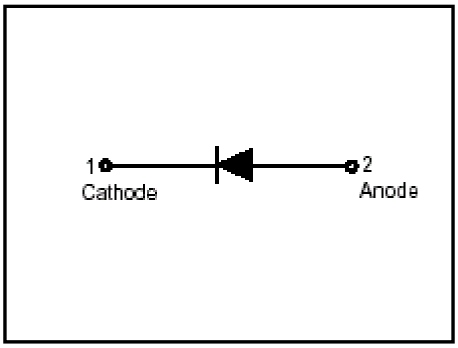
High Speed Switching diode

1SS400C2

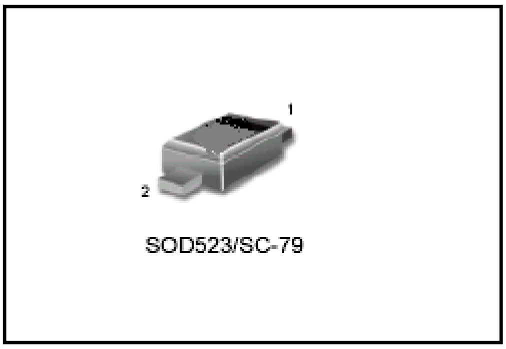
Features

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

Symbol

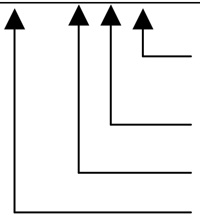


Outline



Ordering Information

Device	Package	Shipping
1SS400C2-0-T5-G	SOD-523 (Pb-free lead plating and halogen-free package)	8000 pcs / tape & reel



Environment friendly grade : S for RoHS compliant products, G for RoHS compliant and green compound products

Packing spec, T5 : 8000 pcs / tape & reel, 7” reel

Product rank, zero for no rank products

Product name

Absolute Maximum Ratings

- Maximum Temperatures
  Storage Temperature Tstg.................................... -55~+150°C
  Junction Temperature Tj .... +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

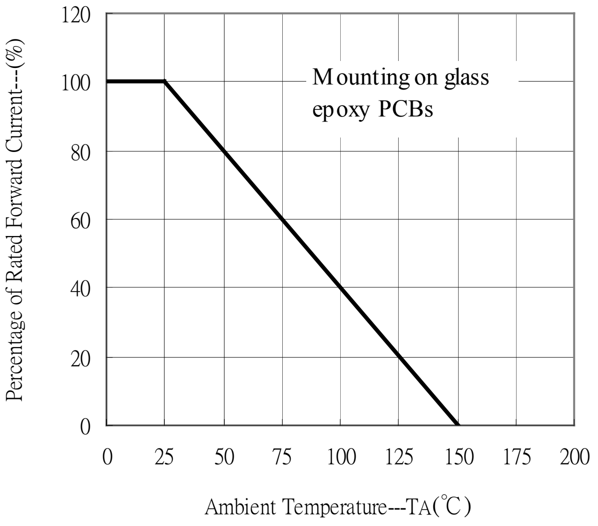
Note: FR-5 board minimum pad.

Characteristics (Ta=25°C)

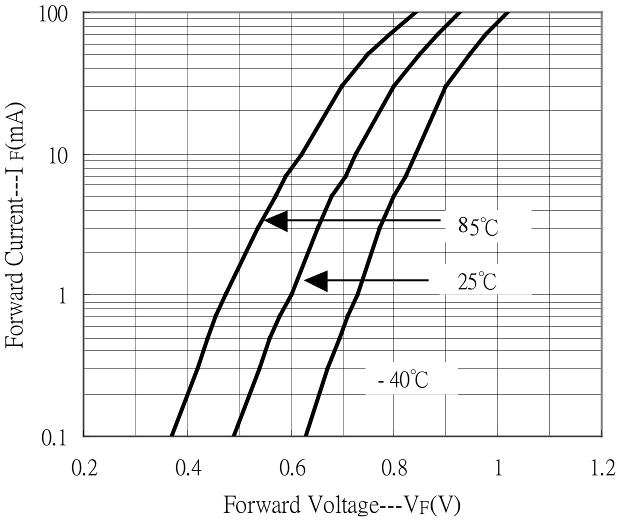
Characteristic	Symbol	Condition	Min.	Max.	Unit
Forward Voltage	V_F	I_F=100mA	-	1.2	V
Reverse Leakage Current	I_R	V_R=100V	-	0.1	μA
Diode Capacitance	C_D	V_R=0.5V, f=1MHz	-	3	pF
Reverse Recovery Time	trr	I_F=I_R=10mA	-	4	ns

