

Small Signal Schottky diode

RB751S-40C2

Description

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

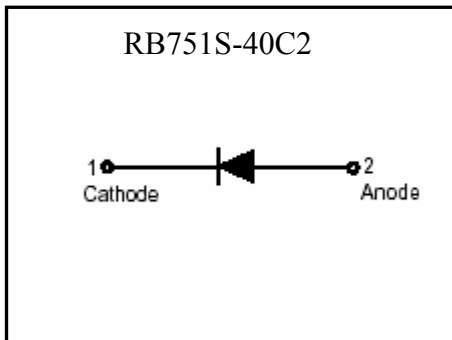
Features

- Extremely small surface mounting type.(SC-79/SOD523)
- Low reverse current and low forward voltage
- High reliability

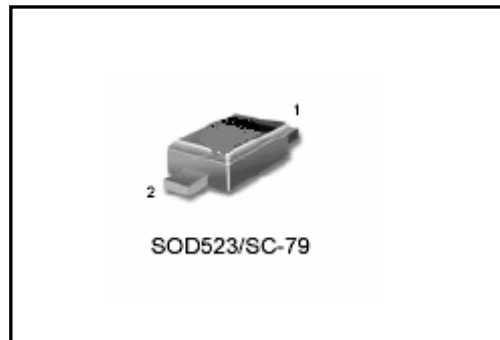
Applications

Low current rectification and high speed switching

Symbol

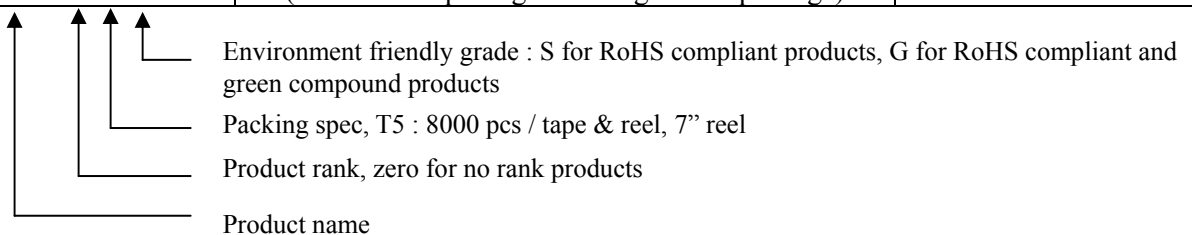


Outline



Ordering Information

Device	Package	Shipping
RB751S-40C2-0-T5-G	SOD-523 (Pb-free lead plating and halogen-free package)	8000 pcs / tape & reel





Absolute Maximum Ratings

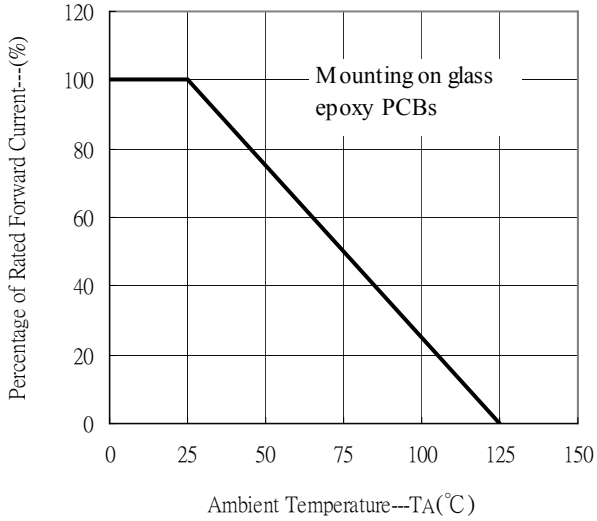
- Maximum Temperatures
 - Storage Temperature T_{stg} -45~+125°C
 - Junction Temperature T_j +125°C
- Maximum Voltages and Currents ($T_a=25^\circ\text{C}$)
 - Peak Reverse Voltage V_{RM} 40 V
 - DC Reverse Voltage V_R 30 V
 - Mean Rectifying Current I_F 30 mA
 - Peak Forward Surge Current I_{FSM}200 mA

