RB551V-40

SILICON EPITAXIAL PLANAR SCHOTTKY BARRIER DIODE

VOLTAGE RANGE
40 Volts
CURRENT
0.5 Ampere

FEATURES

- Small surface mounting type
- Ultra low V_F
- High reliability



D

APPLICATIONS

- High frequency rectification switching regulation

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature uniess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Absolute Maximum Ratings (T = 25 °C)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	40	V
DC Reverse Voltage	V_R	20	V
Mean Rectifying Current	I_O	0.5	A
Peak Forward Surge Current (60 Hz for 1 Cyc.)	I_{FSM}	2	A
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	- 40 to + 125	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Max.	Unit
Forward Voltage at I_F = 100 mA at I_F = 500 mA	V_F	 0.36 0.47	V
Reverse Current at V_R = 30 V	I_R	100	μA

Note: ESD sensitive product handling required.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

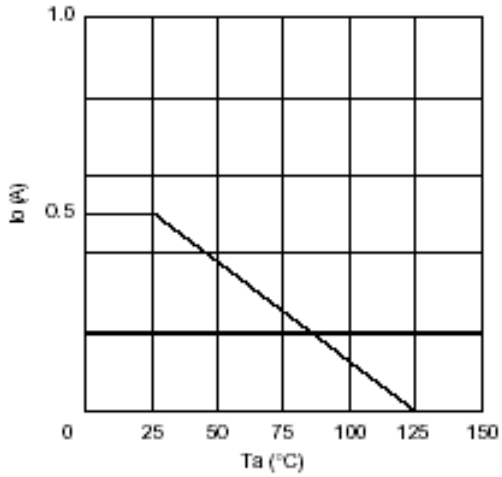


FIG.2-TYPICAL FORWARD CHARACTERISTICS

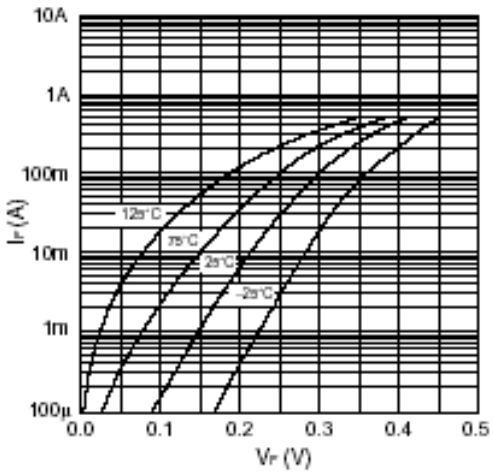


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

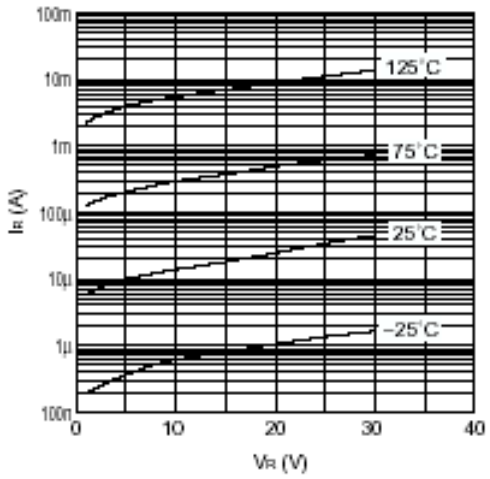
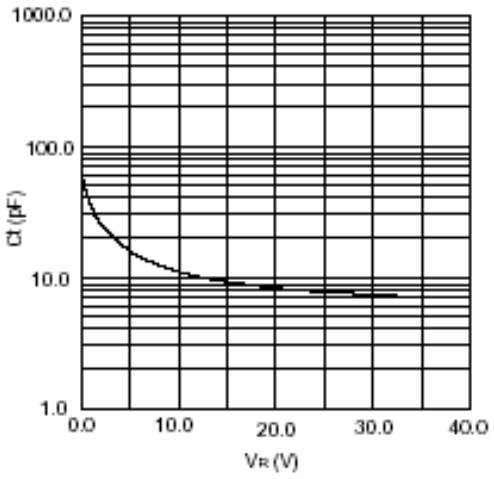


