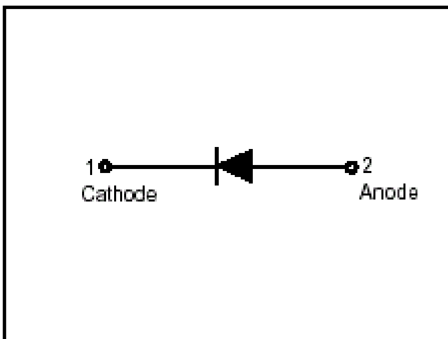
High Speed Switching diode

1SS400C2

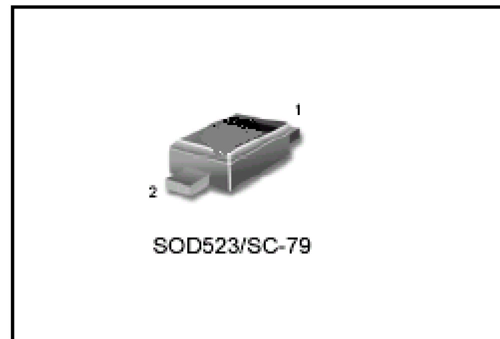
Features

- Extremely small surface mounting type.(SC-79/SOD523)
- High speed switching applications
- Low reverse current

Symbol

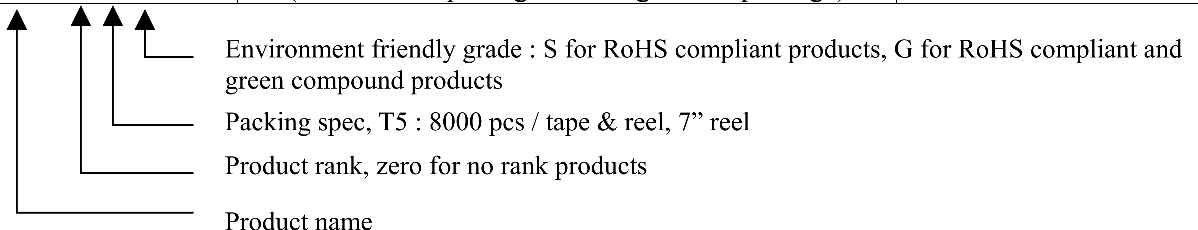


Outline



Ordering Information

Device	Package	Shipping
1SS400C2-0-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} .... -55~+150°C
  Junction Temperature T_j .... +150°C
- Maximum Voltages and Currents (Ta=25°C)
  DC Reverse Voltage V_R .... 100 V
  Mean Rectifying Current I_F 200mA
  Peak Forward Surge Current I_{FSM} 500mA

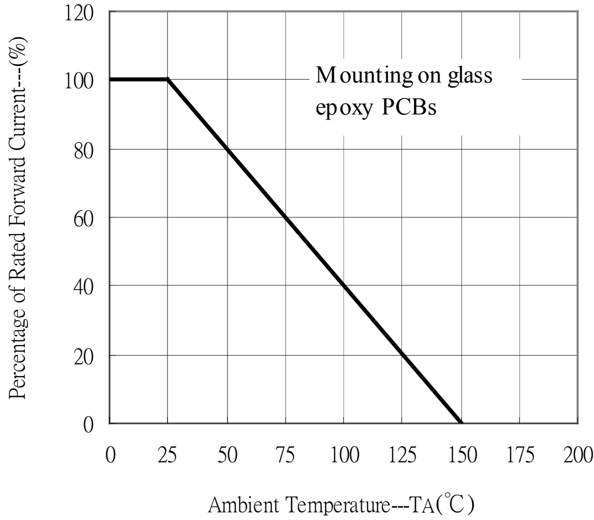
- Thermal Characteristics
  Total Device Dissipation @ T_A=25°C (Note) P_D 200mW
  Thermal Resistance, Junction to Ambient $R_{\theta JA}$ .... 625°C/W

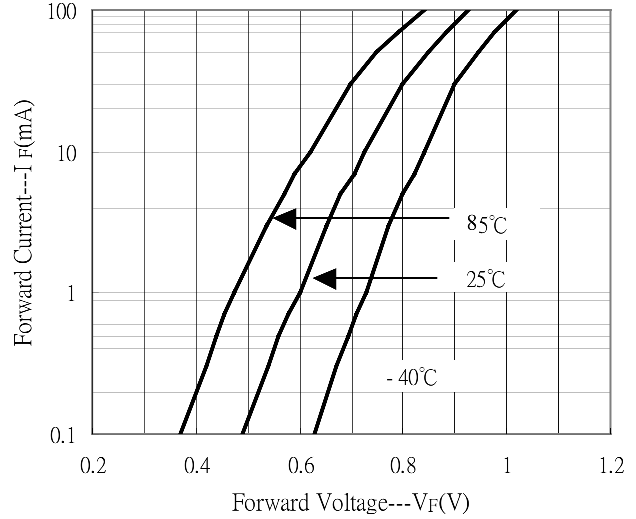
Note: FR-5 board minimum pad.