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

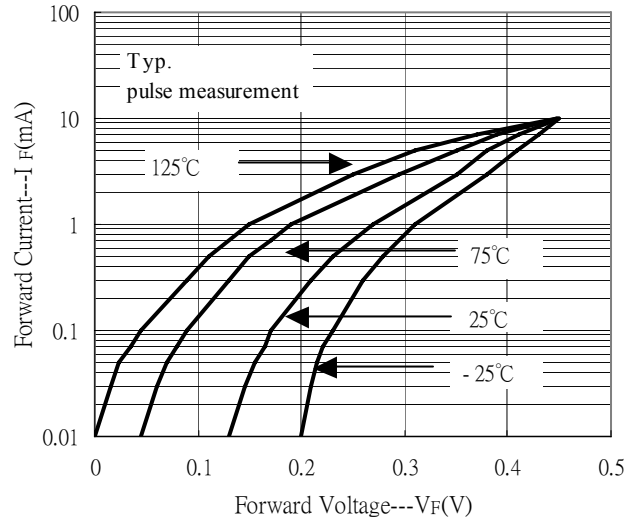
Characteristic	Symbol	Condition	Min.	Typ	Max.	Unit
Forward Voltage	V_F	$I_F=1\text{mA}$	-	-	370	mV
Reverse Leakage Current	I_R	$V_R=30\text{V}$	-	-	0.5	μA
Capacitance Between Terminals	C_T	$V_R=1\text{V}, f=1\text{MHz}$	-	2	-	pF

Characteristic Curves

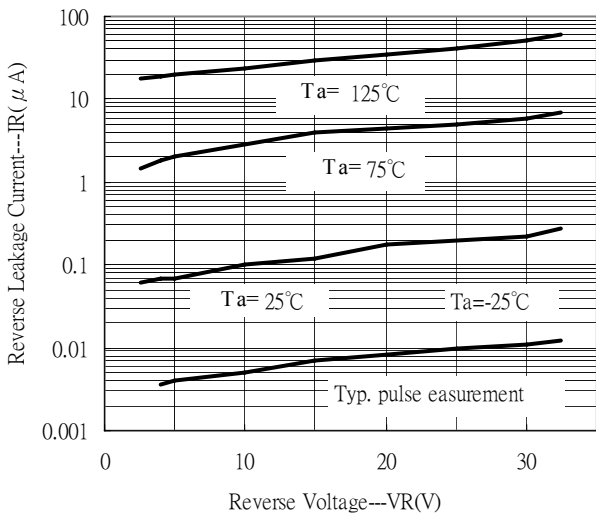
Forward Current Derating Curve



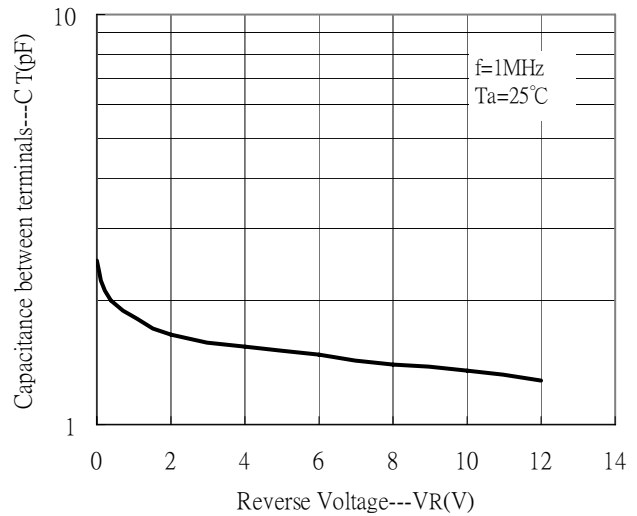
Forward Current vs Forward Voltage



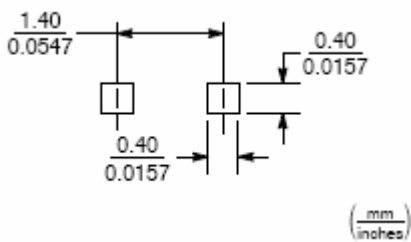
Reverse Leakage Current vs Reverse Voltage



