV)}$			1	
Forward surge current	8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$			15	A
Thermal resistance	Junction to Ambient	$R_{\theta JA}$		90		$^{\circ}\text{C/W}$
Storage temperature range		$T_{stg}$	-65		175	$^{\circ}\text{C}$
Operating junction temperature range		$T_J$	-55		125	$^{\circ}\text{C}$

**Characteristics** ( $T_A=25^{\circ}\text{C}$ )

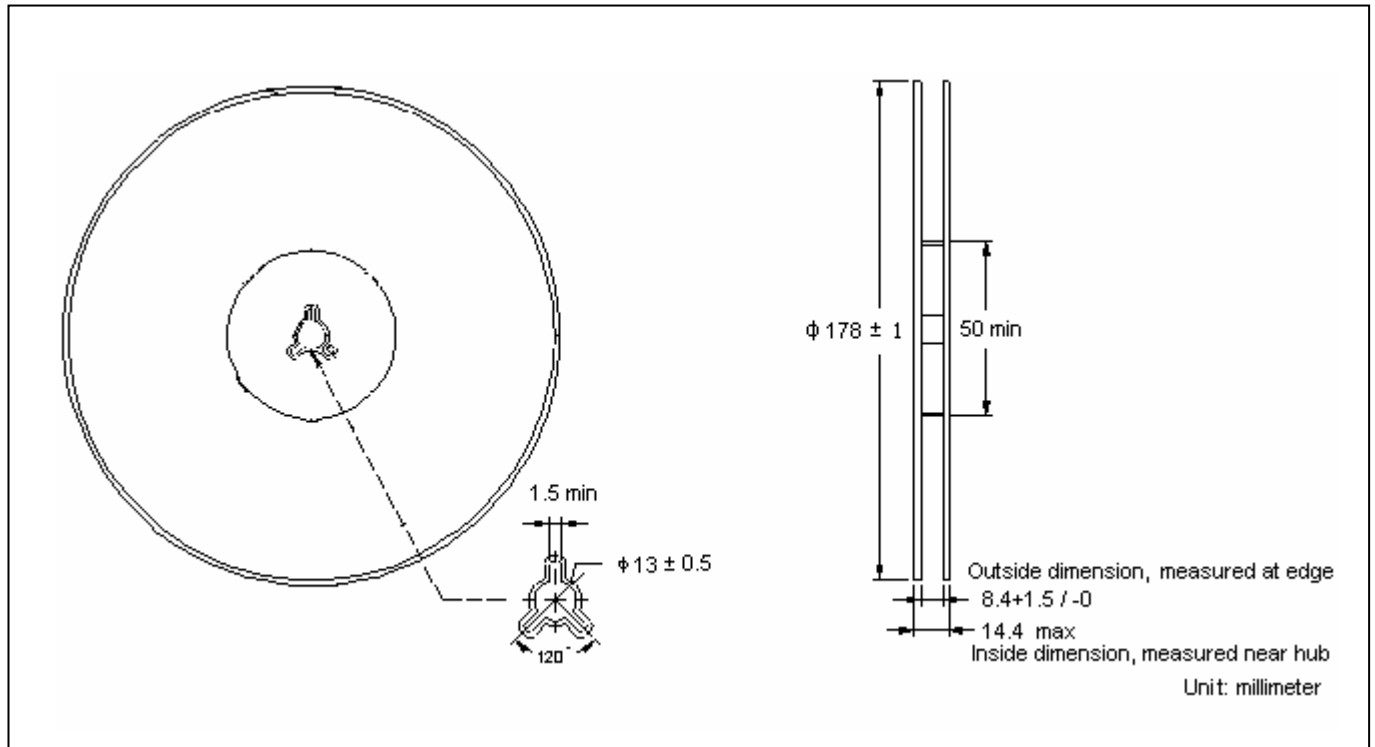
Characteristic	Symbol	Condition	Min.	Typ	Max.	Unit
	$V_R$	$I_R=600\mu\text{A}$	40	-	-	V
Forward Voltage	$V_F 1$	$I_F=100\text{mA}$	-	-	370	mV
	$V_F 2$	$I_F=500\text{mA}$	-	-	500	
Reverse Leakage Current	$I_R 1$	$V_R=20\text{V}$	-	-	100	$\mu\text{A}$
	$I_R 2$	$V_R=40\text{V}$	-	-	500	$\mu\text{A}$
	$I_R 3$	$V_R=40\text{V}, T_A=75^{\circ}\text{C}$	-	-	10	mA
Capacitance Between Terminals	$C_T$	$V_R=4\text{V}, f=1\text{MHz}$	-	18.3	-	pF



