

**Small Signal Schottky diode**

# RB521S-40C2

**Description**

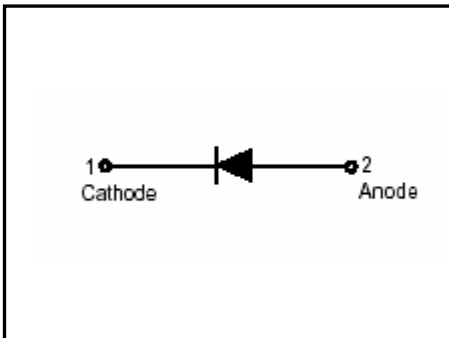
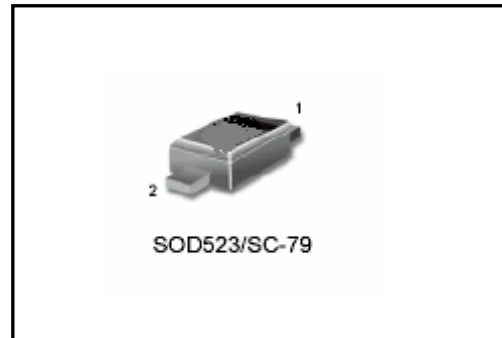
Planar silicon Schottky barrier diode encapsulated in a SOD-523 plastic SMD package.

**Features**

- Extremely small surface mounting type.(SC-79/SOD523)
- $I_O=200\text{mA}$  guaranteed despite the size.
- Low  $V_F$ .( $V_F=0.4\text{V}$  typ. at 200mA)

**Applications**

Low current rectification and high speed switching

**Symbol****Outline****Absolute Maximum Ratings**

- Maximum Temperatures
  - Storage Temperature  $T_{stg}$ ..... -45~+125°C
  - Junction Temperature  $T_j$ ..... +125°C
- Maximum Voltages and Currents ( $T_a=25^\circ\text{C}$ )
  - DC Reverse Voltage  $V_R$  ..... 40 V
  - Mean Rectifying Current  $I_F$  ..... 200 mA
  - Peak Forward Surge Current  $I_{FSM}$ ..... 1 A

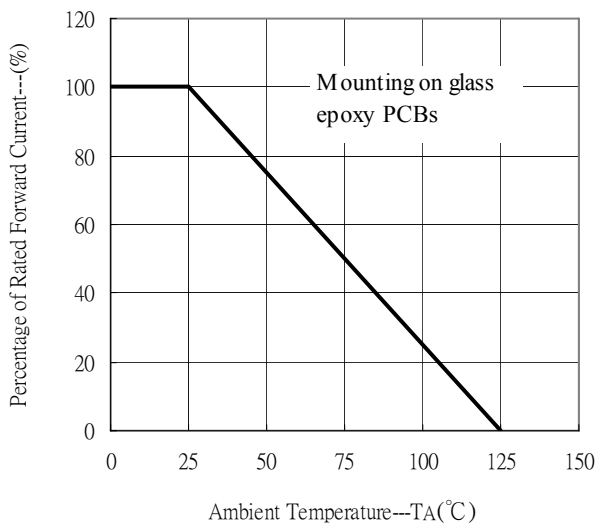


**Characteristics (Ta=25°C)**

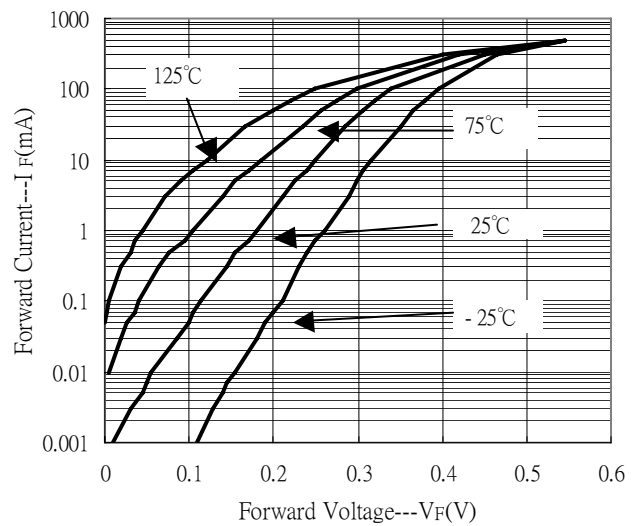
Characteristic	Symbol	Condition	Min.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =200mA	-	500	mV
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =10V	-	30	μA

