

Switching Diodes

Features

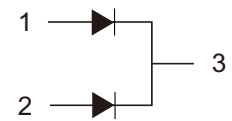
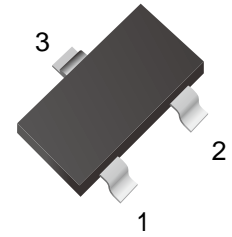
- Low forward voltage
- Fast reverse recovery time
- Small Total Capacitance
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SOT-23
- Approx. Weight: 8.1mg

Ordering Information

Part Number	Marking	Shipping	Reel
LT1S184B3-TR3	B3	3000PCS Tape&Reel	7 inches
LT1S184B3-TR12	B3	12000PCS Tape&Reel	13 inches



Maximum Ratings (@ $T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Reverse voltage	V_{RM}	85	V
DC Blocking Voltage	V_R	80	V
Average Rectified Output Current	I_o	100	mA
Peak forward surge current	I_{FM}	300	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Electrical Characteristics (@ $T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Reverse breakdown voltage	V_R	$I_R=100\mu\text{A}$	80			V
Forward voltage	V_{F1}	$I_F=1\text{mA}$		0.6		V
	V_{F2}	$I_F=10\text{mA}$		0.72		V
	V_{F3}	$I_F=100\text{mA}$		0.9	1.2	V
Reverse voltage leakage current	I_{R1}	$V_R=30\text{V}$			0.1	μA
	I_{R2}	$V_R=80\text{V}$			0.5	μA
Capacitance between terminals	C_T	$V_R=0\text{V}, f=1\text{MHz}$		0.9	3.0	pF
Reverse recovery time	t_{rr}	$I_F=10\text{mA}$		1.6	4.0	ns



Characteristics Curves

Fig.1 Power Derating Curve

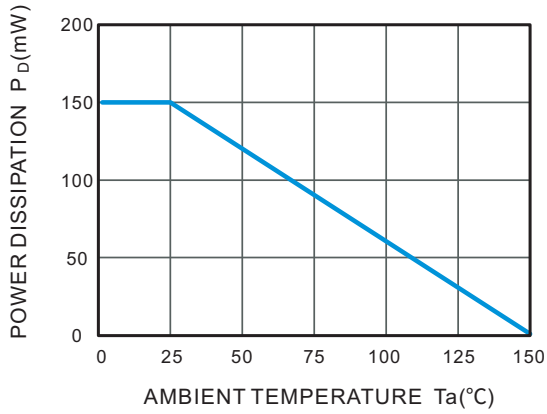


Fig.2 Reverse Characteristics

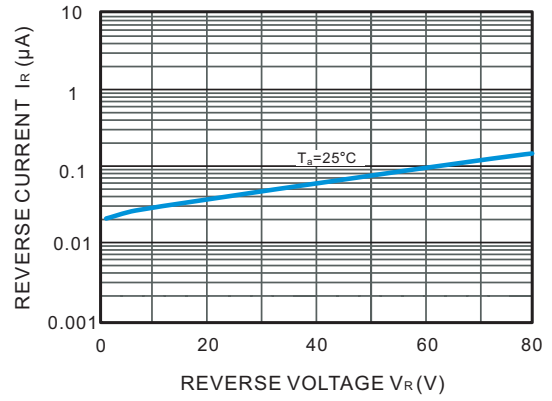


Fig.3 Forward Characteristics

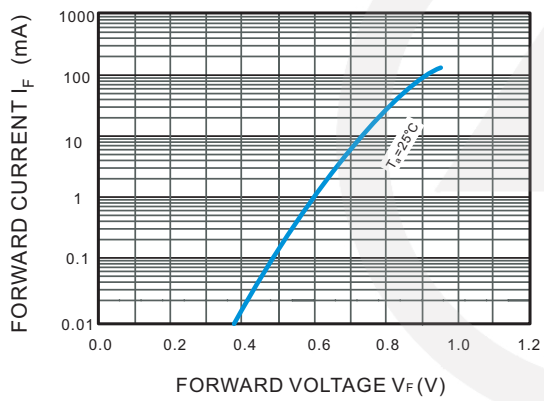
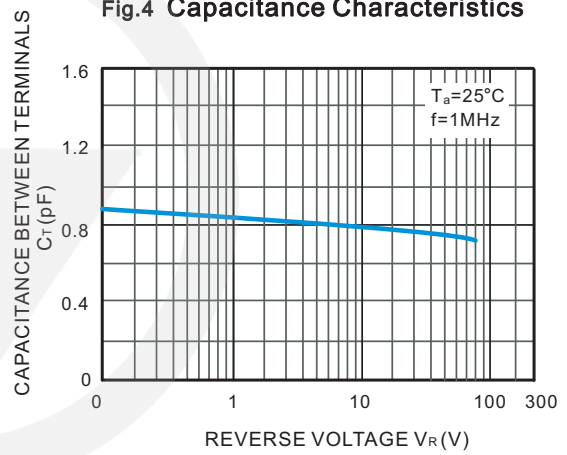
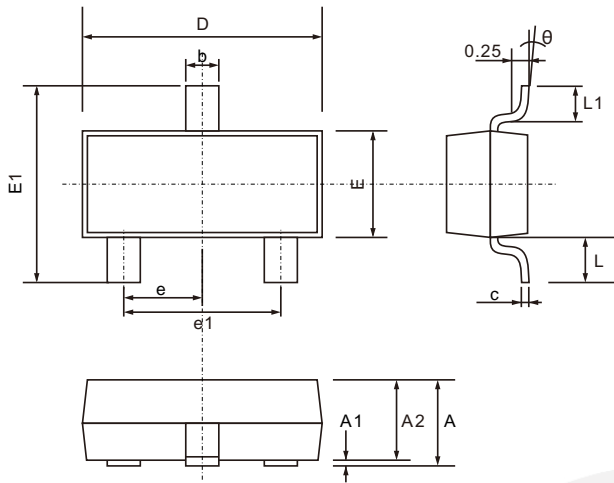


