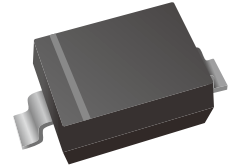


Surface Mount Schottky Barrier Diode

Features

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SOD-323
- Polarity: Color band denotes cathode end



Ordering Information

Part Number	Marking	Shipping	Reel
LT46WS-TR3	S9	3000PCS Tape&Reel	7 inches
LT46WS-TR12	S9	12000PCS Tape&Reel	13 inches

Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	V_{RRM}	100	V
Working peak reverse voltage	V_{RWM}		
Forward continuous current	I_F	150	mA
Repetitive peak forward current (Note 1) @ $t_p < 1.0s$, Duty Cycle < 50%	I_{FRM}	350	mA
Non-repetitive Peak Forward surge current @ $t = 8.3ms$	I_{FSM}	750	mA
Power dissipation	P_D	200	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	500	°C/W
Operating Junction Temperature Range	T_j	-40 ~ +125	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	V_R	$I_R=100\mu A$	100			V
Reverse voltage leakage current	I_R	$V_{R1}=1.5V$			0.3	μA
		$V_{R2}=10V$			0.5	
		$V_{R3}=50V$			1	
		$V_{R4}=75V$			2	
Forward voltage(Note 2)	V_F	$I_{F1}=0.1mA$			0.25	V
		$I_{F2}=10mA$			0.45	
		$I_{F3}=250mA$			1	
Diode capacitance	C_T	$V_R=0, f=1MHz$		20		pF
		$V_R=1V, f=1MHz$		12		

Notes: 1. Part mounted on FR-4 board with recommended pad layout.
 2. Short duration pulse test used to minimize self-heating effect.

