FutureWafer Evolution

SBS3JL

Extra Low Leakage Current Schottky Bridge Rectifier

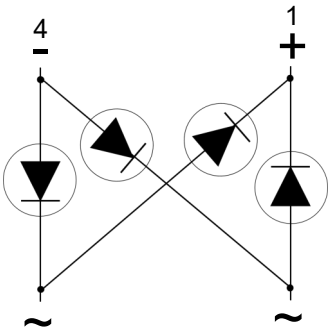
1. Feature

- Extra Low Leakage < 2uA @ V_R = 100V
- Surge Overload Rating : 75A Peak
- High Efficiency,Low Power Loss
- Low Forward Voltage Drop

ABS

2. Applications

- Energy Saving Lamps
- Mobile Battery Charger
- POE Power Circuit



3. Mechanical Characteristics

- Molded JEDEC Package
  - ABS
- Packing: Tape and Reel
- Flammability Rating UL 94V-0
- Halogen Free
- JEDEC MSL Classification :Level 1

4. Device Characteristics

Maximum Ratings@25˚C unless otherwise specified

Parameter		Symbol	Ratings	Units
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	100	V
Maximum RMS Voltage		V_{RMS}	70	
Maximum DC Blocking Voltage		V_{DC}	100	
Maximum Average Forward Rectified Current @ T_A = 40°C		$I_{F(AV)}$	3.0 on Aluminum Substrate	A
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	75	
Maximum Forward Voltage	I_F = 1.5 A	V_F	0.75	V
	I_F = 3.0 A		0.85	
Maximum Reverse Current	T_A = 25˚C	I_R	2.0	uA
	T_A = 125˚C		500	
Typical Thermal Resistance	Junction to Lead	$R_{\theta JL}$	20	˚C/W
	Junction to Ambient	$R_{\theta JA}$	70	
Operating Temperature		T_J	-55~150	˚C
Storage Temperature		T_{STG}		

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5. Rating and Characteristic Curve

