

1.0Amp. Surface Mount Schottky Barrier Diodes

CSOD140BSH

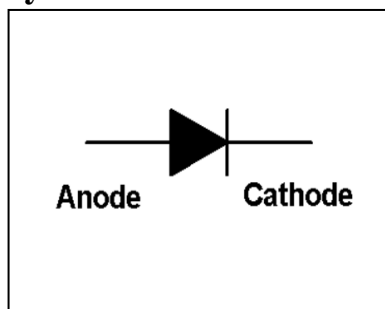
Features

- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 250°C/10 seconds at terminals
- Exceeds environmental standards of MIL-S-19500/228
- RoHS compliant package
- Trench technology provides a superior avalanche capability

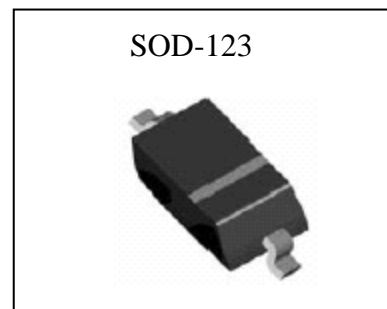
Mechanical Data

- Case: Molded plastic, JEDEC SOD-123.
- Terminals: Pure tin plated, solderable per MIL-STD-202 method 208
- Polarity: Indicated by cathode band.
- Weight: 0.009 gram approximately

Symbol

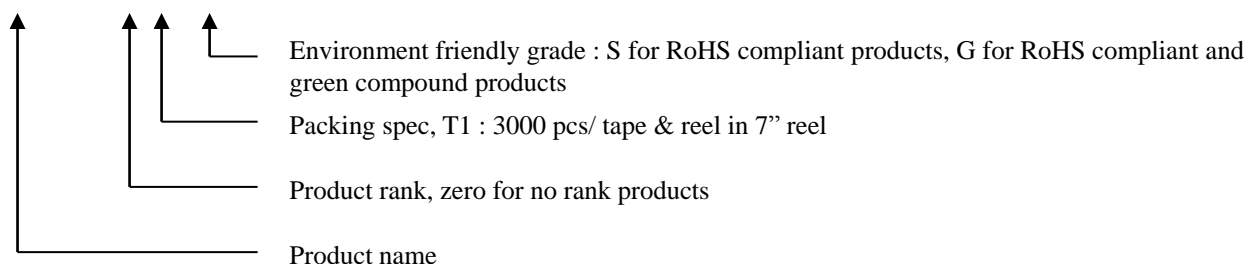


Outline



Ordering Information

Device	Package	Shipping
CSOD140BSH-0-T1-G	SOD-123 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel



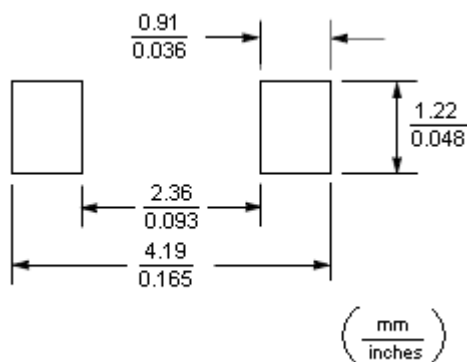
Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Limits	Units
Repetitive peak reverse voltage	V _{RRM}	40	V
Maximum RMS voltage	V _{RMS}	28	V
Maximum DC blocking voltage	V _R	40	V
Maximum instantaneous forward voltage, I _F =1A (Note 1)	V _F	0.50	V
Average forward rectified current	I _O	1	A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I _{FSM}	20	A
Maximum DC reverse current V _R =40V, T _J =25°C (Note 1) V _R =40V, T _J =125°C (Note 1)	I _R	0.3 10	mA mA
Power Dissipation	P _D	500	mW
Maximum thermal resistance, Junction to ambient	R _{th,JA}	215(typ)	°C/W
Diode junction capacitance @ f=1MHz and applied 5V reverse voltage	C _D	55 (typ)	pF
Storage temperature range	T _{stg}	-65 ~ +175	°C
Operating temperature range	T _J	-50 ~ +150	°C

