

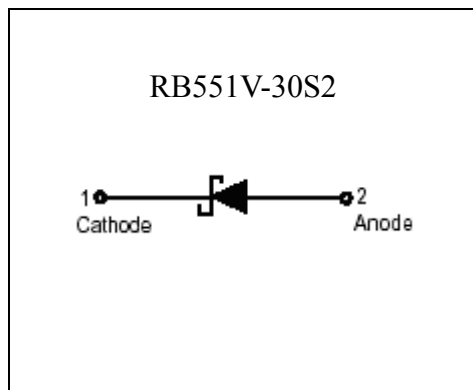
# Small Signal Schottky Barrier diode

## RB551V-30S2

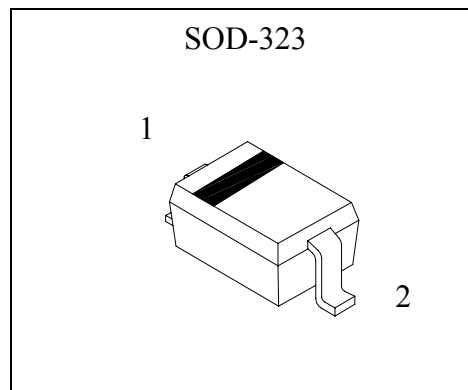
### Description

The RB551V-30S2 is a silicon Schottky barrier diode fabricated in planar technology, and encapsulated in a small SOD-323 plastic SMD package.

### Symbol



### Outline



### Features

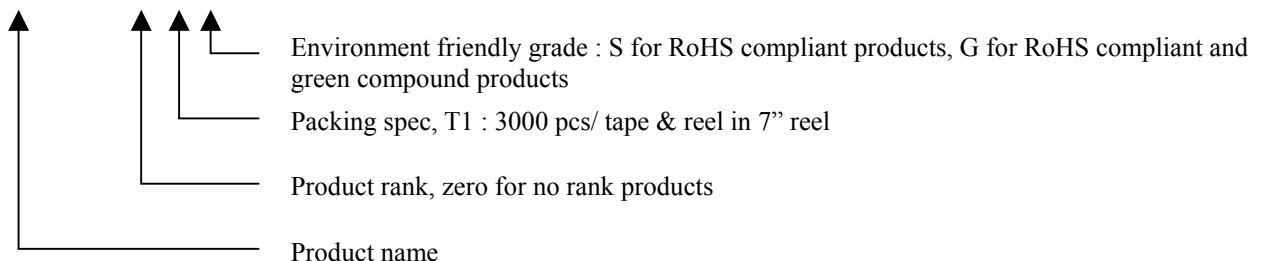
- Small plastic SMD package
- Ultra low  $V_F$ ,  $V_F=0.45V$  typ. at 0.5A
- High reliability
- Weight: approx. 0.0045 gram
- Pb-free package

### Applications

- High frequency rectification
- Switching regulators

### Ordering Information

Device	Package	Shipping
RB551V-30S2-0-T1-G	SOD-323 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel



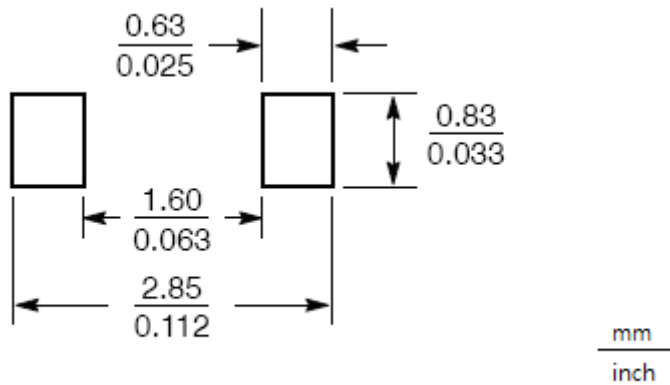
**Absolute Maximum Ratings @ $T_A=25^{\circ}C$**