Fig.1 Forward Current Derating Curve

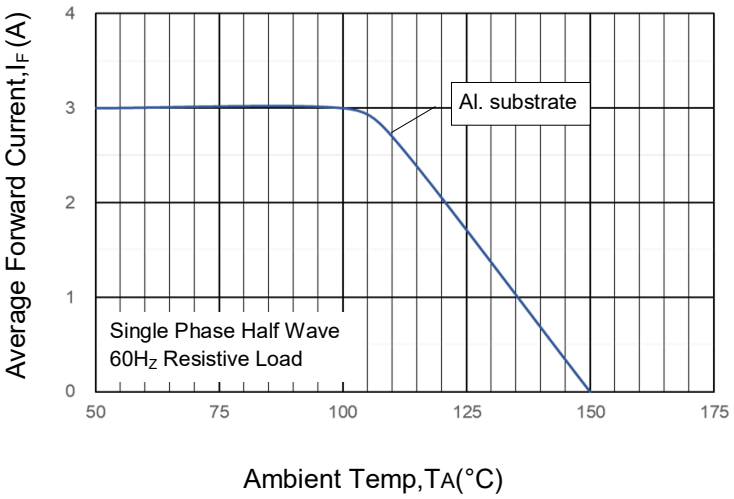


Fig. 2 Typical Forward Characteristics

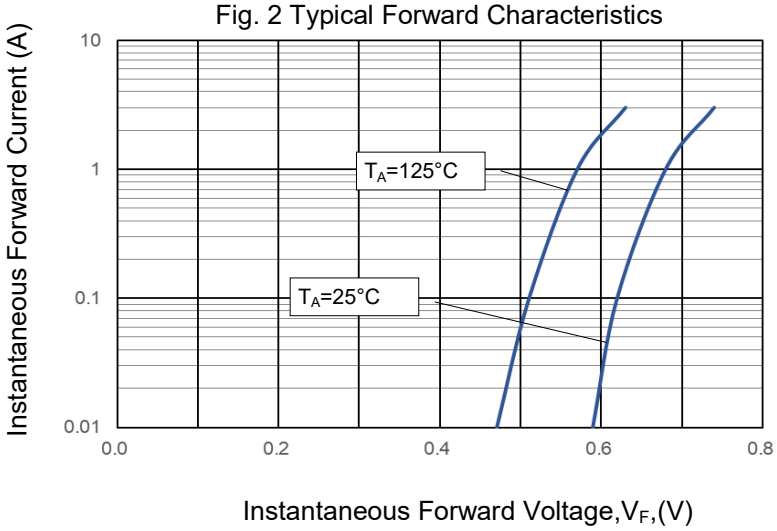


Fig.3 Maximum Non-Repetitive Forward Surge Current

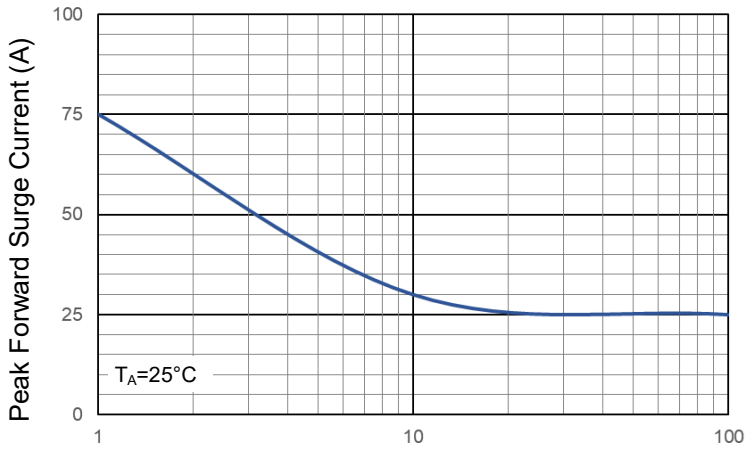
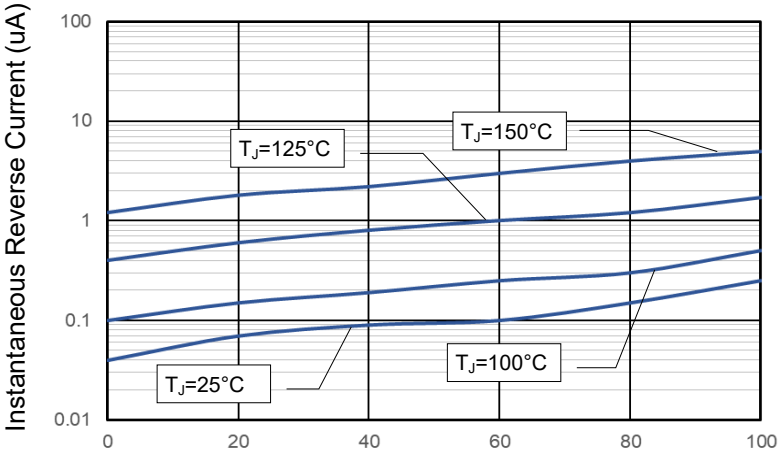