Typical Characteristics

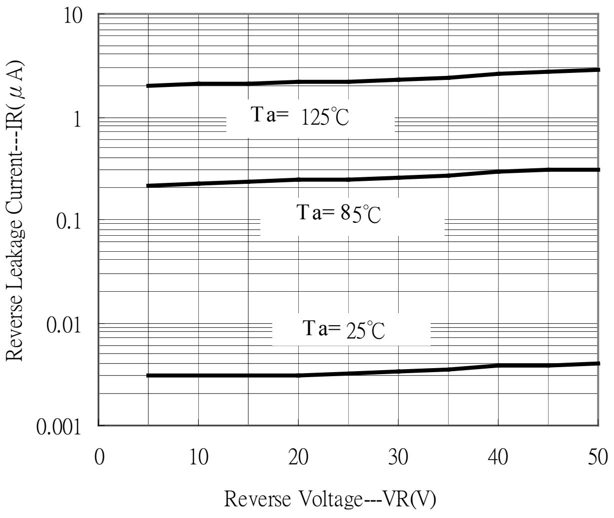
Forward Current Derating Curve



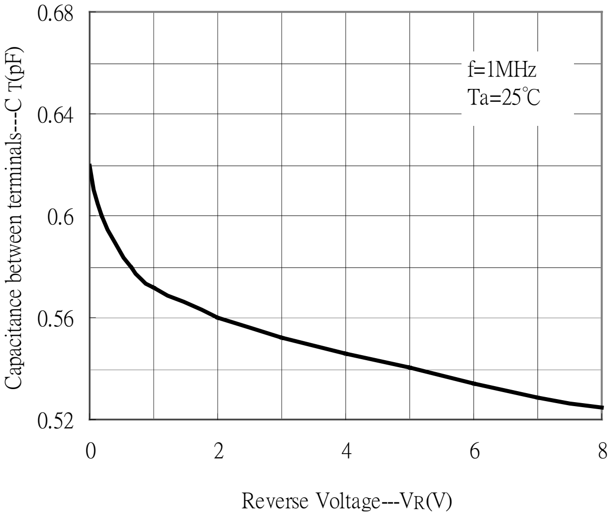
Forward Current vs Forward Voltage



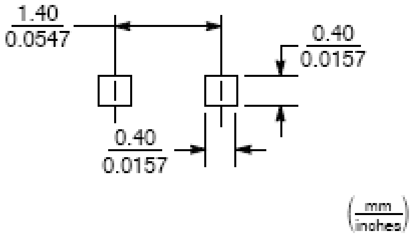
Reverse Leakage Current vs Reverse Voltage



