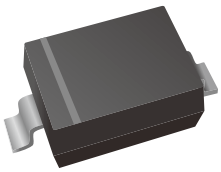
LT54SW

Surface Mount Schottky Barrier Rectifier

Features



- Metal silicon junction, majority carrier conduction
- Guarding for overvoltage protection
- Low power loss, high efficiency
- High current capability
- Low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Marking	Shipping	Reel
LT54SW-TR3	L9	3000PCS Tape&Reel	7 inchs
LT54SW-TR12	L9	12000PCS Tape&Reel	13 inchs

Maximum Ratings and Electiral characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	30	V
DC Blocking Voltage	V_R	21	V
Average Rectified Output Current	I_o	100	mA
Forward current	I_F	0.2	A
Repetitive Peak Forward Current	I_{FRM}	0.3	A
Non-Repetitive Peak forward surge current @t=8.3 ms	I_{FSM}	0.6	A
Typical thermal resistance	$R_{\theta JA}$	500	°C/W
Power Dissipation	PD	200	mW
Junction Temperature	T_j	125	℃
Storage temperature range	T_{STG}	-50-+150	℃

Note:(1) P.C.B. mounted with 5mm*5mm copper pad areas

Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Maximum forward voltage	V_{F1}	IF = 0.1mA			240	mV
	V_{F2}	IF = 1.0mA			320	
	V_{F3}	IF = 10mA			400	
	V_{F4}	IF = 30mA			500	
	V_{F5}	IF = 100mA			1000	
Maximum reverse breakdown voltage	VR	IR=100uA	30			V
Maximum reverse current	I_R	VR=25V			2.0	uA
Type junction capacitance	C_j	VR = 1.0V, f = 1MHz			10	pF
Reverse Recovery Time	Trr	IF=10mA,Irr=0.1xIR, IR=10mA			5	nS