Fig. 4 Typical Reverse Characteristics



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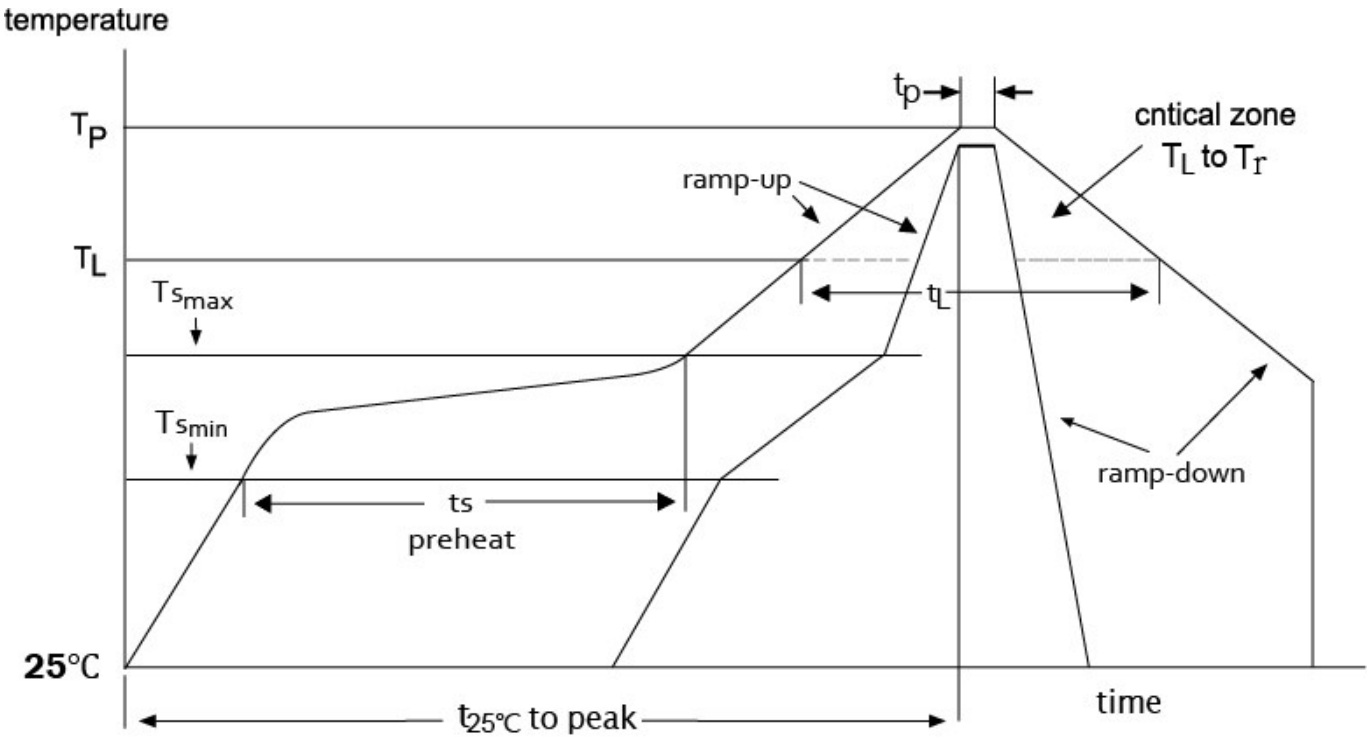
6. Soldering Parameters

Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (Tsmax to Tp)	3 °C/s maximum	3 °C/s maximum
Preheat		
Temperature minimum (Tsmin)	100 °C	150 °C
Temperature maximum (Tsmax)	150 °C	200 °C
Time (tsmin to tsmax)	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (TL)	183 °C	217 °C
Time (tL)	60 s to 150 s	60 s to 150 s
Peak/classificationtemperature(T)	235 °C	260 °C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (tp)	10 s to 30 s	20 s to 40 s
Ramp-down rate	6 °C/s maximum	6 °C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum