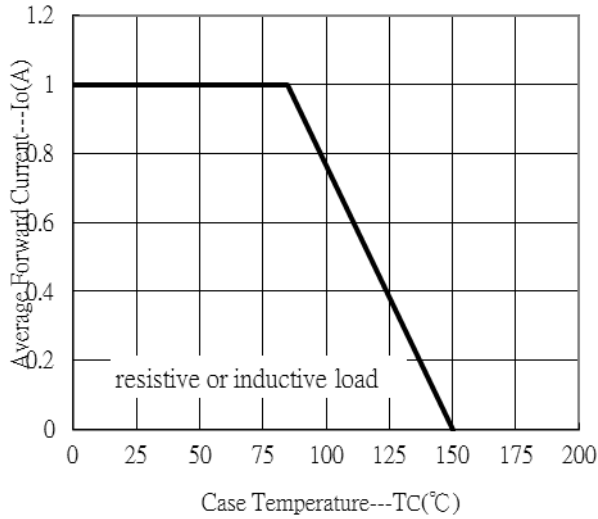
Notes : 1.Pulse test, pulse width=300 μ sec, 2% duty cycle

Recommended Soldering Footprint

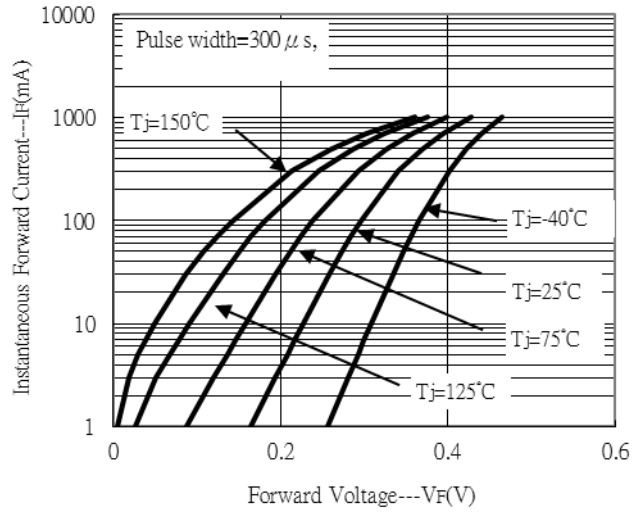


Typical Characteristics