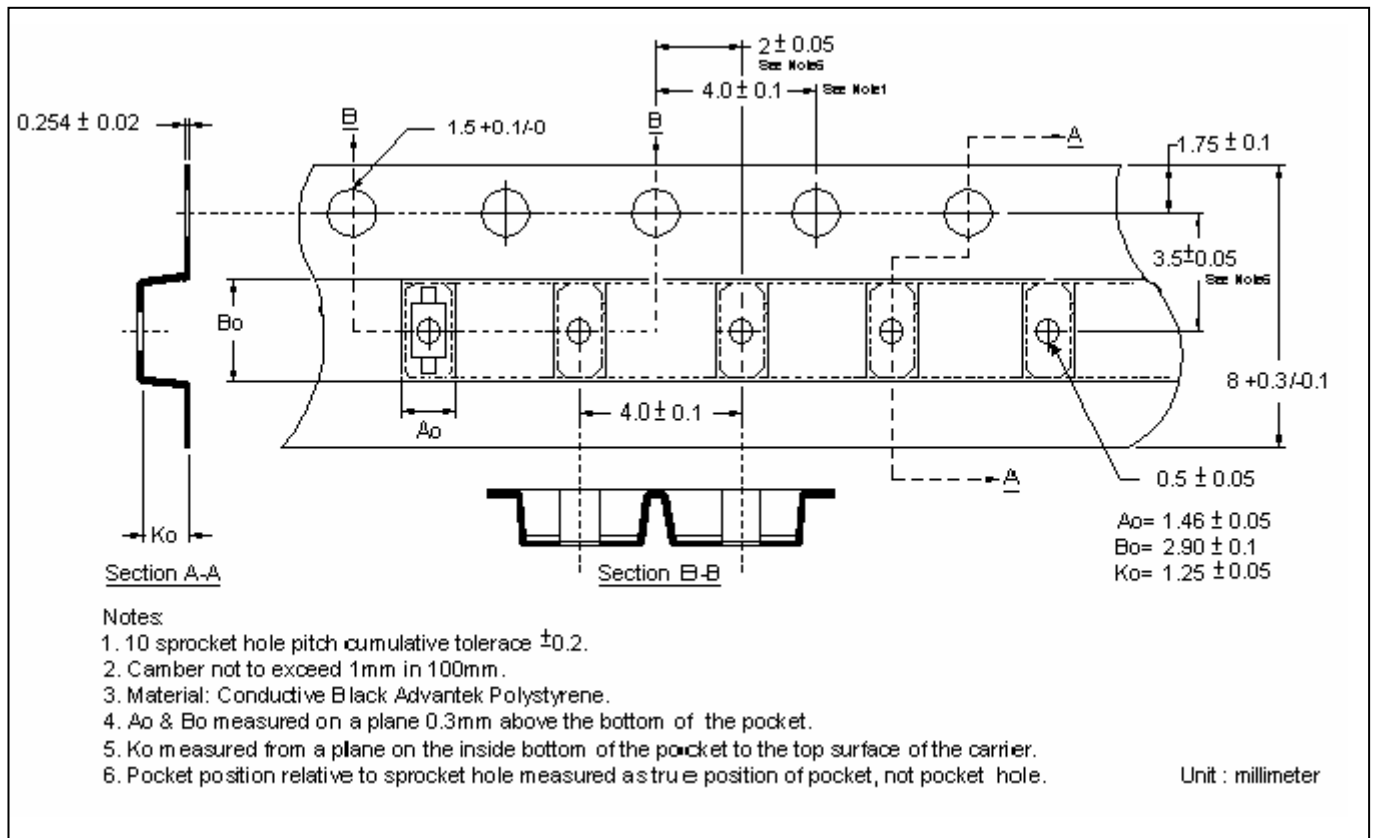
### Characteristic Curves



**Reel Dimension**



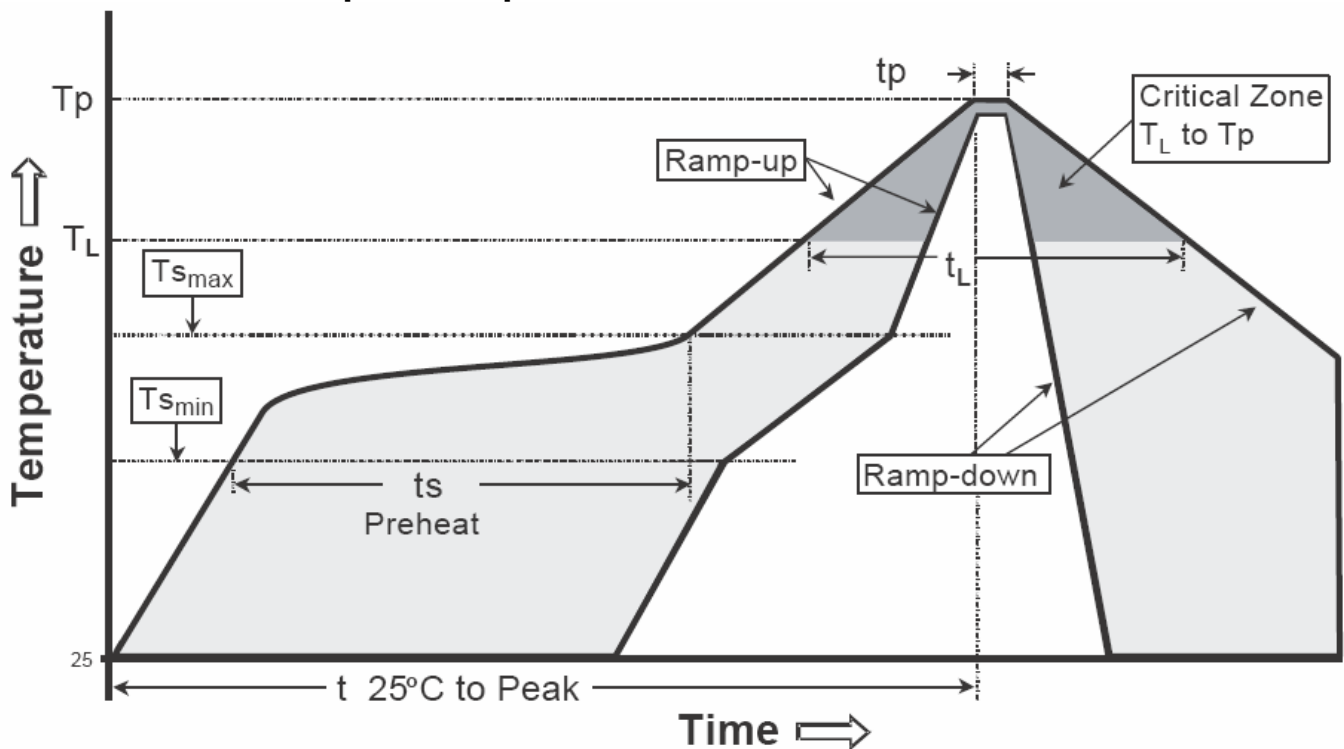
**Carrier Tape Dimension**



**Recommended wave soldering condition**

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