Electrical characteristics Curves

Fig.1 Forward Characteristics

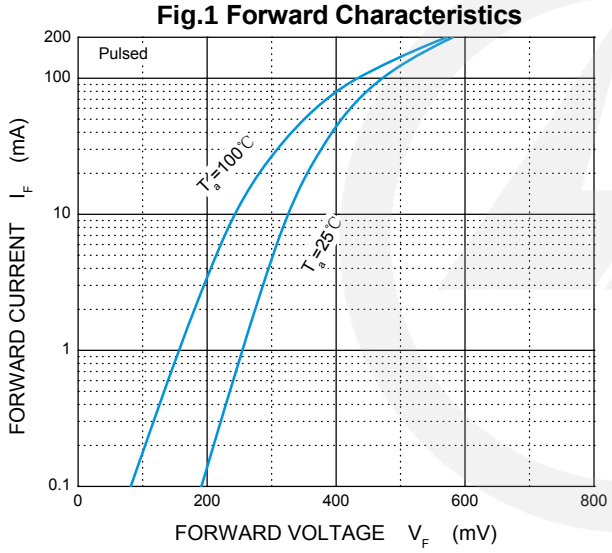


Fig.2 Reverse Characteristics

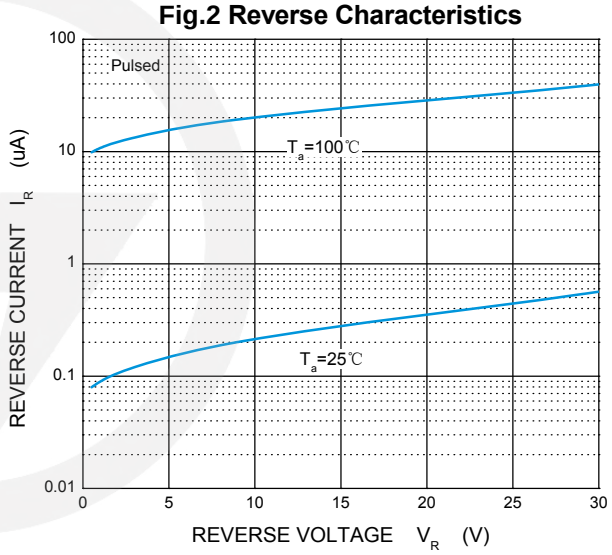


Fig.3 Capacitance Characteristics

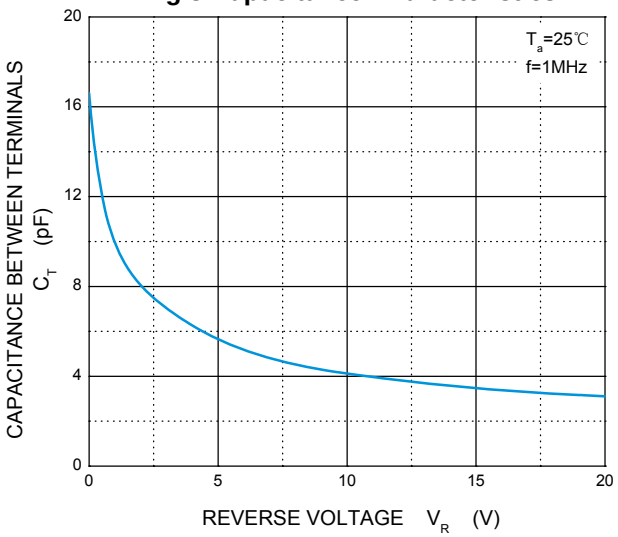
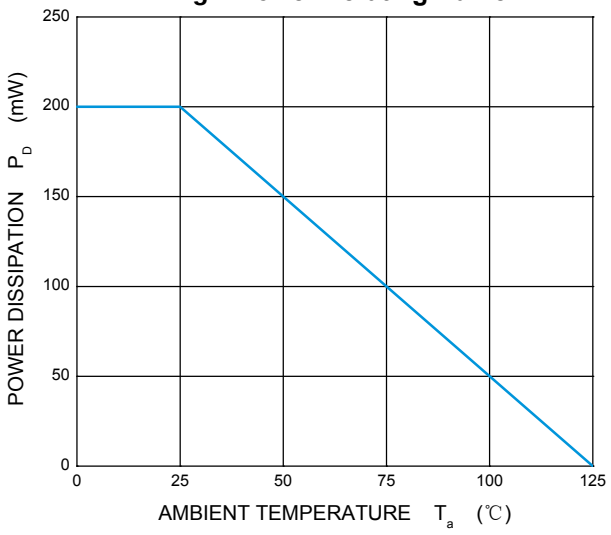
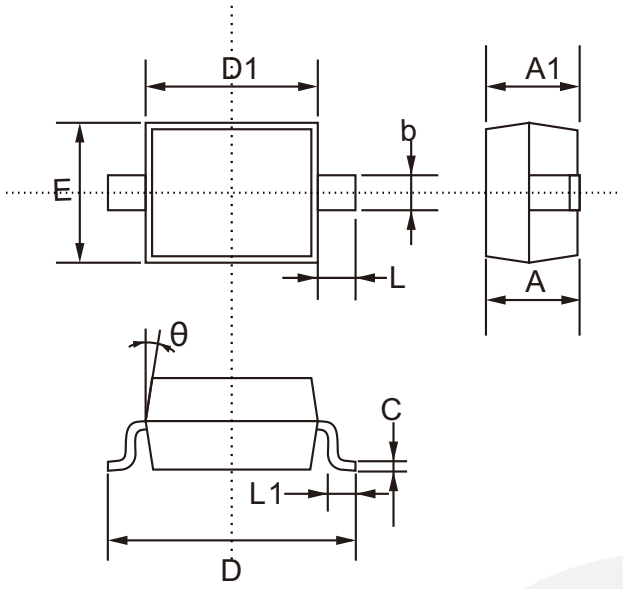


Fig.4 Power Derating Curve



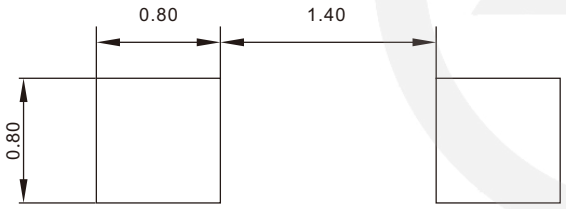
SOD-323 Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.100
A1	0.800	0.900
b	0.250	0.400
C	0.080	0.177
D	2.300	2.800
D1	1.400	1.800
E	1.150	1.400
L1	0.100	0.400
L	0.475 TYP.	
θ	8°	

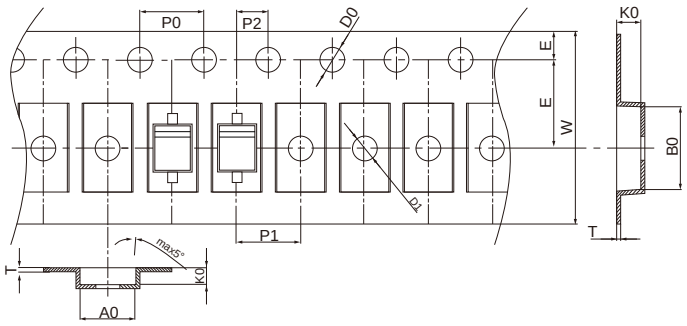
SOD-323 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Carrier Tape Dimensions

Unit：mm

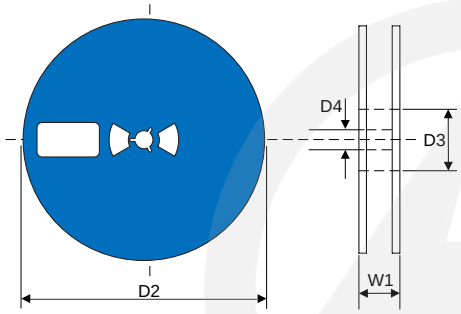


Symbol	Spec	Symbol	Spec
A0	1.41±0.10	P0	4.00±0.10
A1	0.90±0.10	P1	4.00±0.01
B0	2.90±0.10	W	8.00±0.10
B1	1.95±0.10	E	1.75±0.10
K0	1.25±0.10	F	3.50±0.05
D0	1.55±0.10	P2	2.00±0.05
D1	0.80±0.10	T	0.20±0.05