**Characteristic Curves**

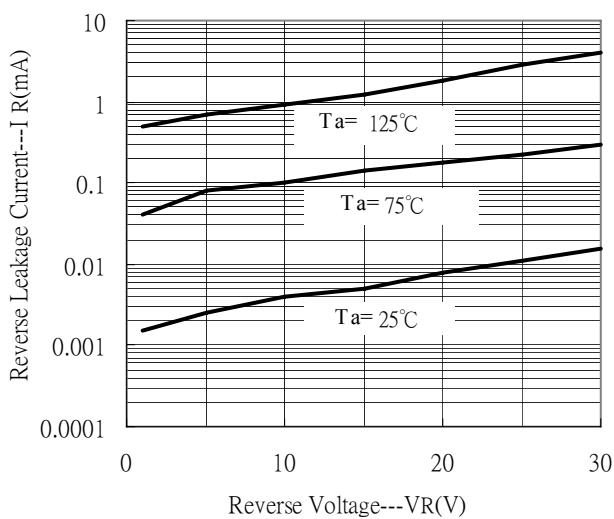
Forward Current Derating Curve



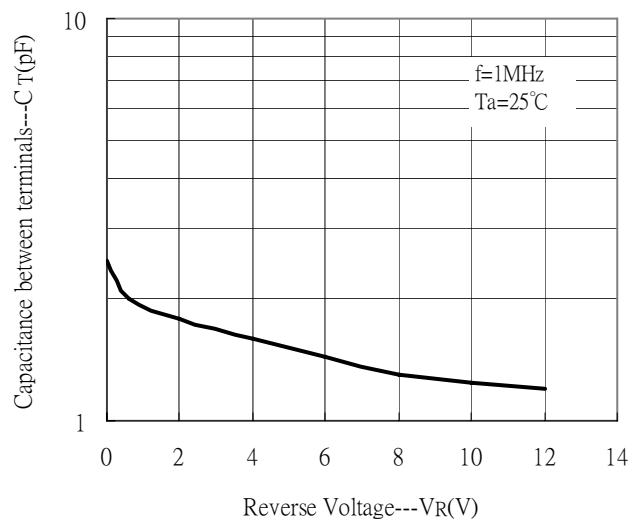
Forward Current vs Forward Voltage



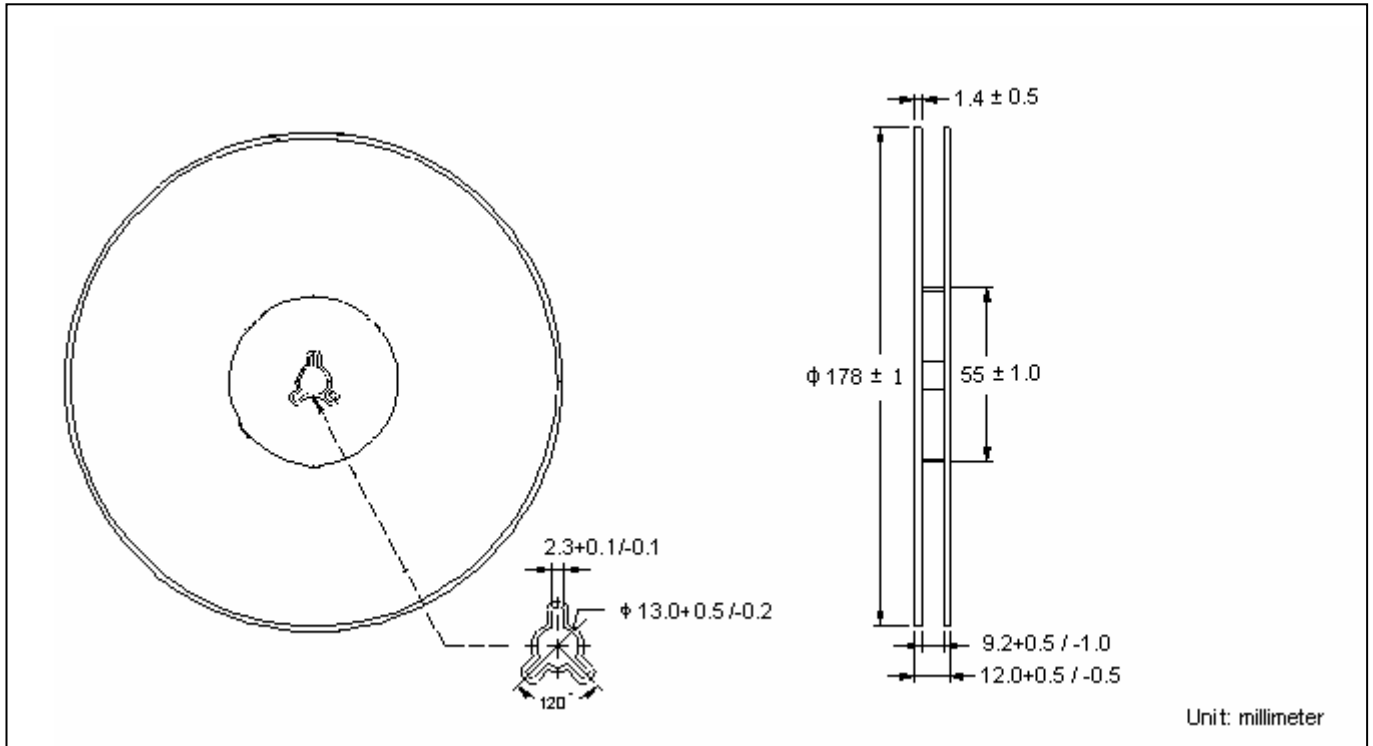
Reverse Leakage Current vs Reverse Voltage