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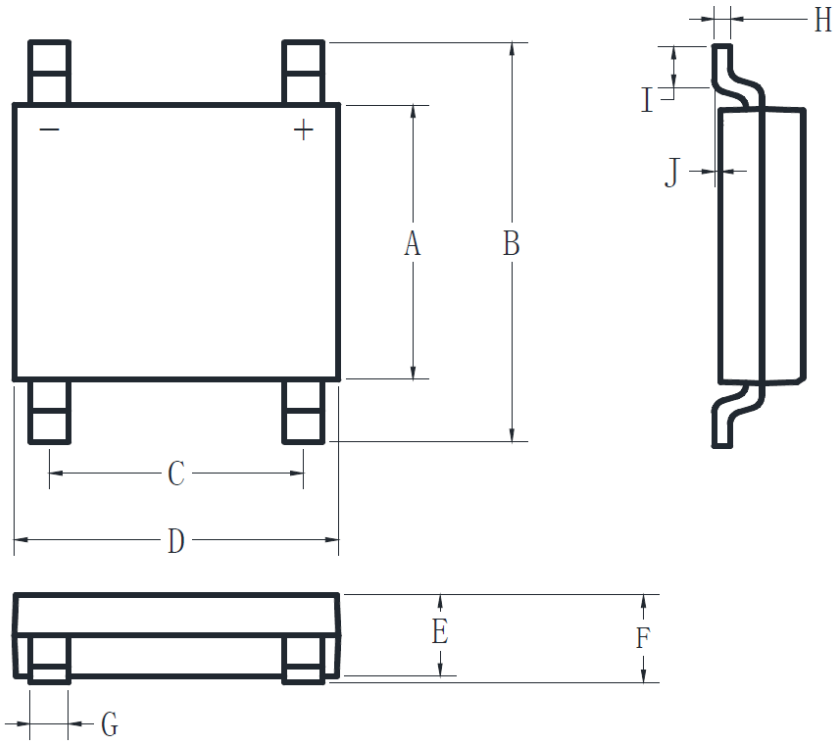
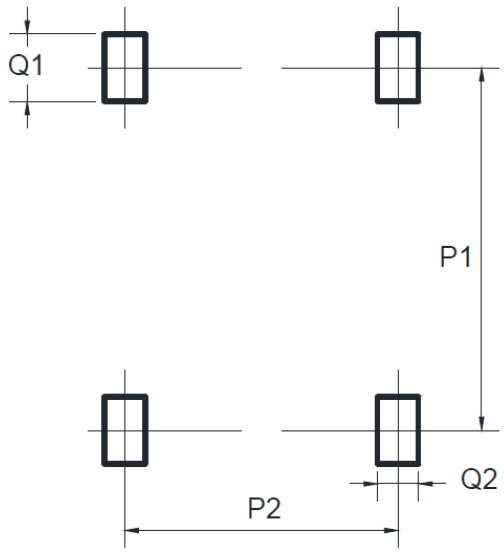
7. Package Information



Symbol	Millimeter	
	MIN.	MAX.
A	4.30	4.50
B	6.00	6.40
C	3.90	4.10
D	4.90	5.10
E	1.25	1.45
F	1.20	1.60
G	0.60	0.70
H	0.15	0.25
I	0.30	0.80
J	0.02	0.15