Reel Dimensions

Unit：mm

7” Reel

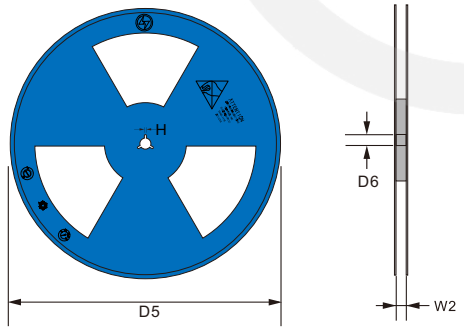


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

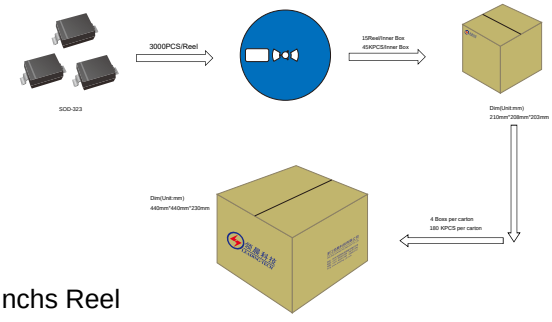
Unit：mm

13” Reel

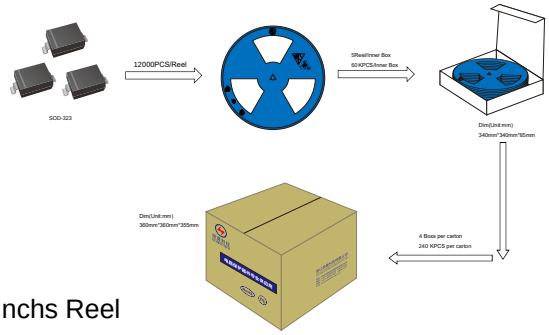


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

Packaging



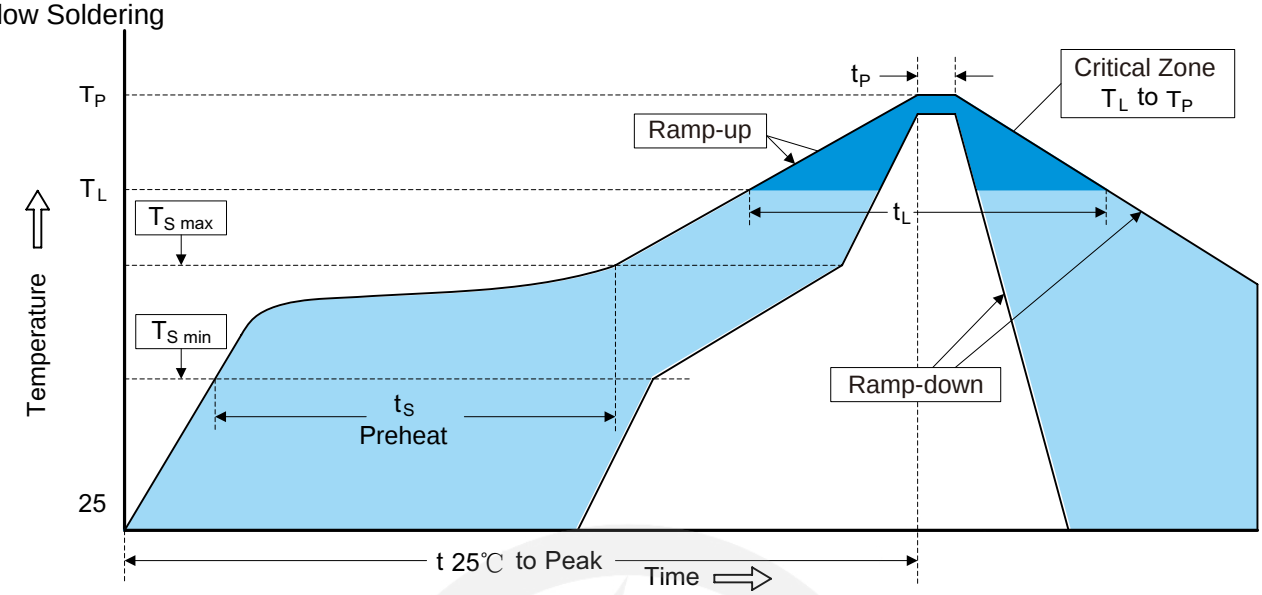
7 inchs Reel



13 inchs Reel

Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.03.16	2024.03.16	3.0	New File	/	Ding	
02	2025.06.17	2025.06.17	3.1	Update packaging information	/	Ding	