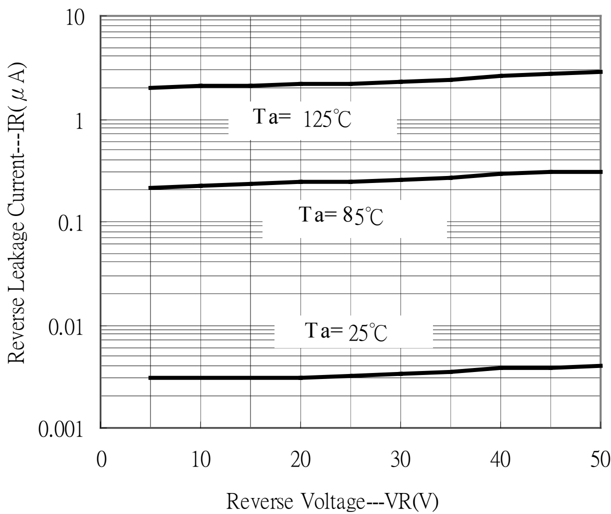
Characteristics (Ta=25°C)

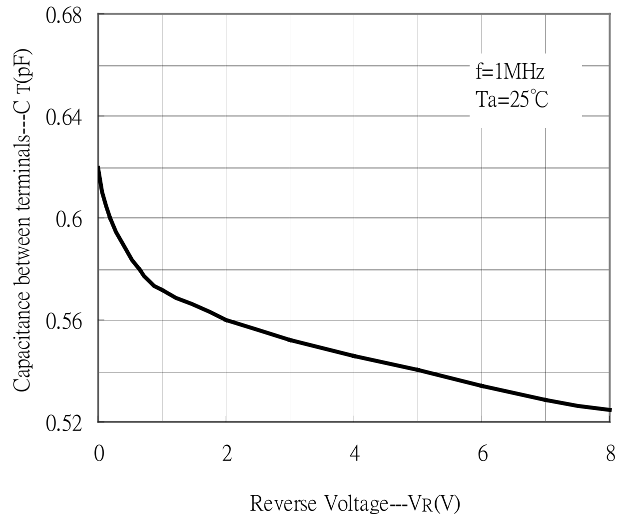
Characteristic	Symbol	Condition	Min.	Max.	Unit
Forward Voltage	V_F	I_F=100mA	-	1.2	V
Reverse Leakage Current	I_R	V_R=100V	-	0.1	μA
Diode Capacitance	C_D	V_R=0.5V, f=1MHz	-	3	pF
Reverse Recovery Time	trr	I_F=I_R=10mA	-	4	ns