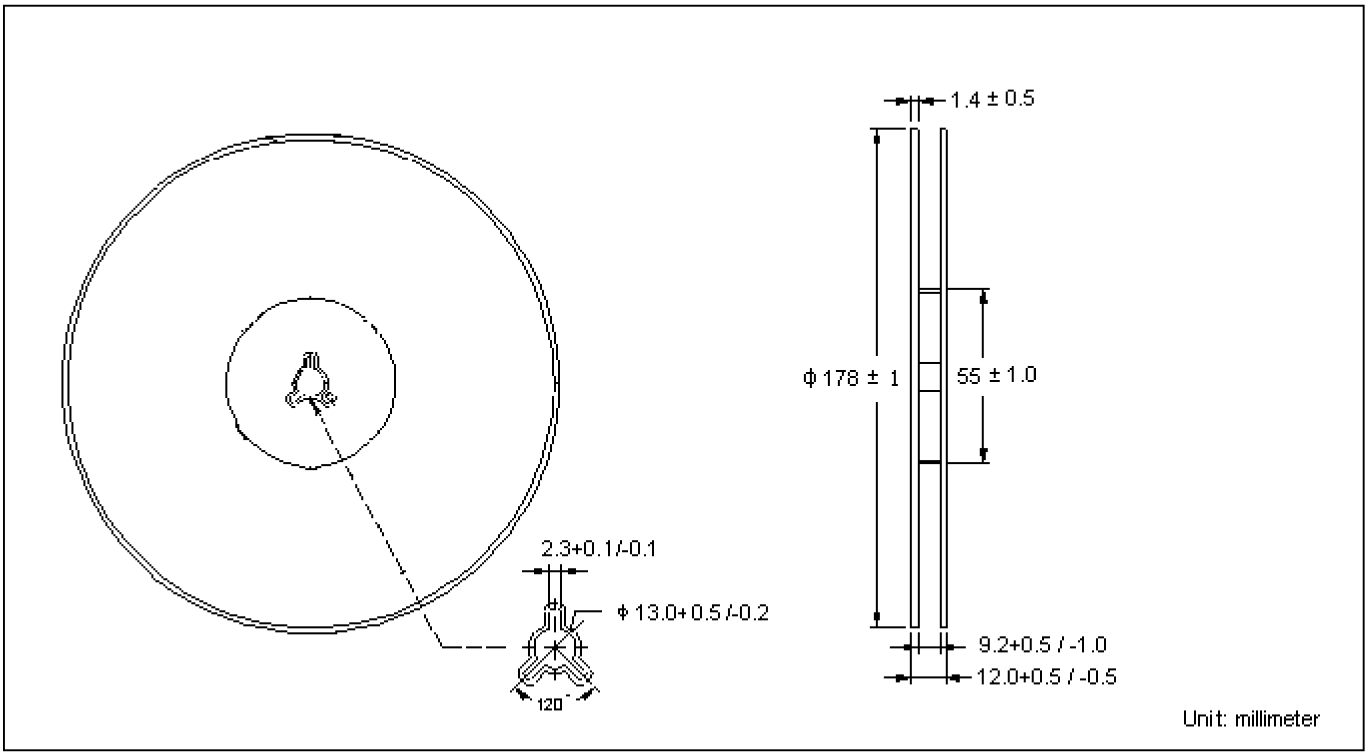
Capacitance vs Reverse Voltage



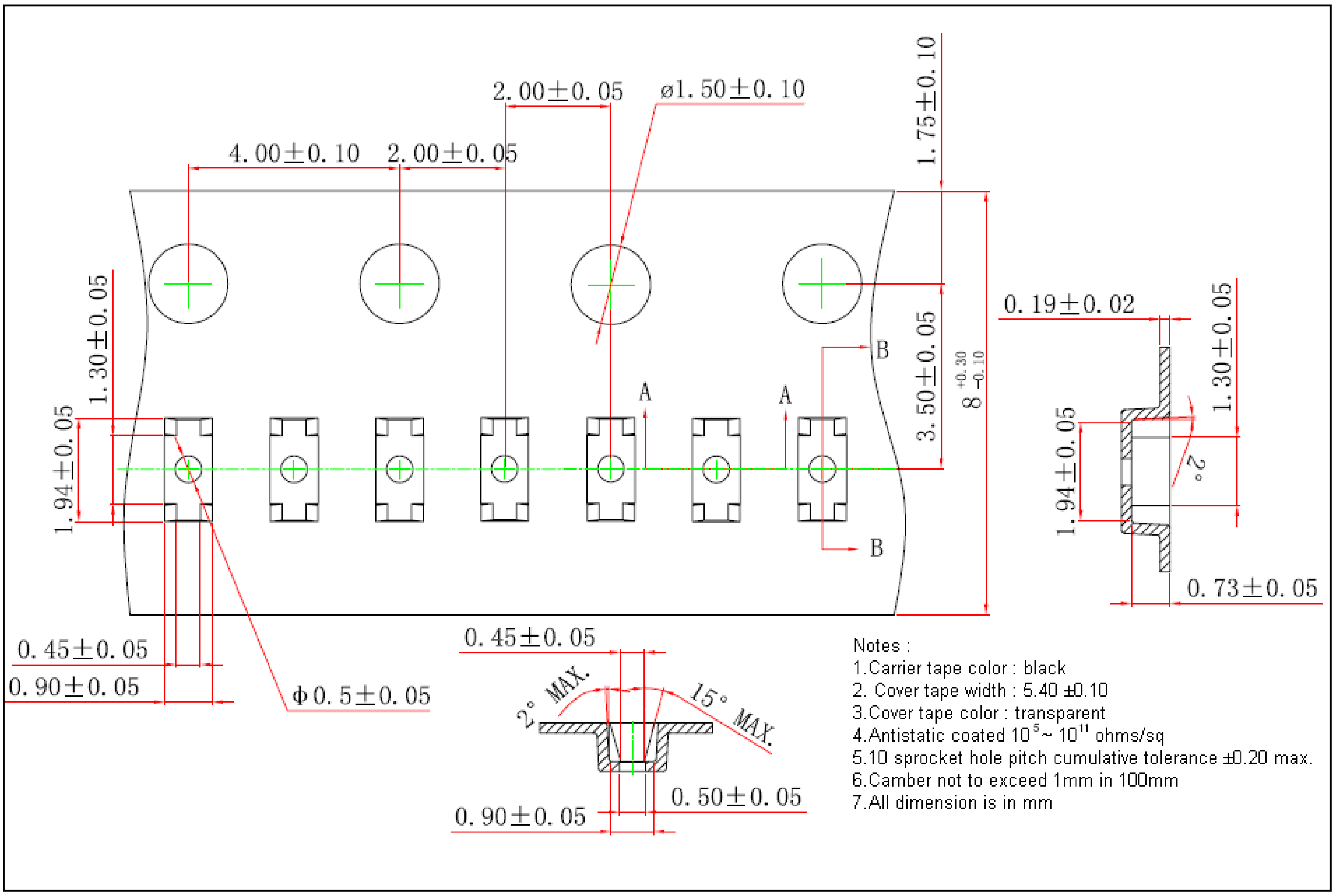
Recommended Footprint



Reel Dimension



Carrier Tape Dimension

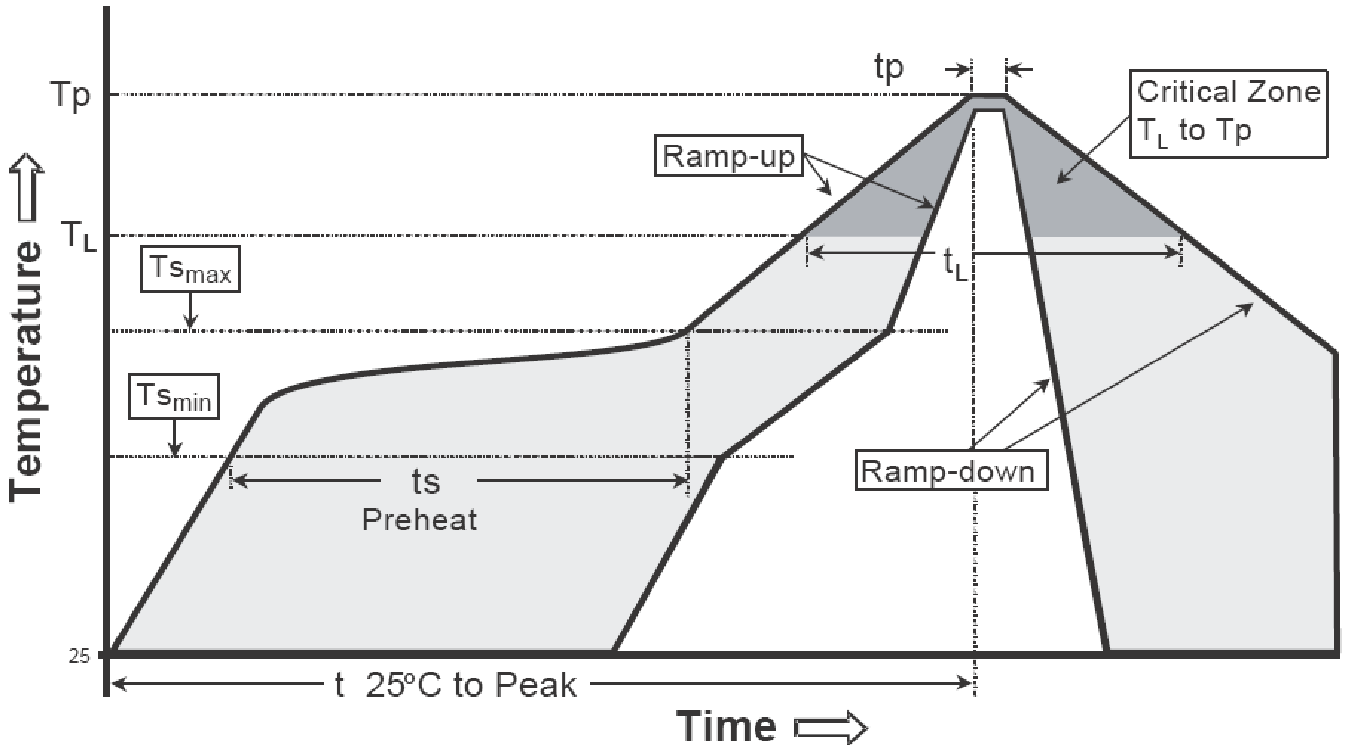


Notes :
1.Carrier tape color : black
2. Cover tape width : 5.40 ±0.10
3.Cover tape color : transparent
4.Antistatic coated 10^5 ~ 10^{11} ohms/sq