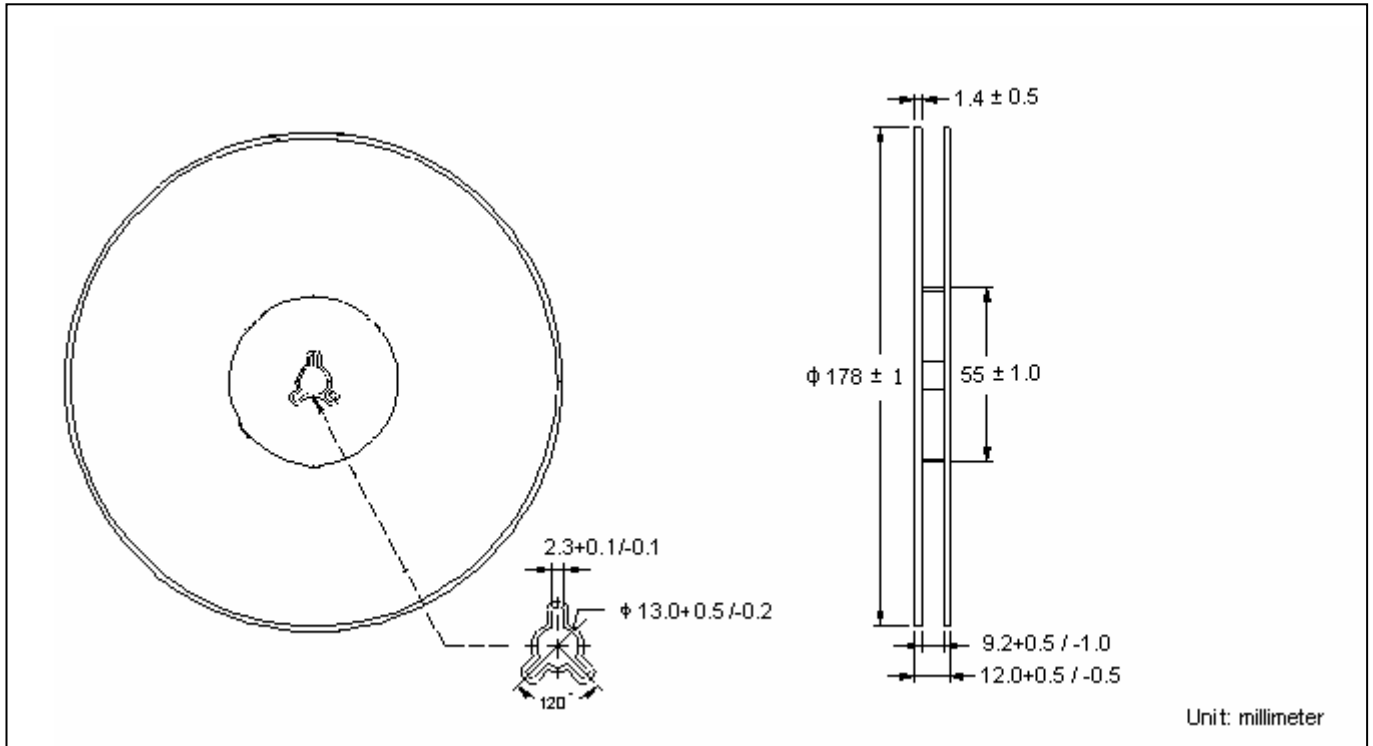
Capacitance vs Reverse Voltage



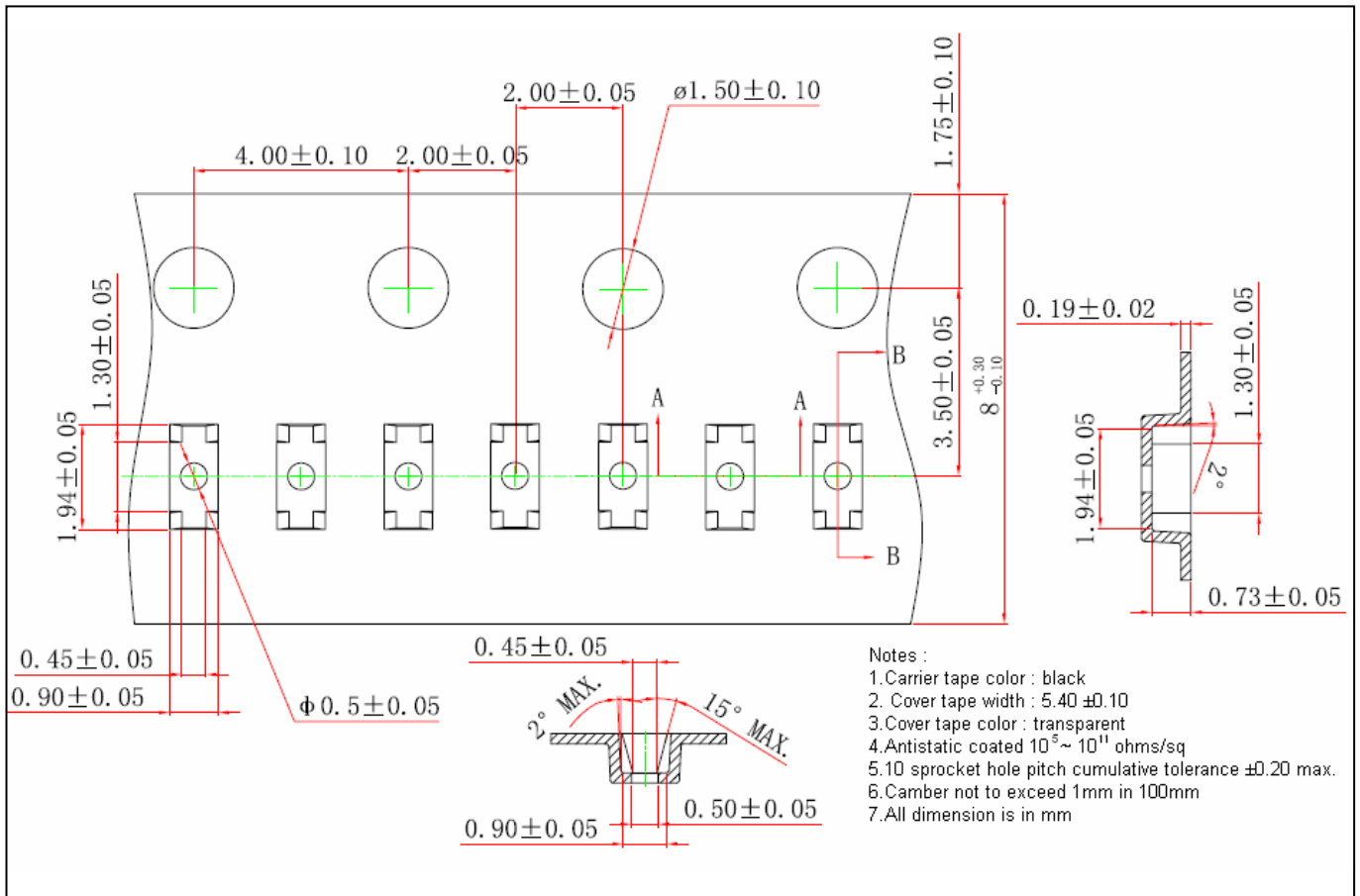
Recommended Footprint



Reel Dimension



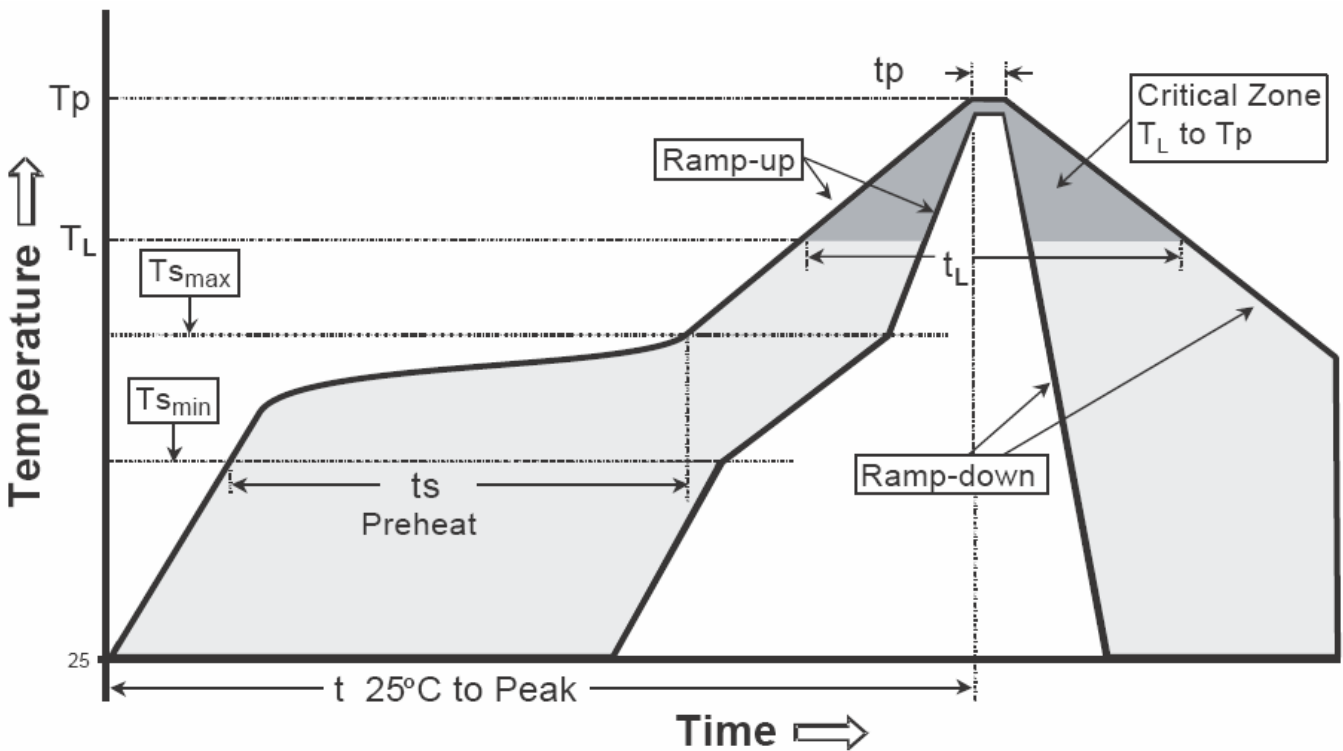