Typical Characteristics

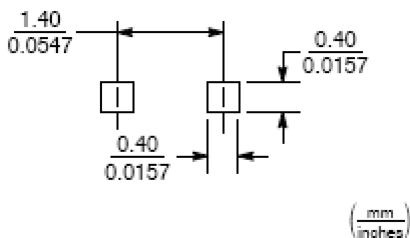




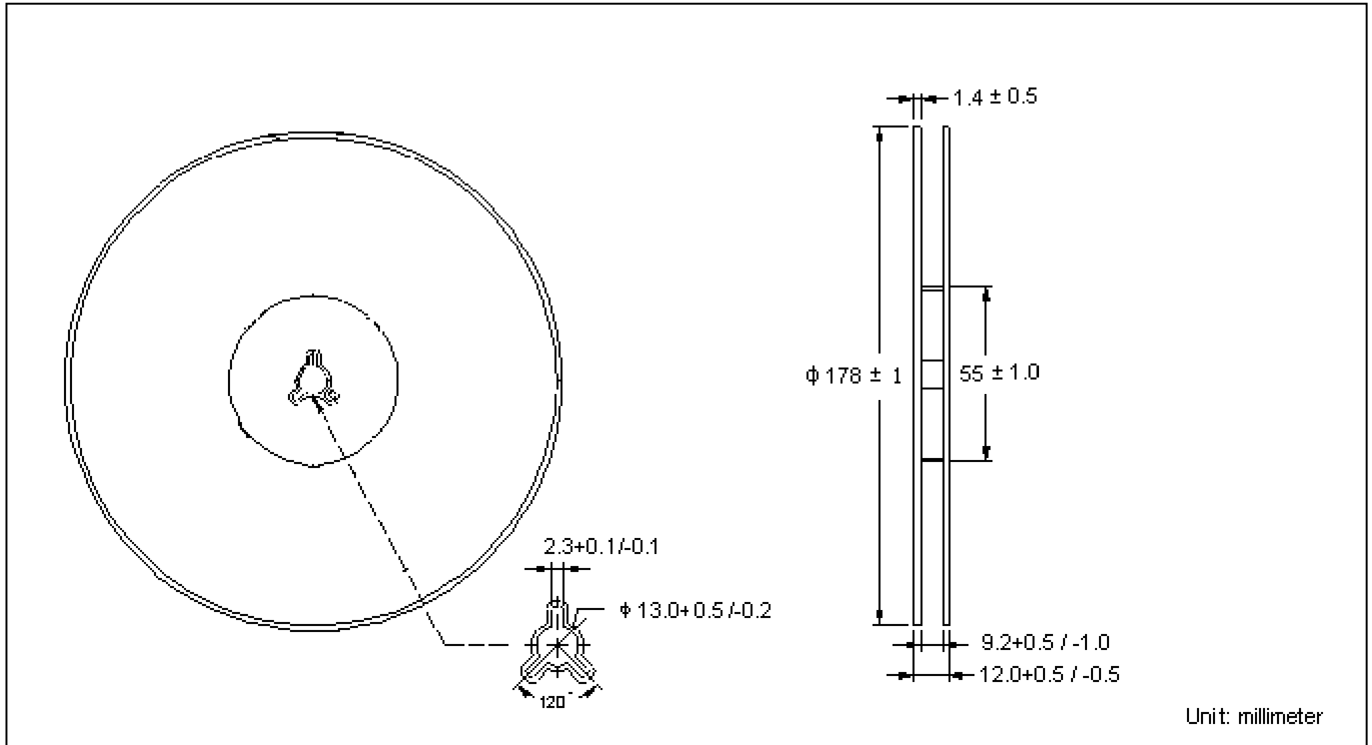




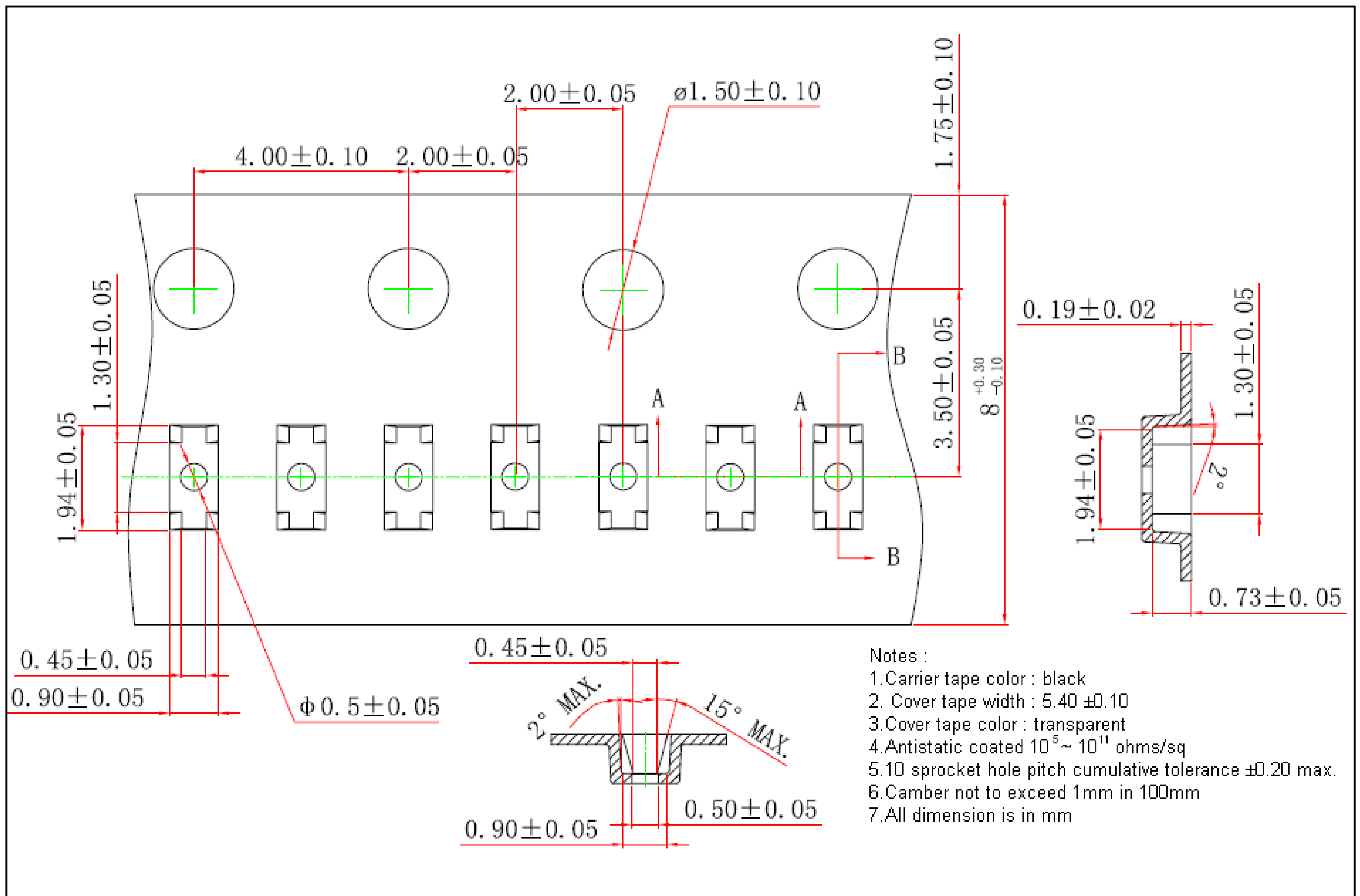
Recommended Footprint



Reel Dimension



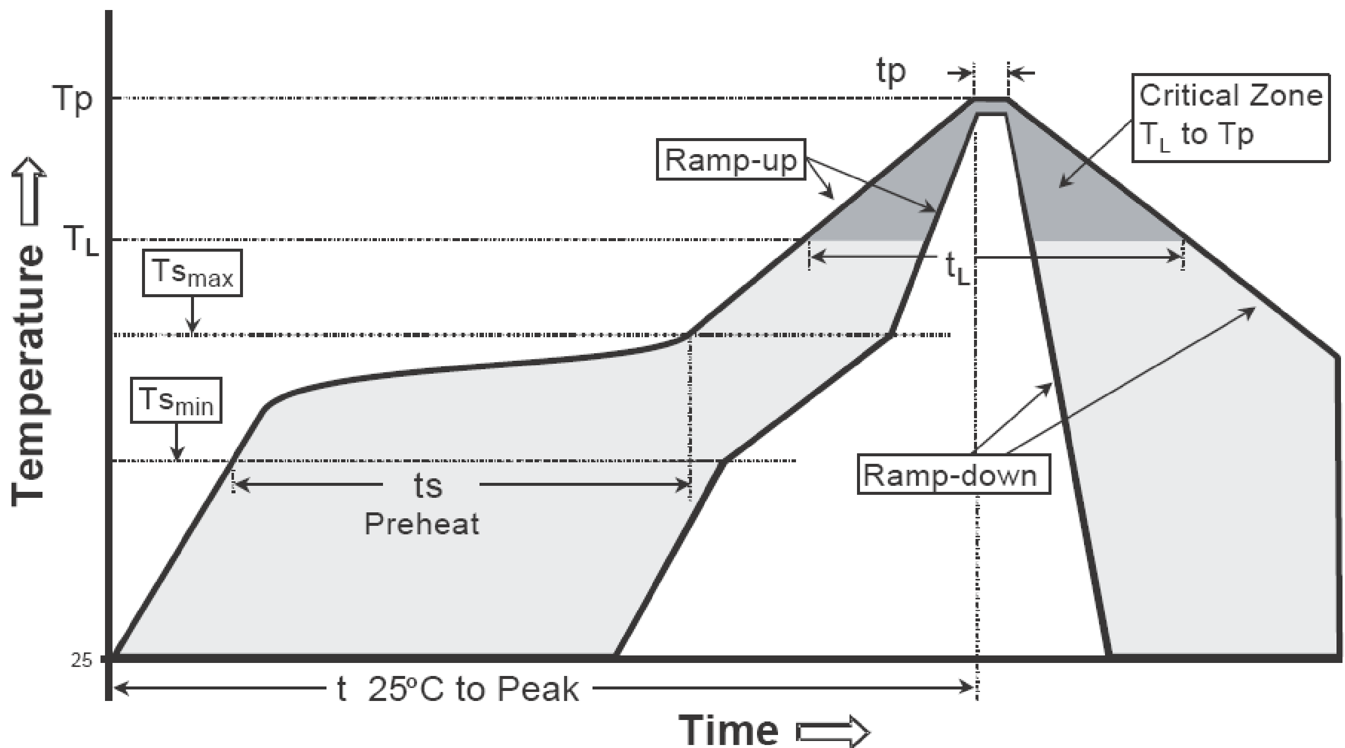