8. Suggest Pad Layout



Symbol	Dimension
	Millimeters
P1	5.72
P2	4.00
Q1	1.00
Q2	0.90

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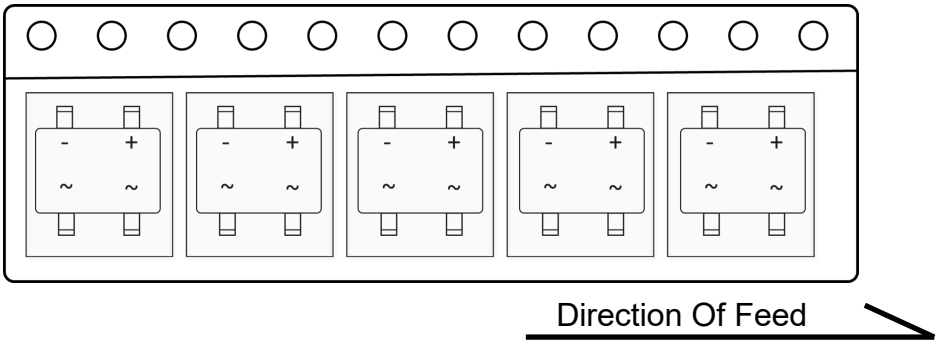
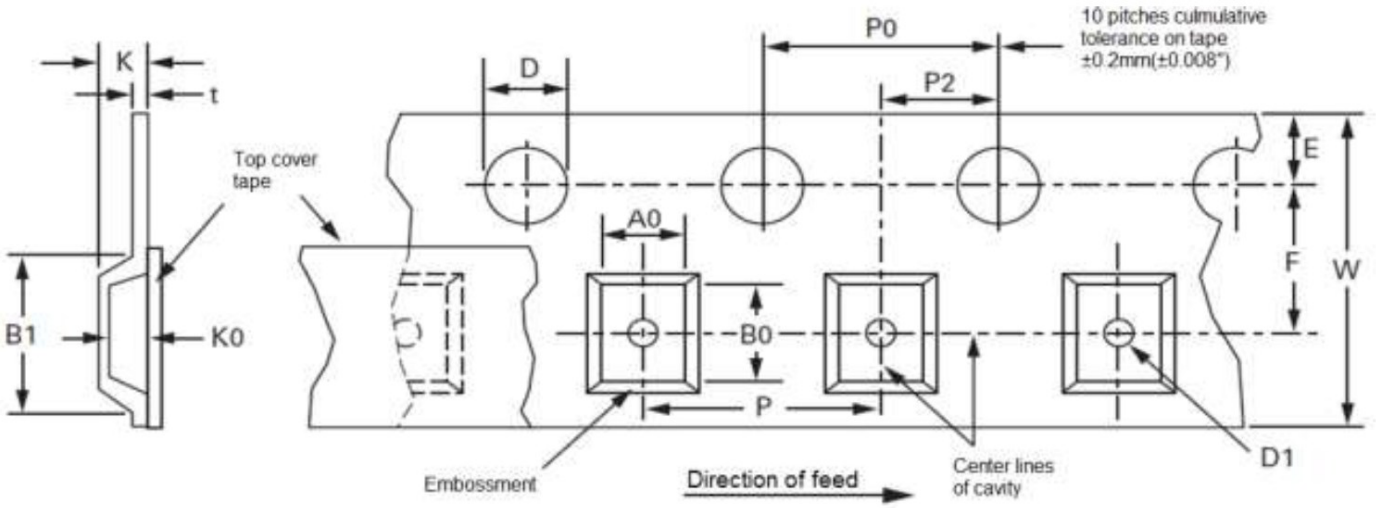
9. Taping & Reel Information

Taping Width	Tape Orientation
12mm	

10. Embossed Carrier Tape Specifications



Dimension	W	D	D1	E	F	K	P	P0	P2	t
Value	12 mm	1.5 +0.1/-0.0	1.5 mm	1.75 ±0.10	5.5 ±0.10	4.5 Max.	8.0 ±0.10	4.0 ±0.10	2.0 ±0.10	0.4 Max.
A0 / B0 / K0	Determined by Component Size. The Clearance Between The Component And The Cavity Must Comply to The Rotational and Lateral Movement Requirement Provided in Figures in The “Maximum Component Movement in Tape Pocket” Section.									