Characteristics Curves

Fig.1 Forward Characteristics

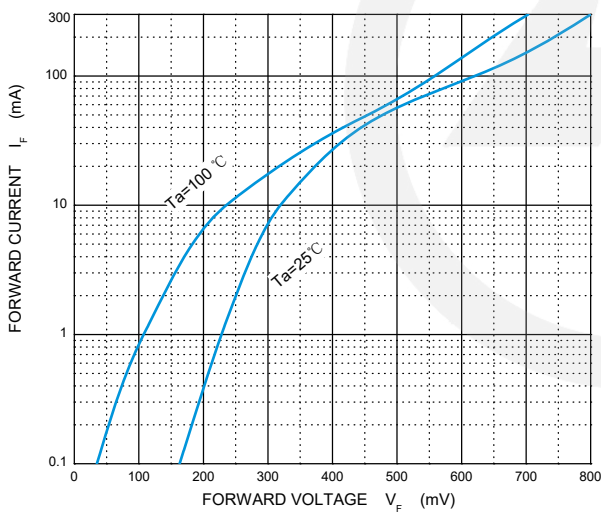


Fig.2 Reverse Characteristics

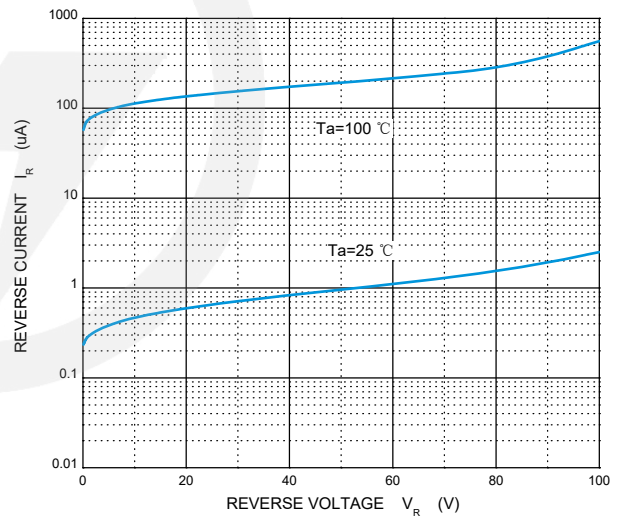


Fig.3 Capacitance Characteristics

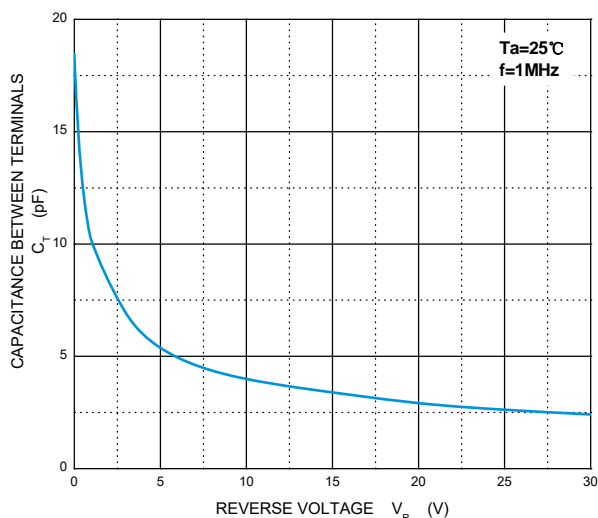
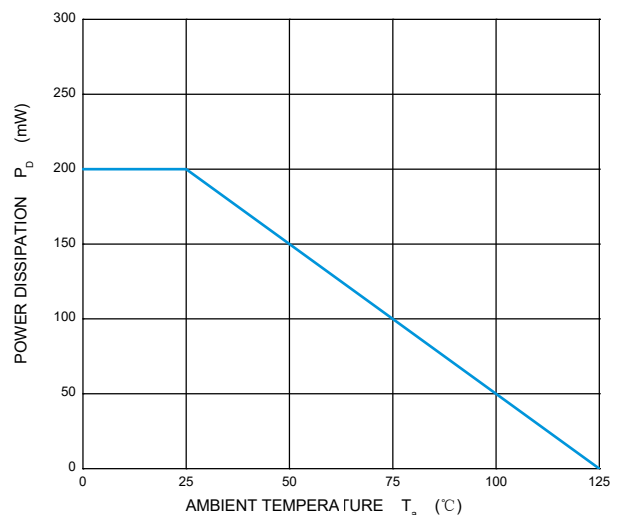
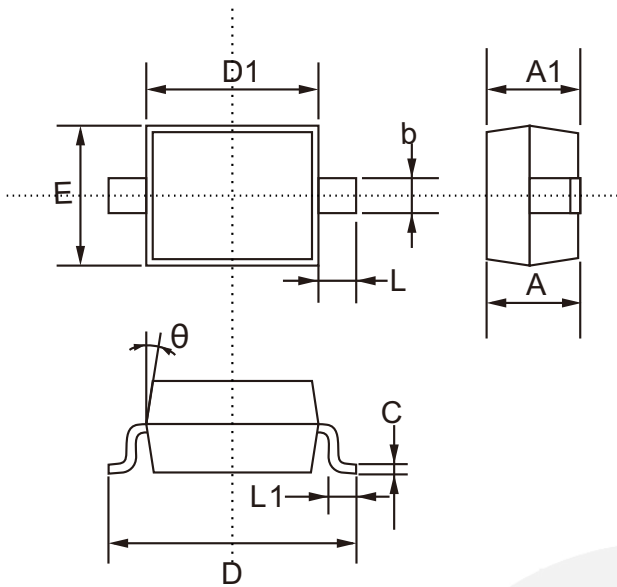