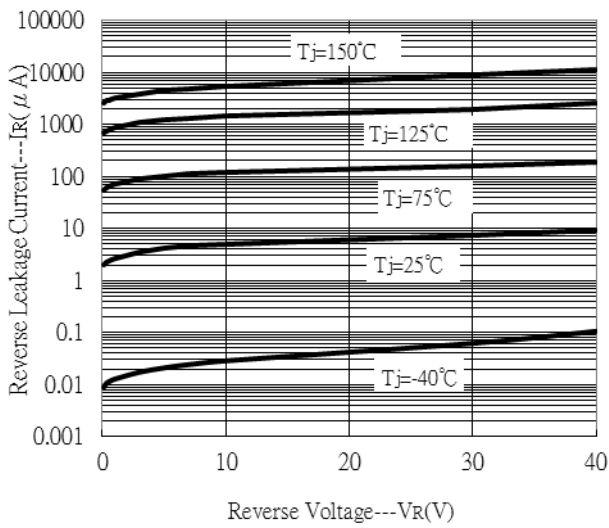
Forward Current Derating Curve



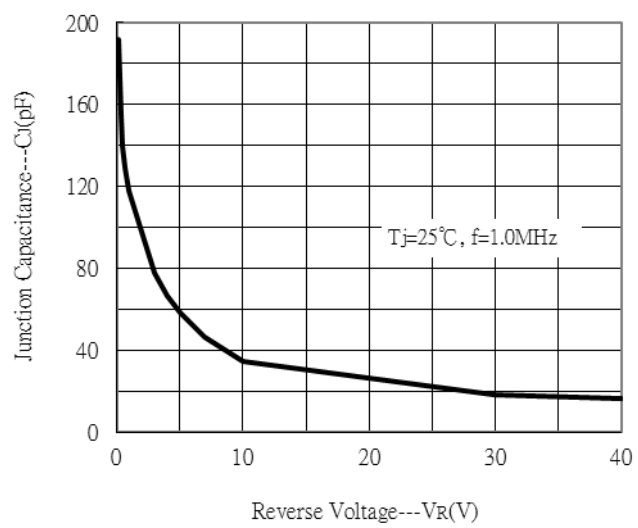
Forward Current vs Forward Voltage



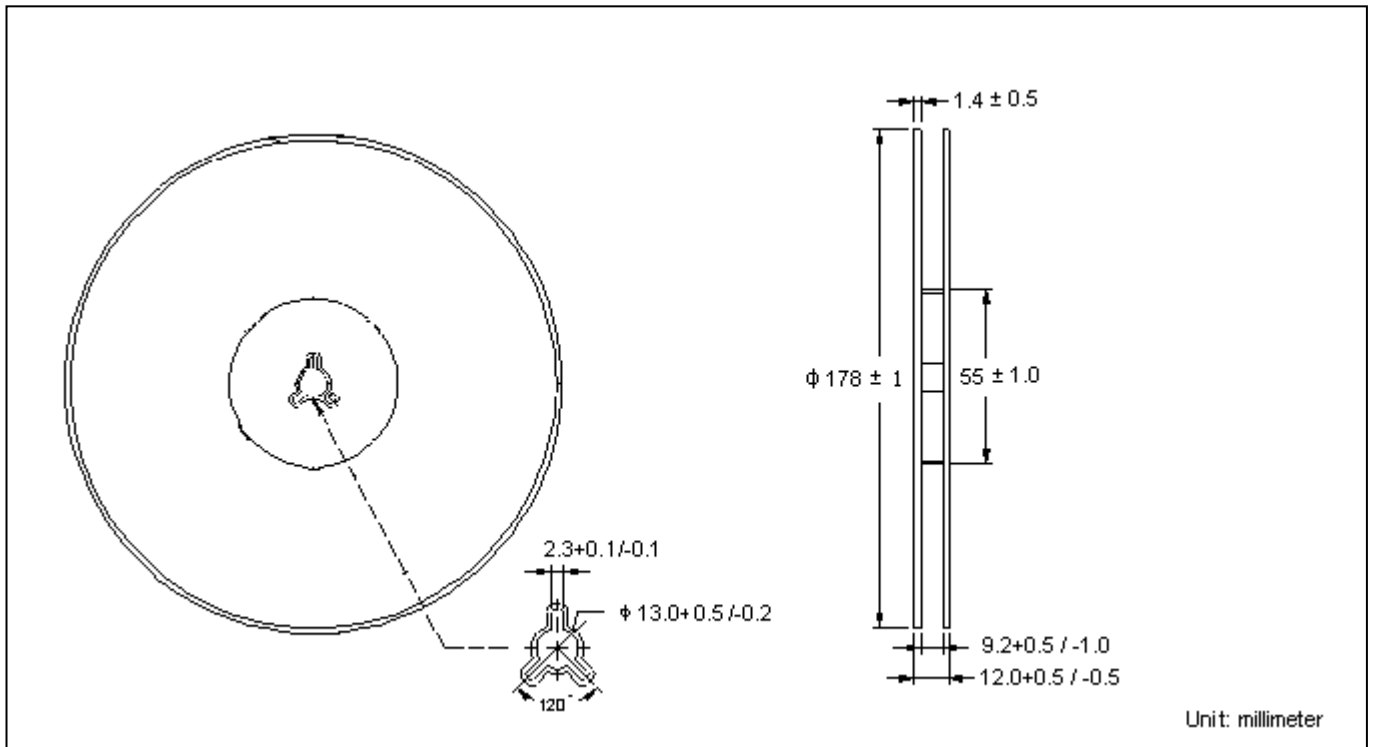
Reverse Leakage Current vs Reverse Voltage