Parameters	Symbol	Limits	Unit
Peak Reverse voltage	$V_{RM}$	30	V
DC Reverse voltage	$V_R$	20	V
Mean rectifying current	$I_O$	0.5	A
Peak forward surge current	$I_{FSM}$	2	A
Power Dissipation	$P_D$	250	mW
Maximum thermal resistance, Junction to ambient	$R_{\theta JA}$	500	$^{\circ}C/W$
Operating Junction Temperature Range	$T_j$	-55~+125	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-65~+150	$^{\circ}C$

**Electrical Characteristics @  $T_A=25^{\circ}C$  unless otherwise specified**

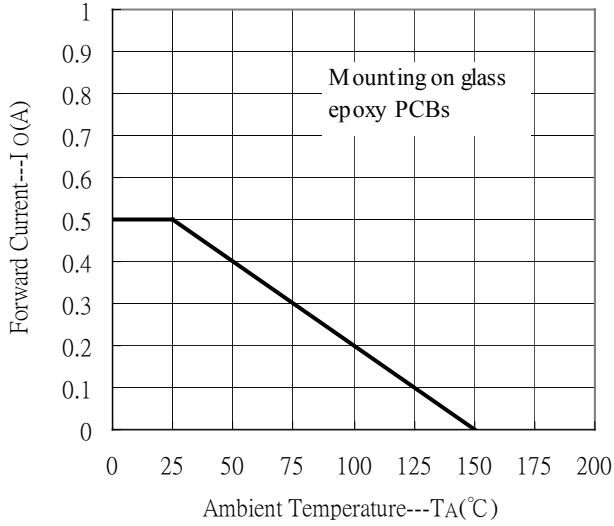
Parameters	Symbol	Conditions	Min	Typ.	Max	Unit
Forward voltage	$V_F 1$	$I_F=100mA$	-	-	0.36	V
	$V_F 2$	$I_F=500mA$	-	-	0.5	V
Reverse leakage current	$I_R$	$V_R=20V$	-	-	100	$\mu A$