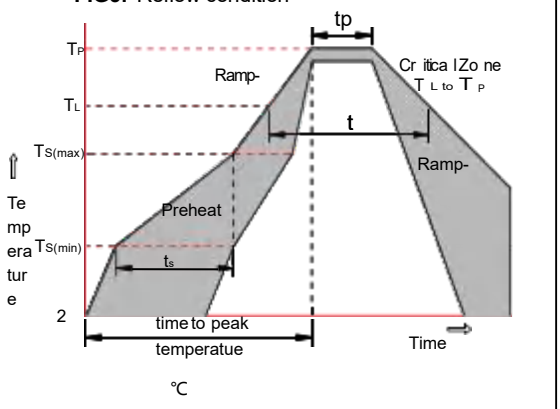
FIG.4-TYPICAL JUNCTION CAPACITANCE



Soldering parameters

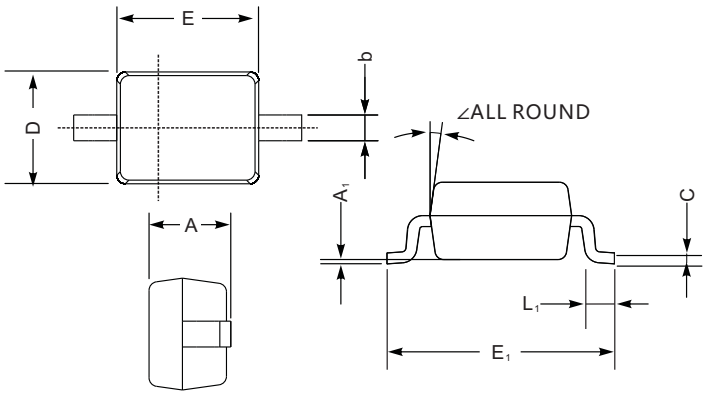
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

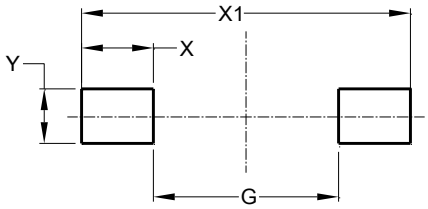
FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

SOD323





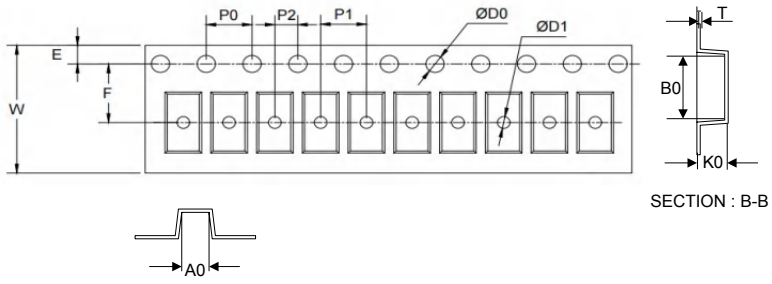
SOD-323 mechanical data

UNIT		A	C	D	E	E_1	b	L_1	A_1	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

Tape & rell specification

Tape

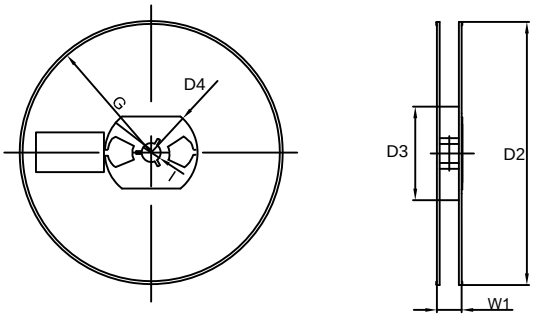


SECTION : B-B

SECTION : A-A

Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.00±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	2.00±0.20
B0	3.25±0.20
K0	1.35±0.20
T	0.23±0.10

7” Reel



D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

Quantity: 3000PCS