Fig.4 Power Derating Curve



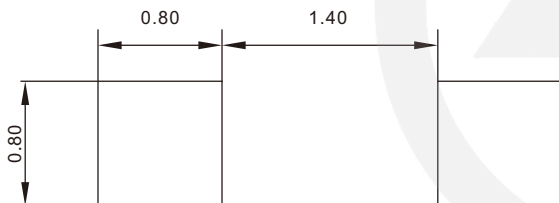
SOD-323 Package Outline

Unit: mm

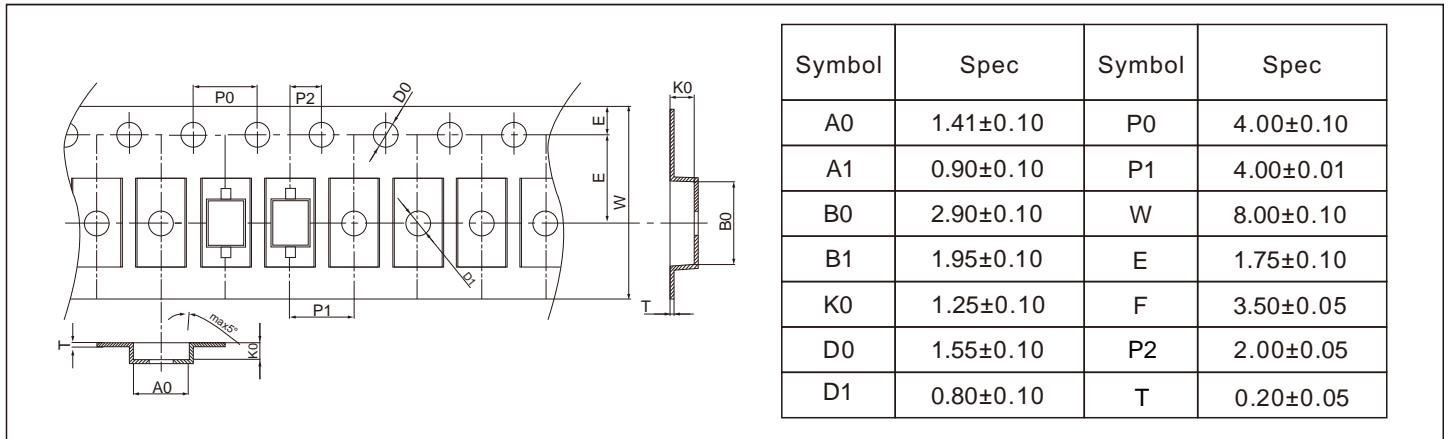
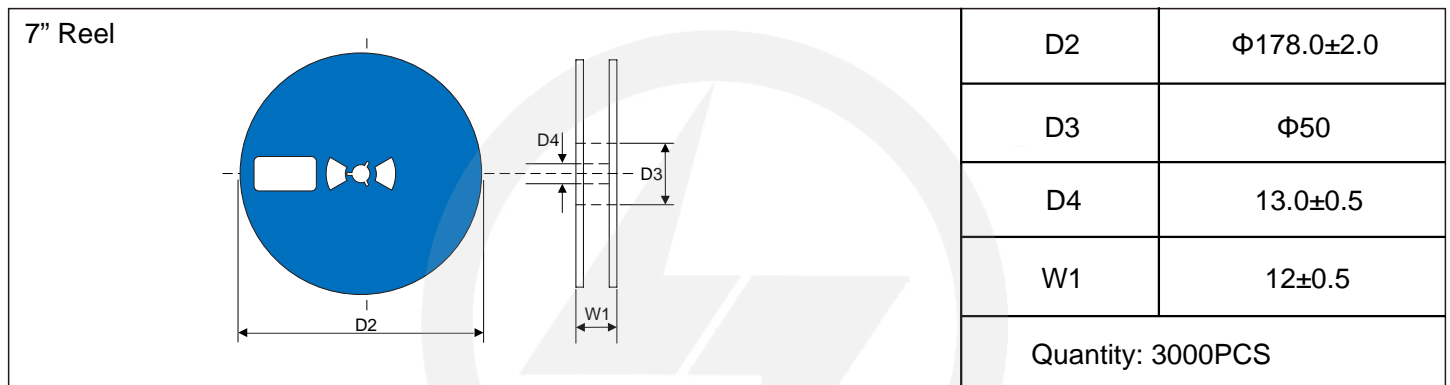
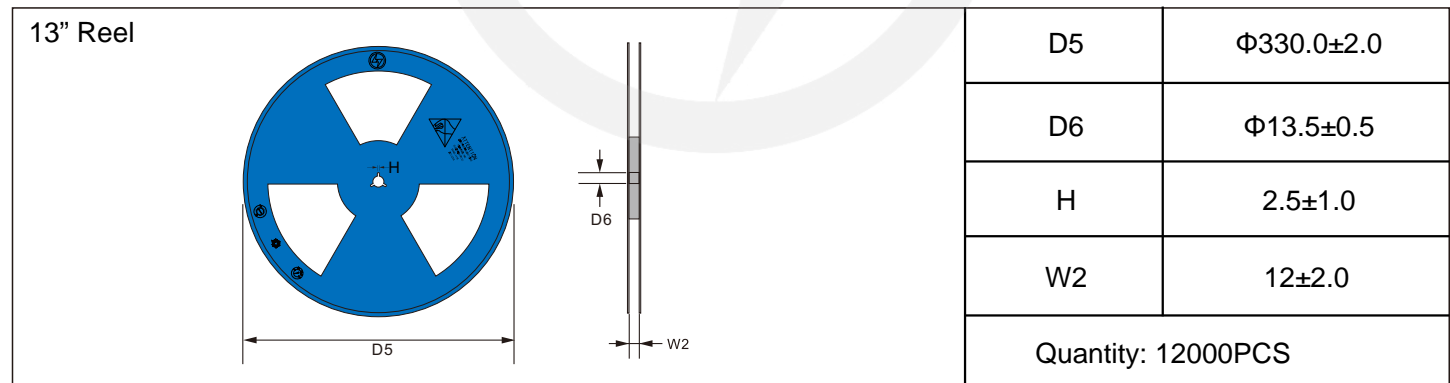
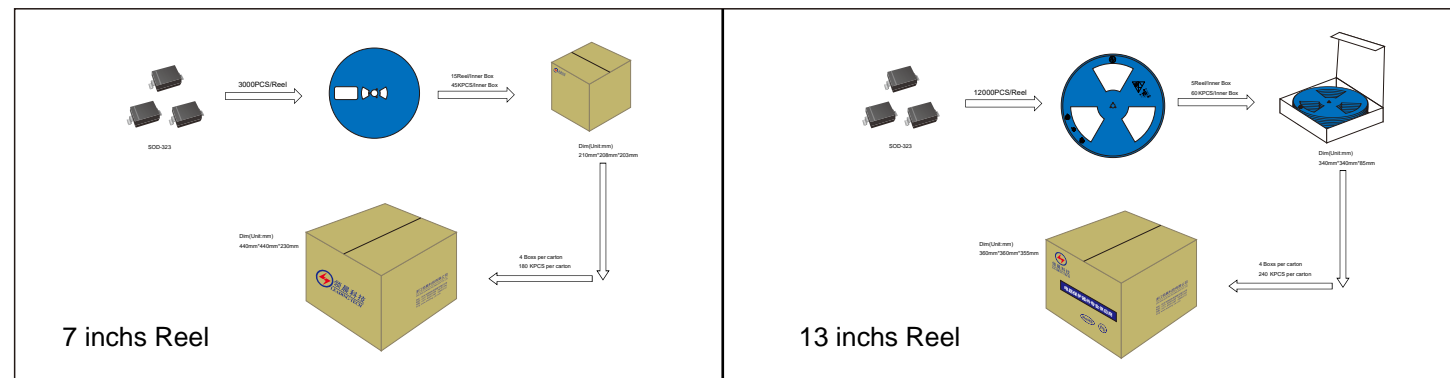


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.100
A1	0.800	0.900
b	0.250	0.400
C	0.080	0.177
D	2.300	2.800
D1	1.400	1.800
E	1.150	1.400
L1	0.100	0.400
L	0.475 TYP.	
θ	8°	

SOD-323 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$
 3. The pad layout is for reference purpose only.

Carrier Tape Dimensions
Unit : mm

Reel Dimensions
Unit : mm

Reel Dimensions
Unit : mm

Packaging




Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C 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	2024.05.16	2024.05.16	3.0	New File	/	Ding	