**Recommended Footprint**

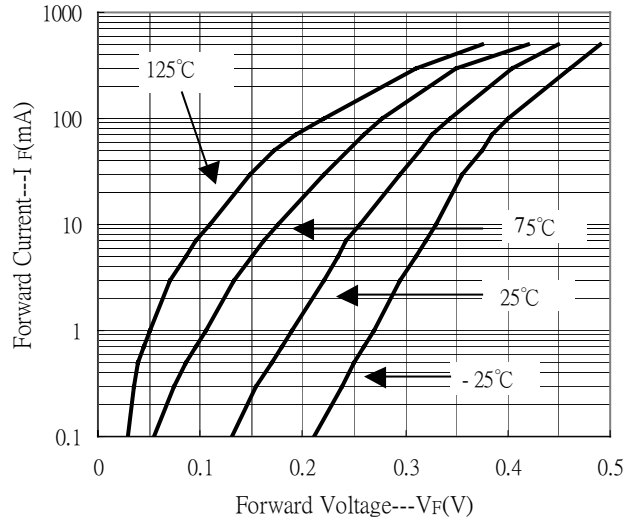


## Typical Characteristics

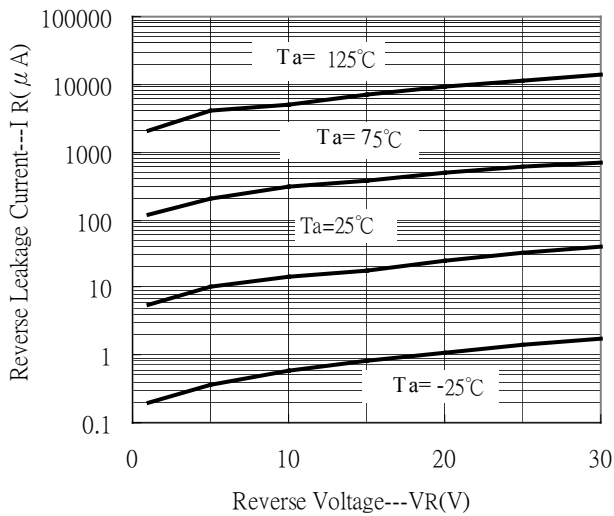
Forward Current Derating Curve



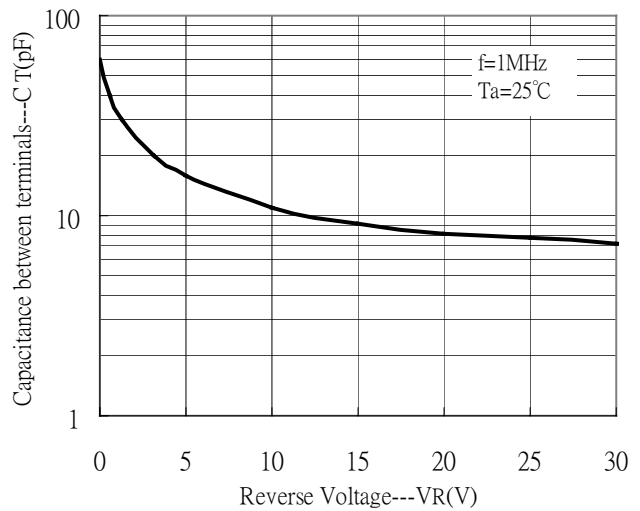
Forward Current vs Forward Voltage



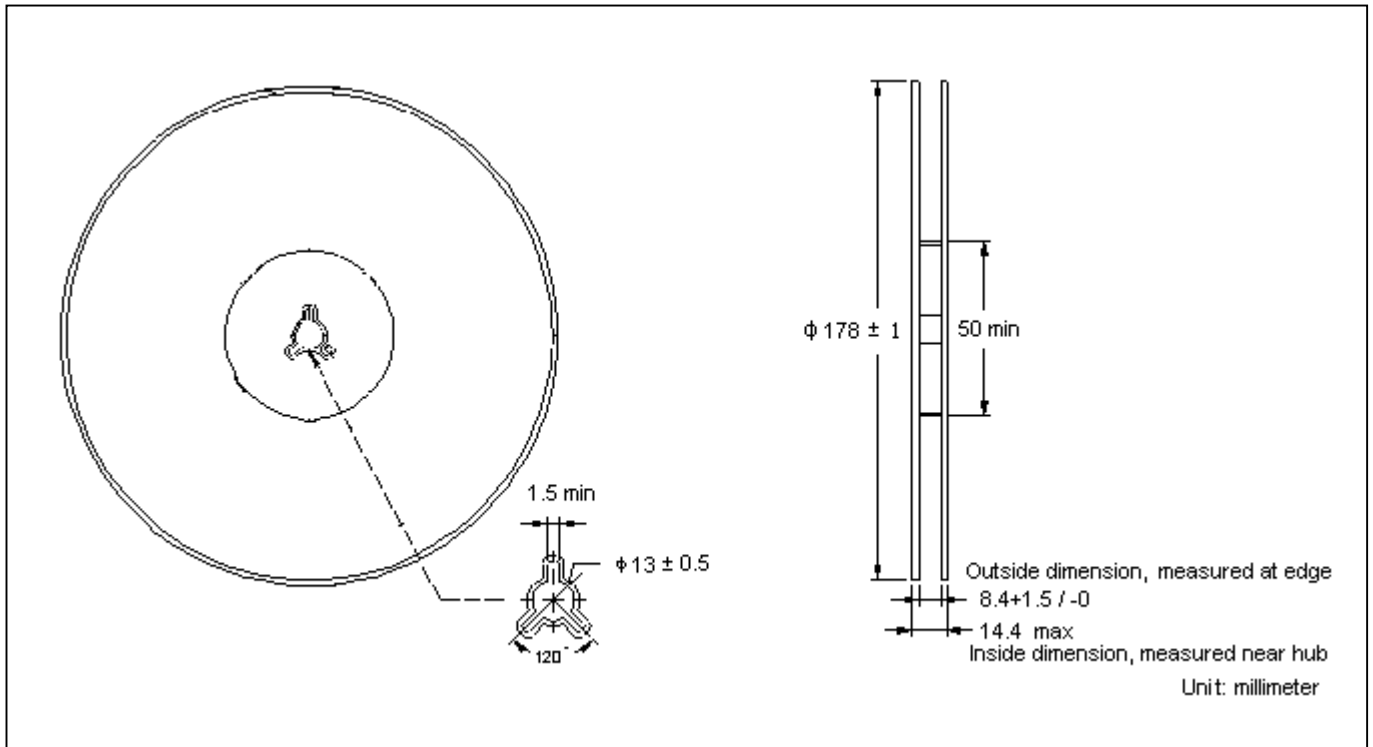
Reverse Leakage Current vs Reverse Voltage