5.10 sprocket hole pitch cumulative tolerance ±0.20 max.
6.Camber not to exceed 1mm in 100mm
7.All dimension is in mm

Recommended wave soldering condition

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

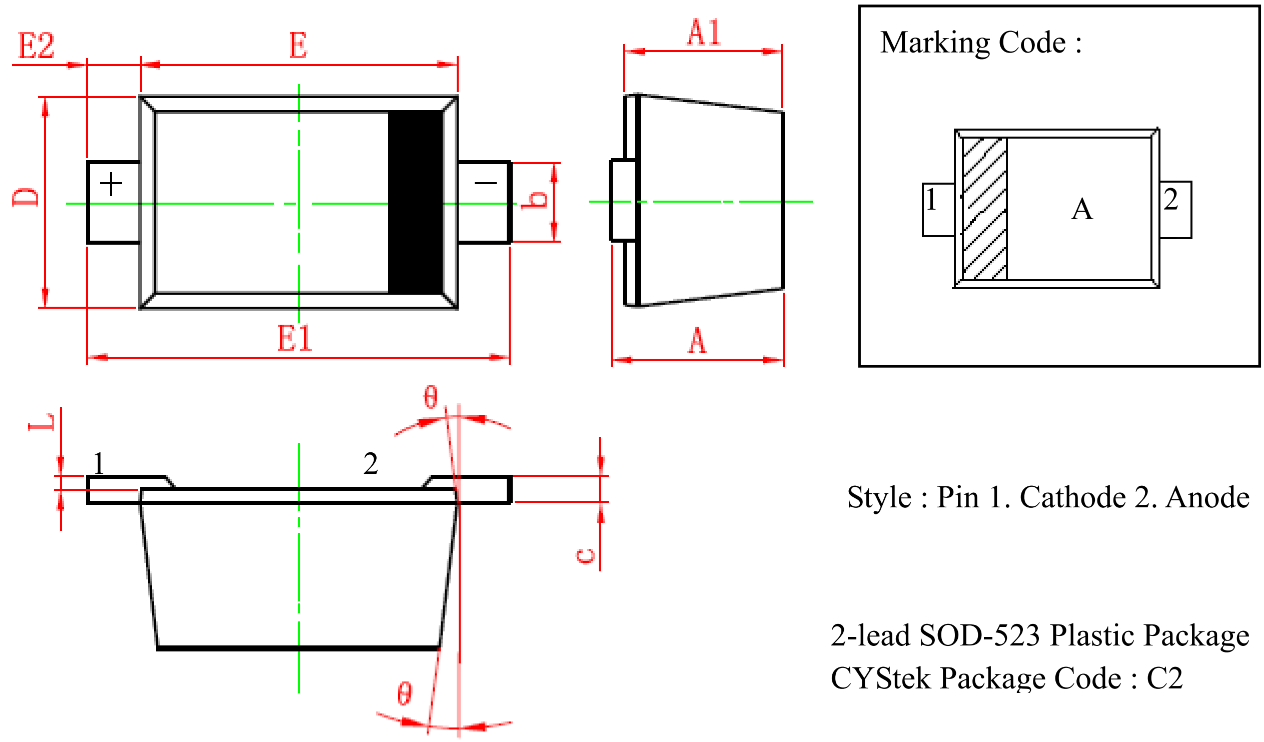
Recommended temperature profile for IR reflow



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(Ts min) −Temperature Max(Ts max) −Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	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



Style : Pin 1. Cathode 2. Anode

2-lead SOD-523 Plastic Package
CYStek Package Code : C2

*: Typical

DIM	Millimeters		Inches		DIM Min.	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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