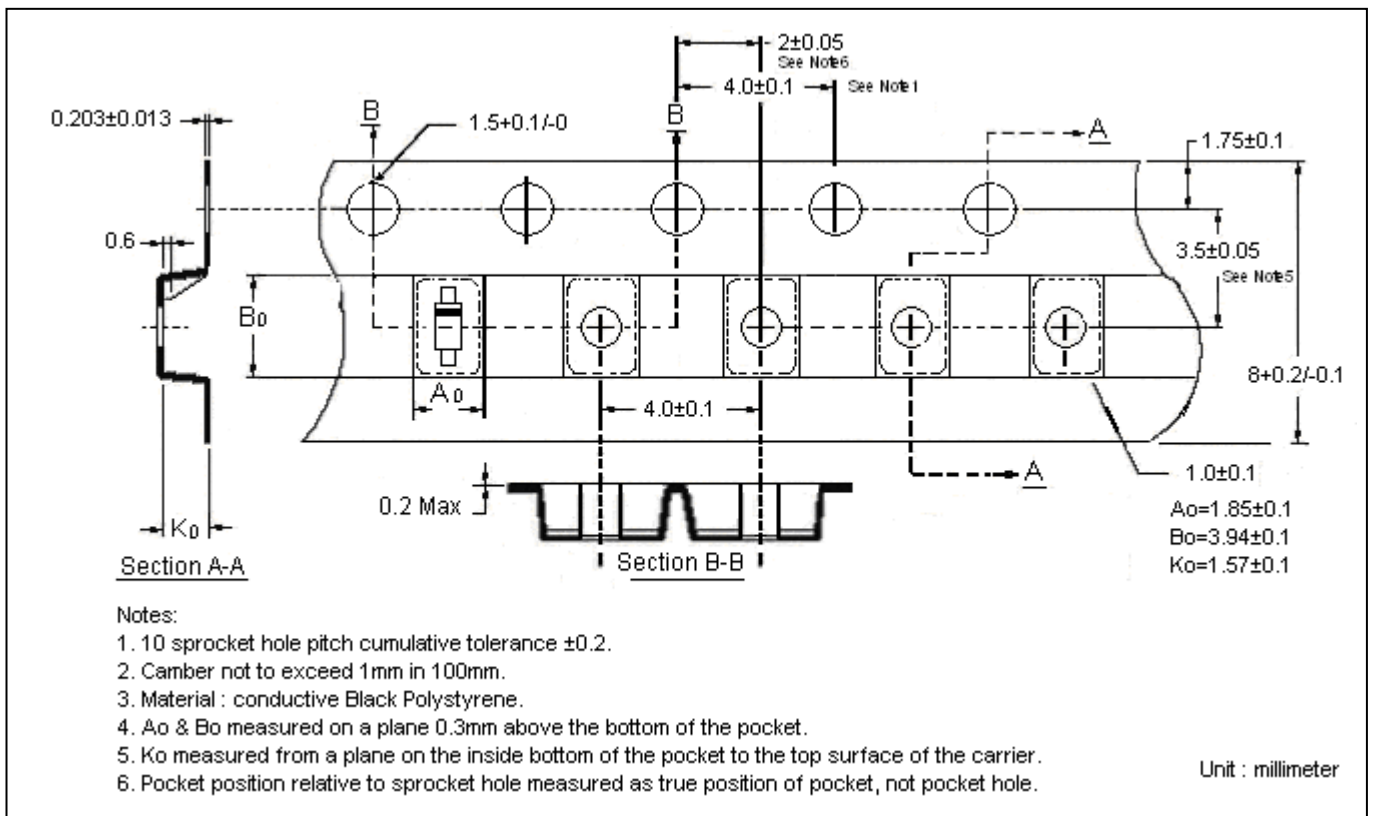
Junction Capacitance vs Reverse Voltage



Reel Dimension



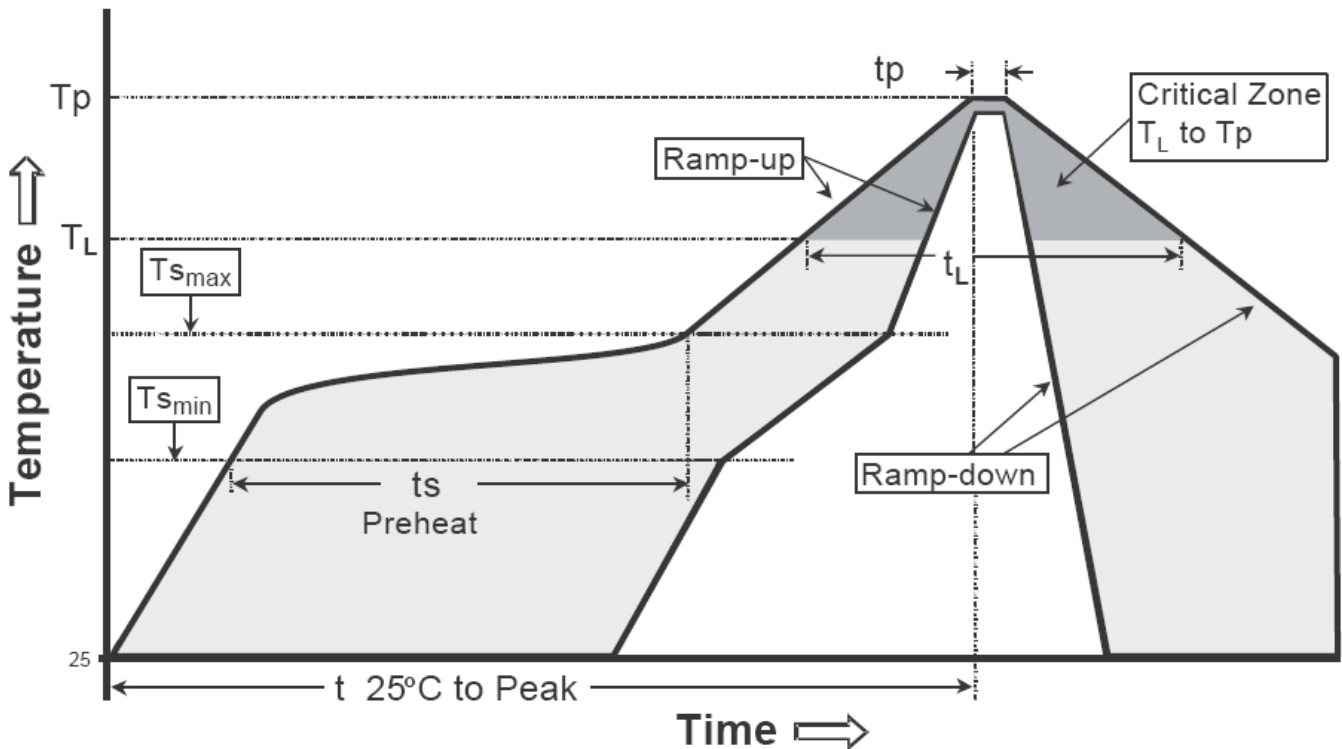
Carrier Tape Dimension



Recommended wave soldering condition

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

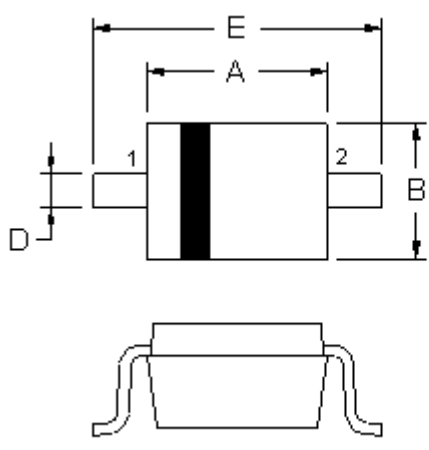
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _s max 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-123 Dimension



2-Lead SOD-123 Plastic
Surface Mounted Package
CYStek Package Code: SH

Marking:



Style: Pin 1.Cathode 2.Anode

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.102	0.110	2.600	2.800	D	0.018	0.026	0.450	0.650
B	0.059	0.067	1.500	1.700	E	0.140	0.152	3.550	3.850
C	0.041	0.049	1.050	1.250					

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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