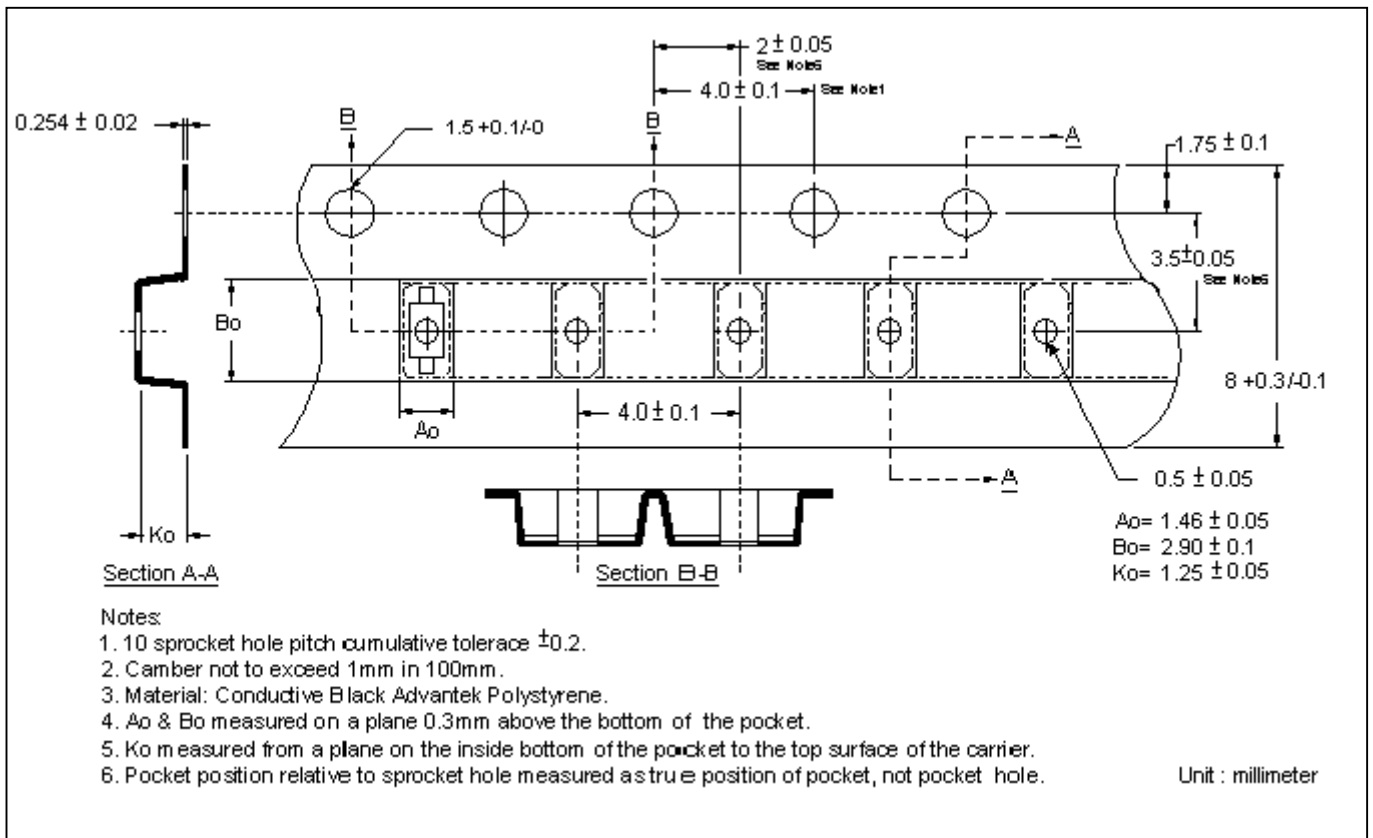
Capacitance vs Reverse Voltage



**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

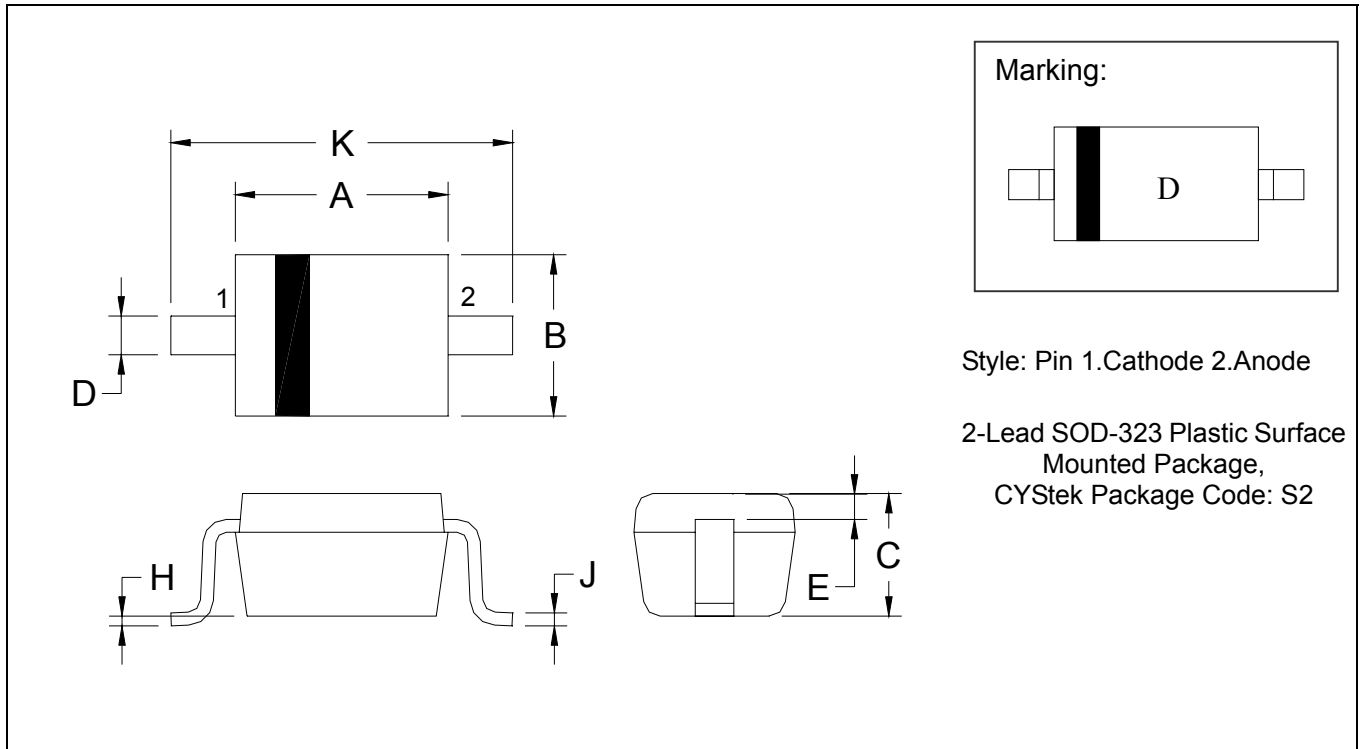
**Recommended temperature profile for IR reflow**



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	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-323 Dimension**



Style: Pin 1.Cathode 2.Anode

2-Lead SOD-323 Plastic Surface Mounted Package,  
 CYStek Package Code: S2

\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060 REF		0.15 REF	
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

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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