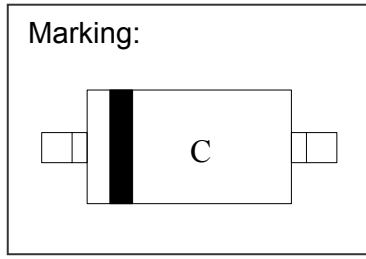
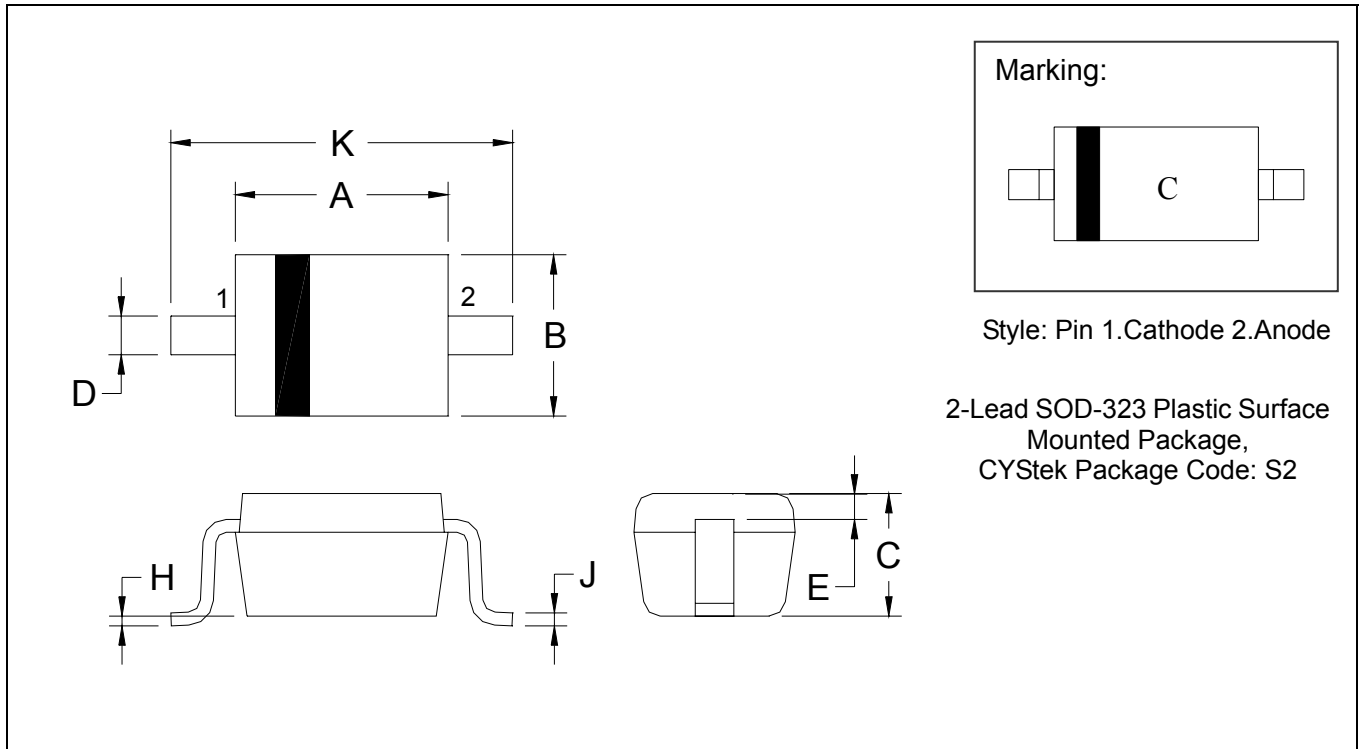
**Recommended temperature profile for IR reflow**



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T <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 REF		0.15 REF	
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: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0.

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