Carrier Tape Dimension



Recommended wave soldering condition

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

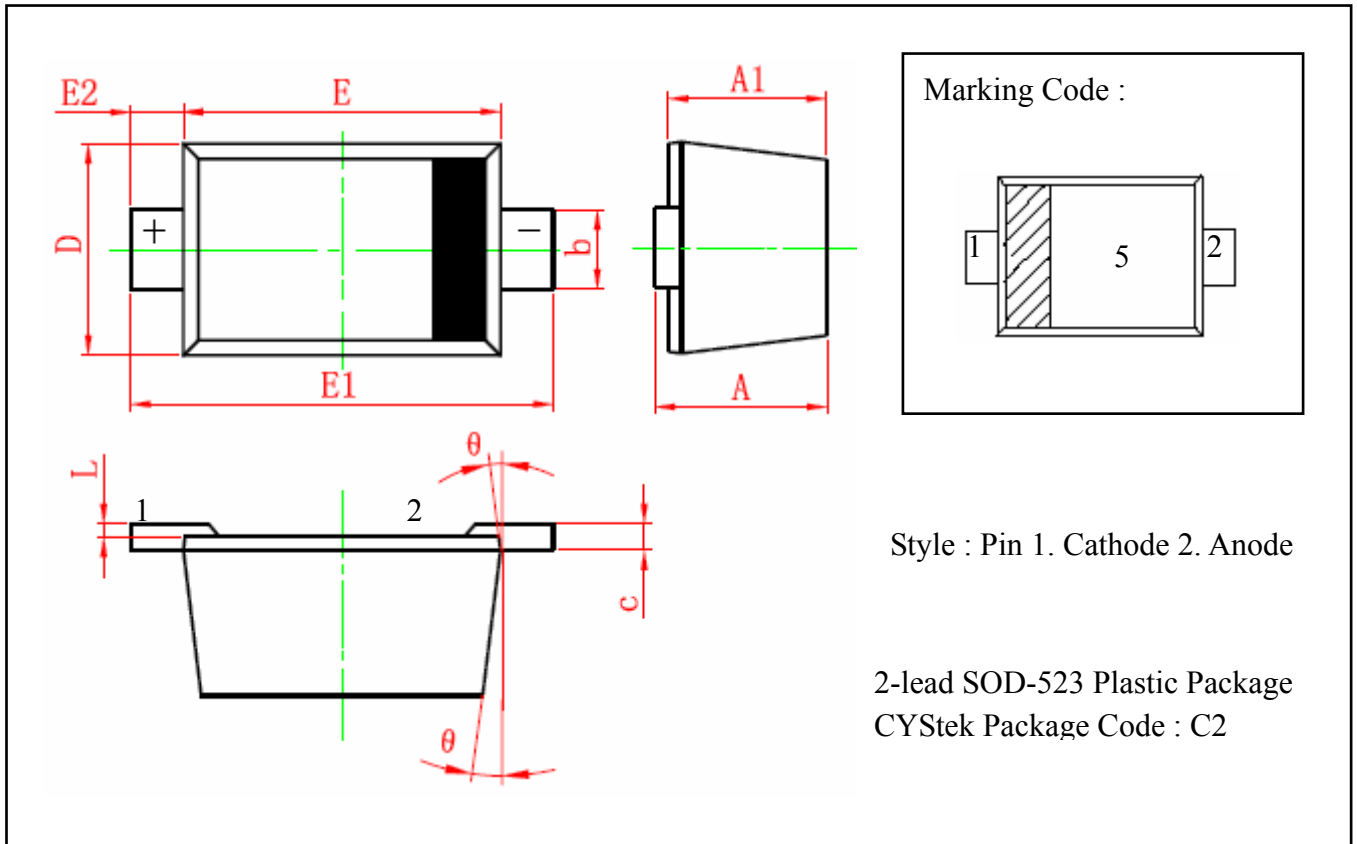
Recommended temperature profile for IR reflow



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-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	θ	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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