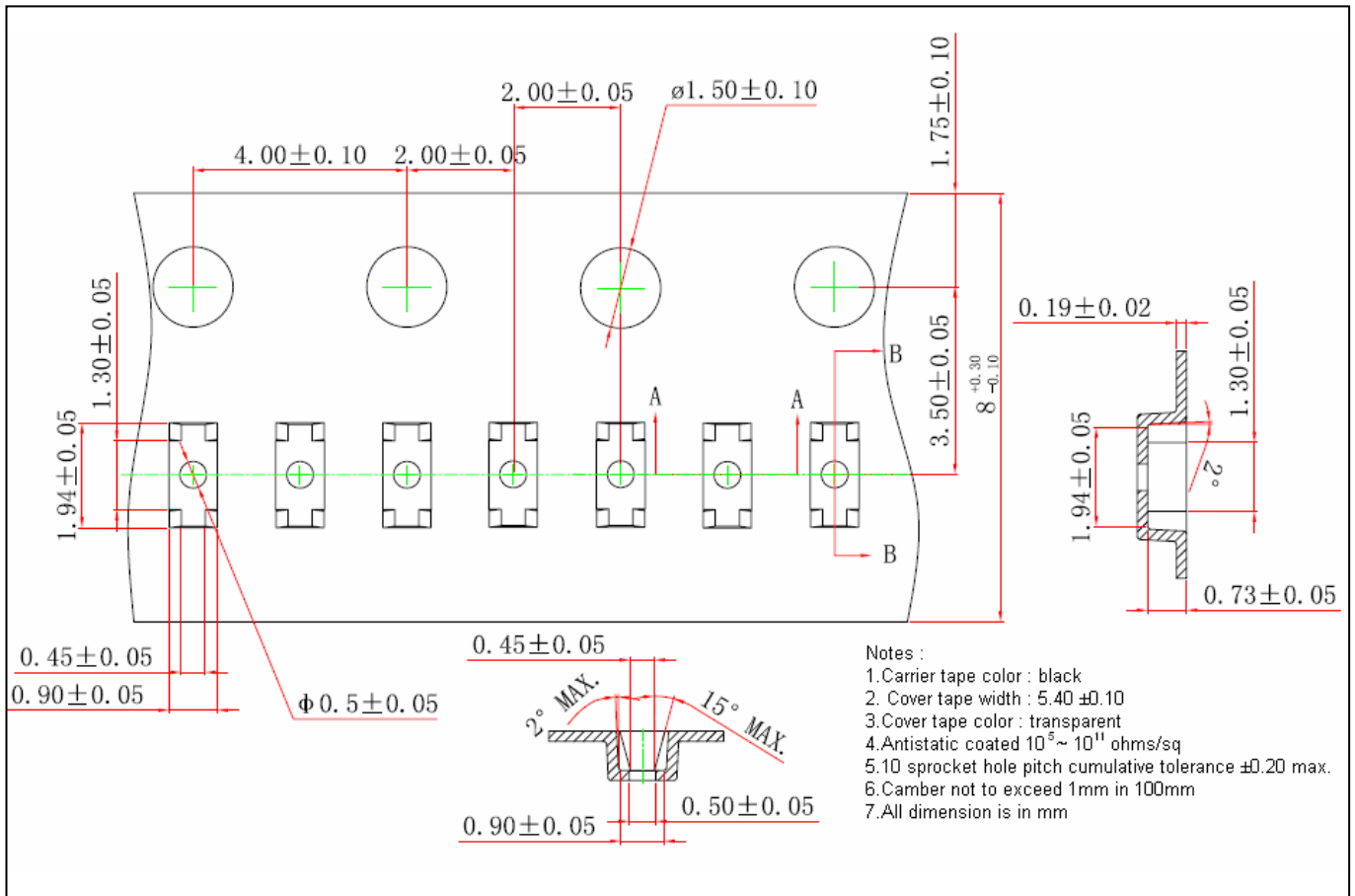
Capacitance vs Reverse Voltage



**Reel Dimension**



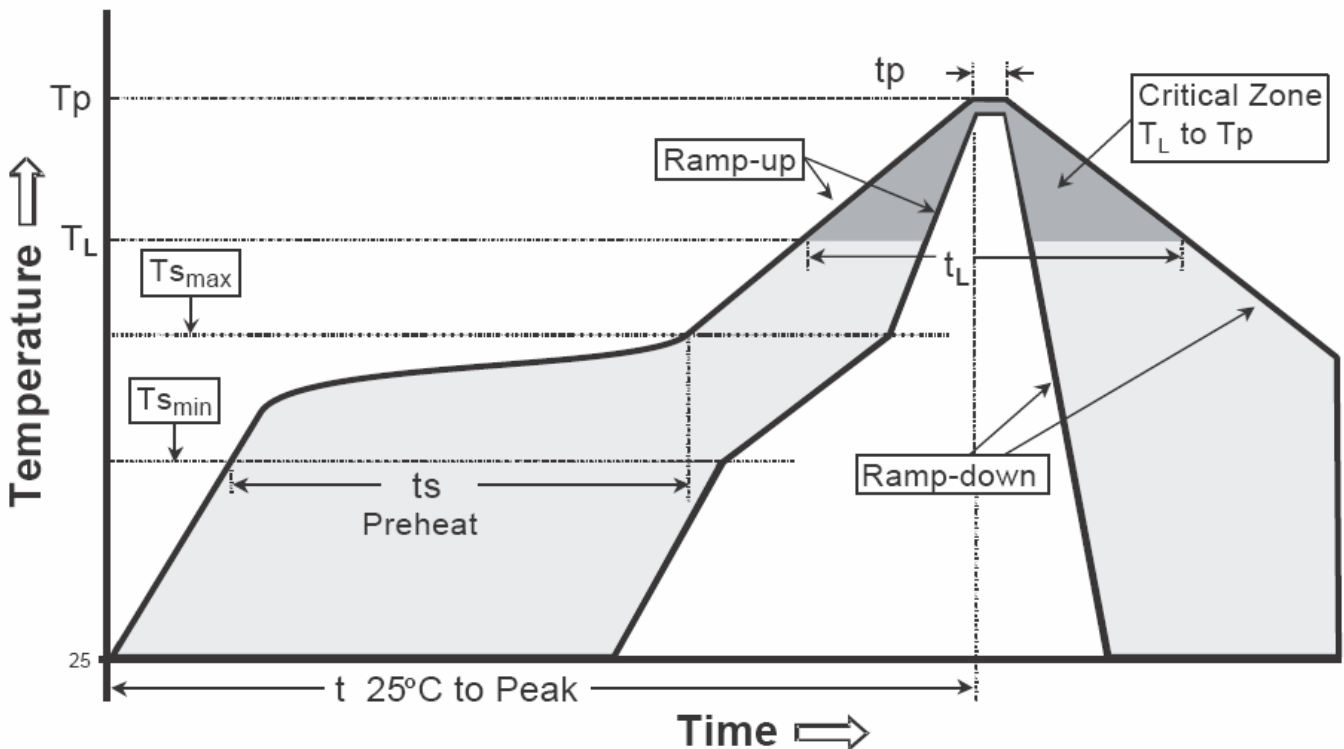
**Carrier Tape Dimension**



**Recommended wave soldering condition**

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

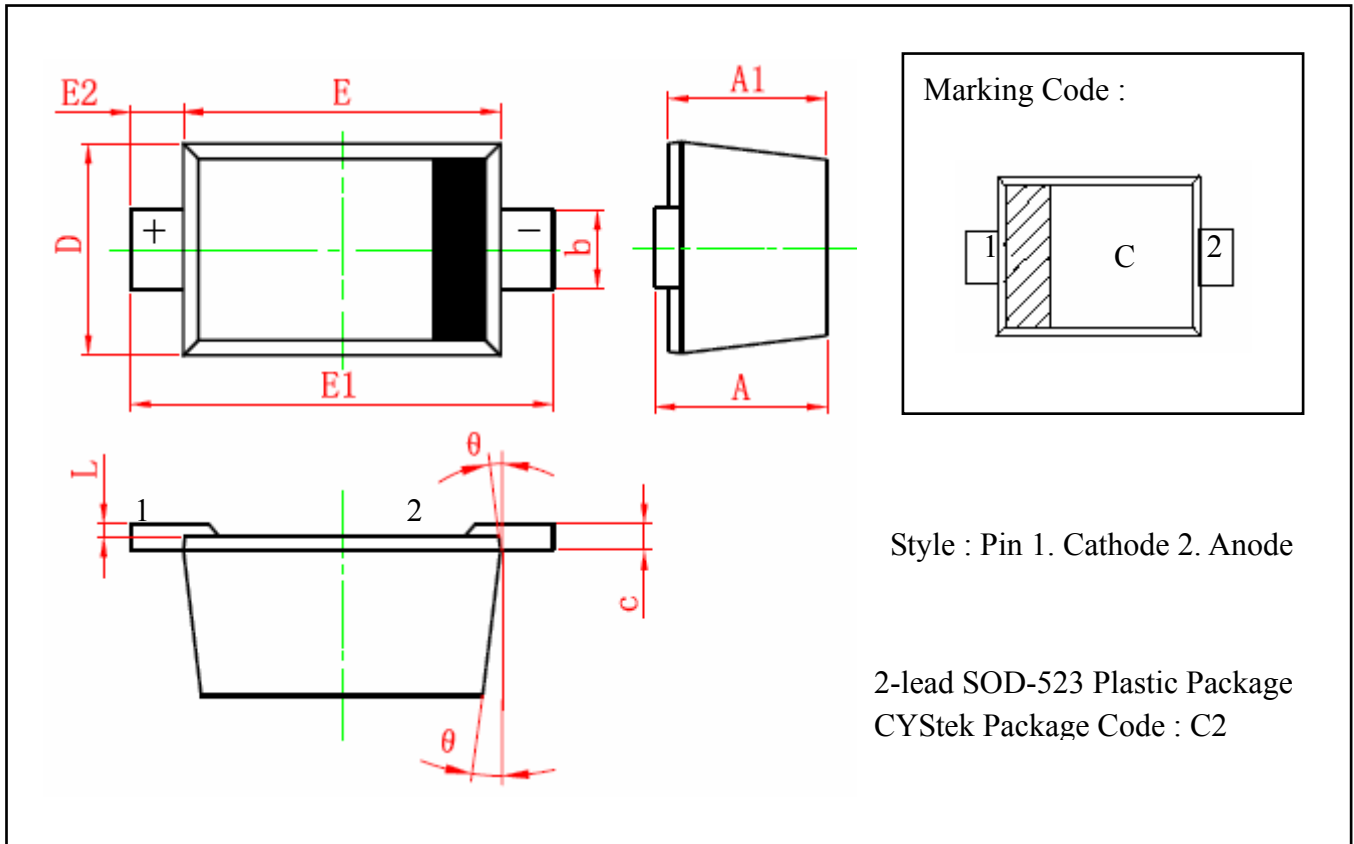
**Recommended temperature profile for IR reflow**



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-523 Dimension**



\*: Typical

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.510	0.770	0.020	0.031	E	1.100	1.300	0.043	0.051
A1	0.500	0.700	0.020	0.028	E1	1.500	1.700	0.059	0.067
b	0.250	0.350	0.010	0.014	E2	0.200	REF	0.008	REF
c	0.080	0.150	0.003	0.006	L	0.010	0.070	0.001	0.003
D	0.750	0.850	0.030	0.033	$\theta$	7° REF		7° REF	

Notes: 1.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 2.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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