Carrier Tape Dimension



Recommended wave soldering condition

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

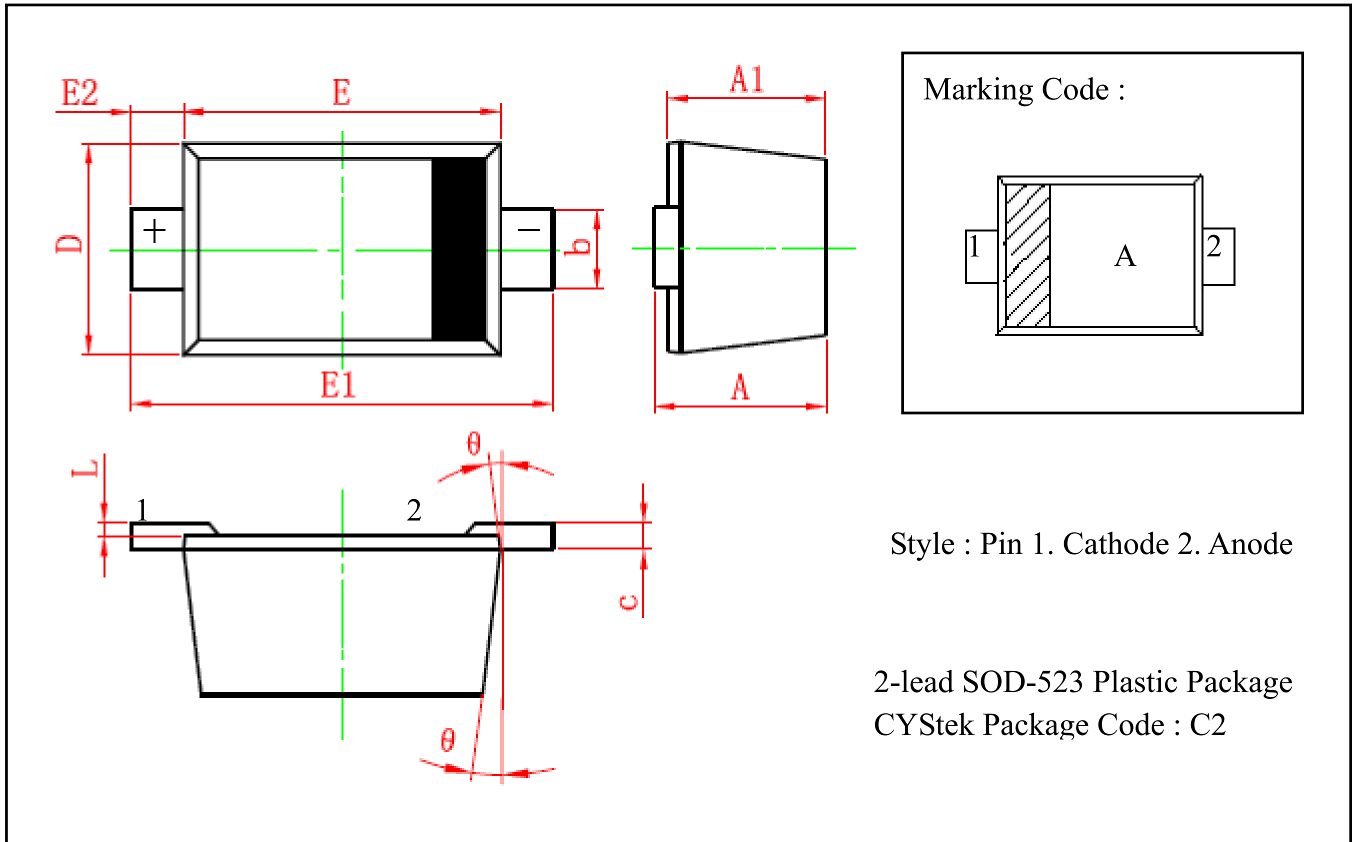
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time(t_S min to t_S max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	183°C 60-150 seconds	217°C 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.	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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