Fig.4 Capacitance Characteristics



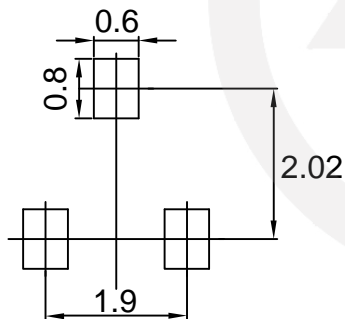
SOT-23 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

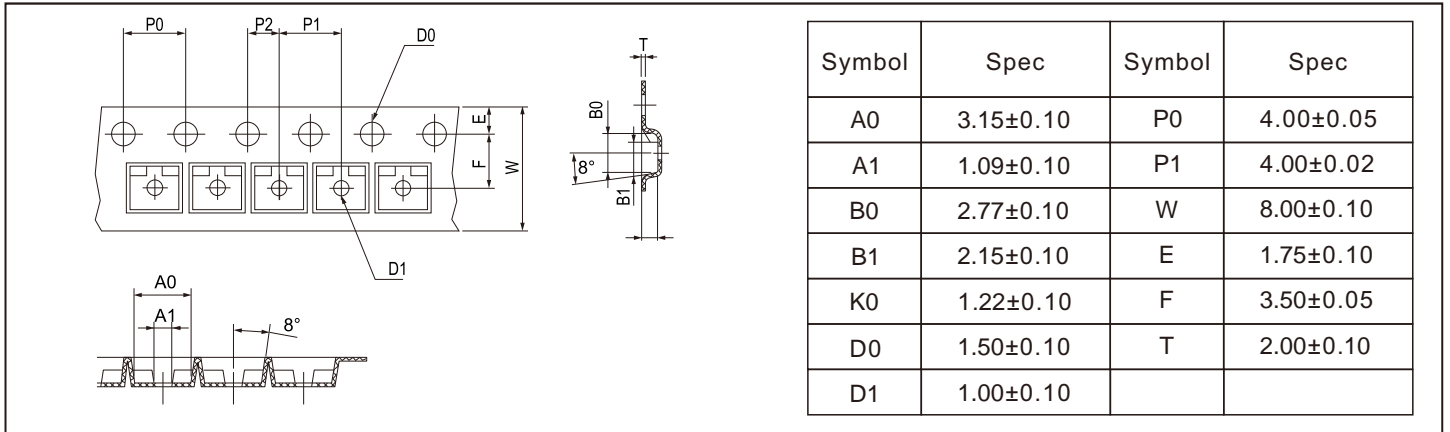
SOT-23 Suggested Pad Layout



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

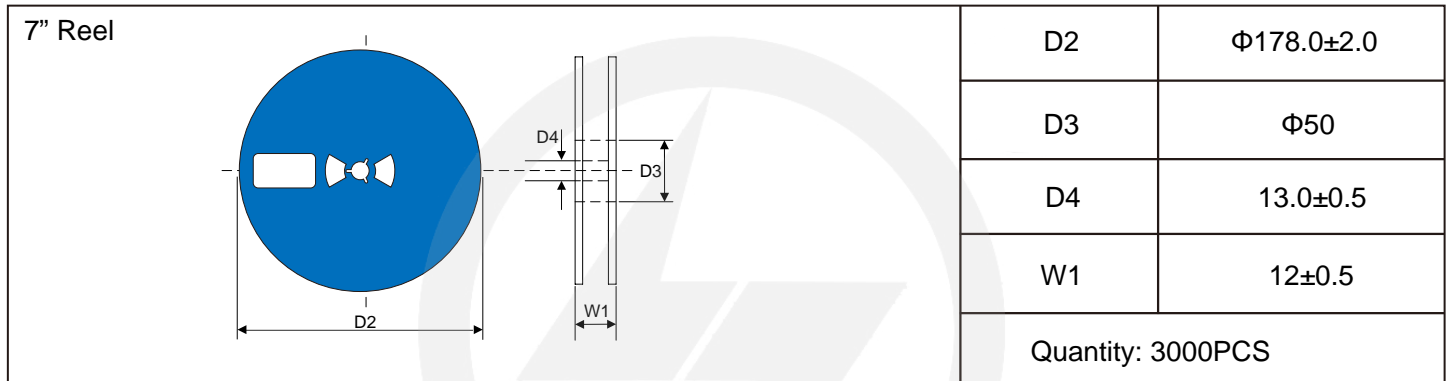
Carrier Tape Dimensions

Unit : mm