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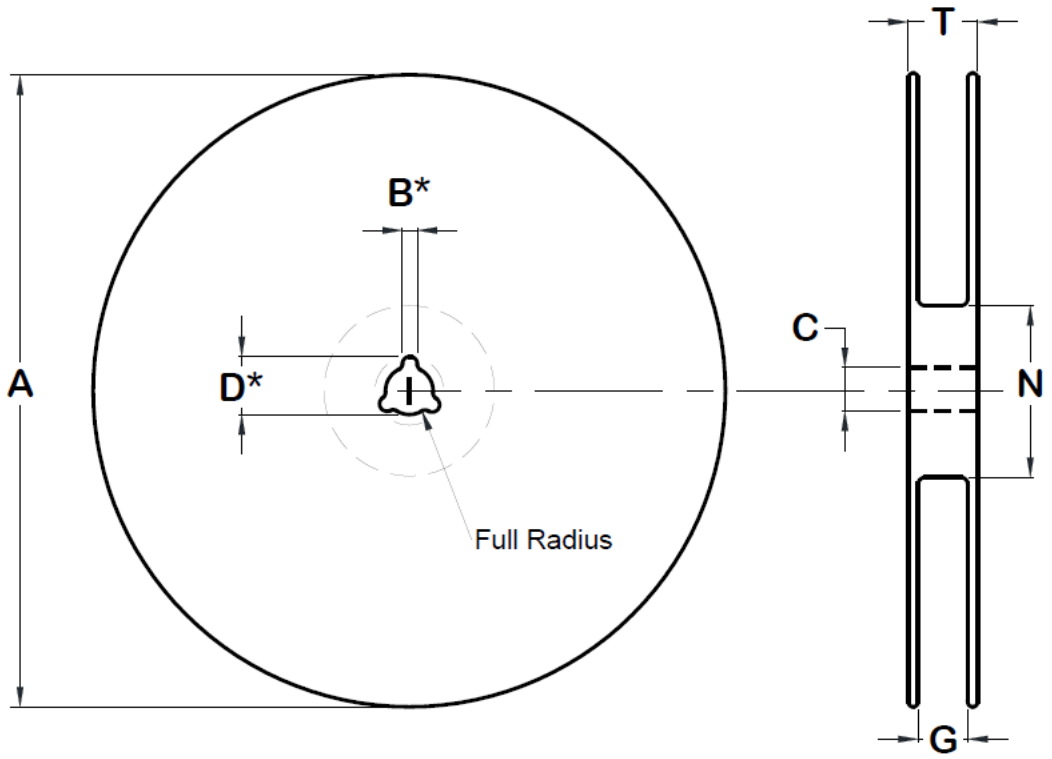
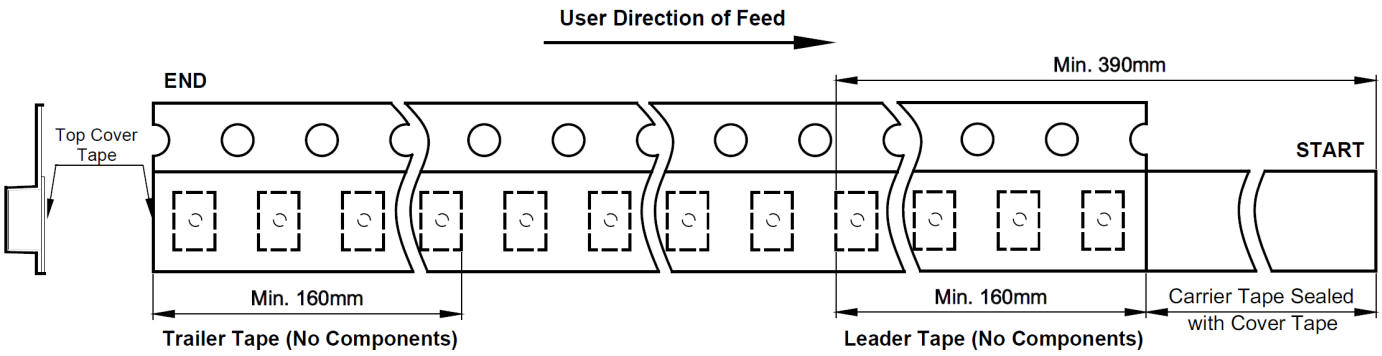
11. Surface Mount Reel Specification



Dimension	Tape Width	Reel Size	A	B	C	D	N	G	T
Value	12 mm	13”	330 ±2	2.0 +0.5-0	13 +0.5-0.2	20.5 ±0.2	100 ±5	12.4 +2.0/ -0.0	18.4

12. Tape Leader and Trailer Specification



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13. Ordering information

Part No.	Marking	Unit weight (g)	Quantity	Delivery Mode
SBS3JL	S3JL	0.095	4,000pcs	13” Tape and Reel

14. History

Version	Date	File No.	Recording	Basis
A	29-Nov-2018	F418488	New Create	Market
B	27-Oct-2020		Update Version	System
2.0	14-Mar-2021		Update Version	System
2.1	23-Jan-2022		Update Taping Information	System

FUTURE WAFER

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