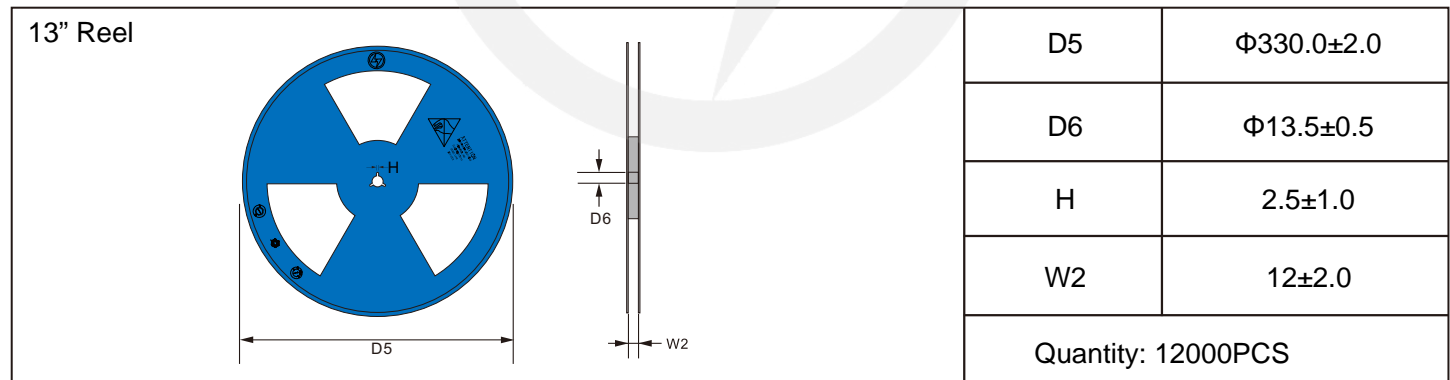
Reel Dimensions

Unit : mm

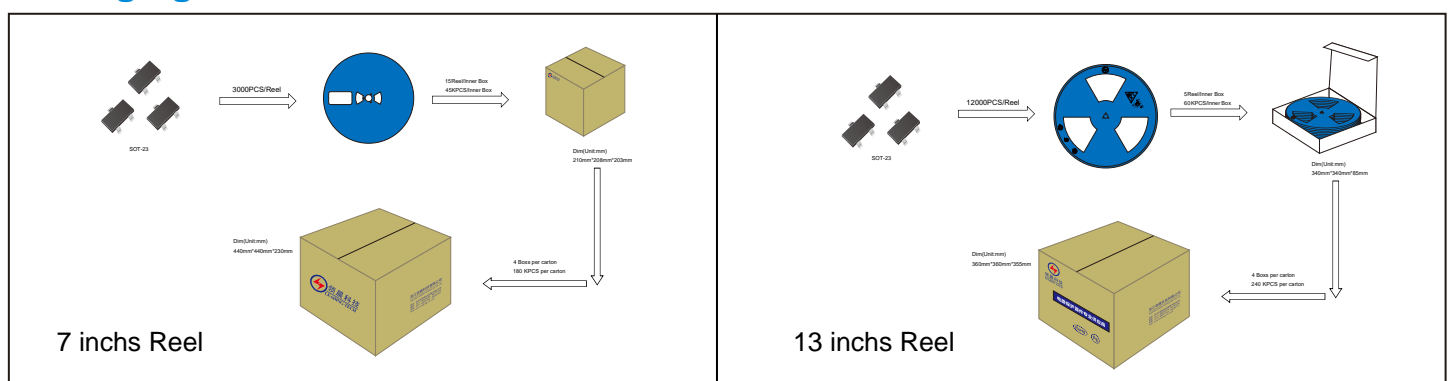


Reel Dimensions

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	2024.03.18	2024.03.18	3.0	New file	/	Ding	
02	2025.06.17	2025.06.17	3.1	Update packaging information	/	Ding	
03	2026.03.04	2026.03.04	3.2	Package outline E1(max)=2.6mm	/	Ding	