

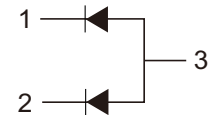
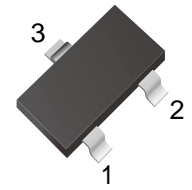
Switching Diodes

Features

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance
- 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
LTS56A1-TR3	A1	3000PCS Tape&Reel	7 inchs
LTS56A1-TR12	A1	12000PCS Tape&Reel	13 inchs

Limiting Values (Absolute Maximum Ratings)

Parameter	Symbol	Limit	Unit
Reverse Voltage	V_R	70	V
Forward Current	I_F	215	mA
Non-Repetitive Peak Forward Surge Current @ $t=1\text{ms}$	I_{FSM}	1	A
Power Dissipation	P_D	225	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature range	T_{STG}	-55~+150	$^{\circ}\text{C}$

Electrical Characteristics (Ta =25 $^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse breakdown voltage	V_R	70			V	$I_R=100\mu\text{A}$
Forward voltage	V_{F1}			0.715	V	$I_F=1\text{mA}$
	V_{F2}			0.855	V	$I_F=10\text{mA}$
	V_{F3}			1	V	$I_F=50\text{mA}$
	V_{F4}			1.25	V	$I_F=150\text{mA}$
Reverse current	I_R			2.5	μA	$V_R=70\text{V}$
Capacitance between terminals	C_T			1.5	pF	$V_R=0, f=1\text{MHz}$
Reverse recovery time	t_{rr}			6	ns	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$



Characteristics Curves

Fig.1 Forward Characteristics

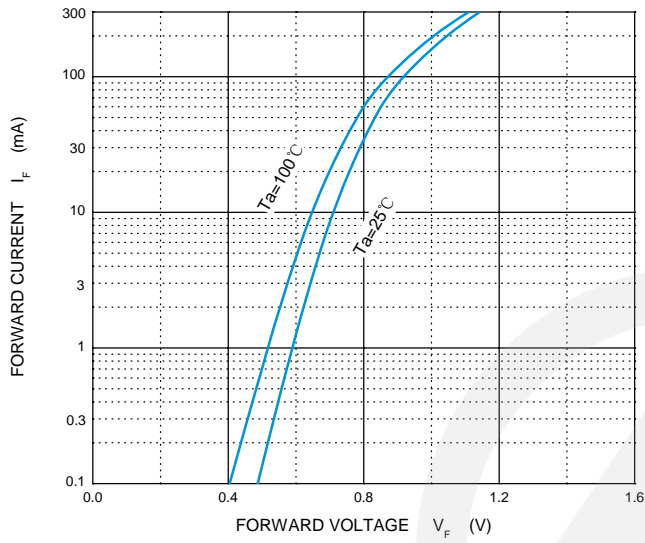


Fig.2 Reverse Characteristics

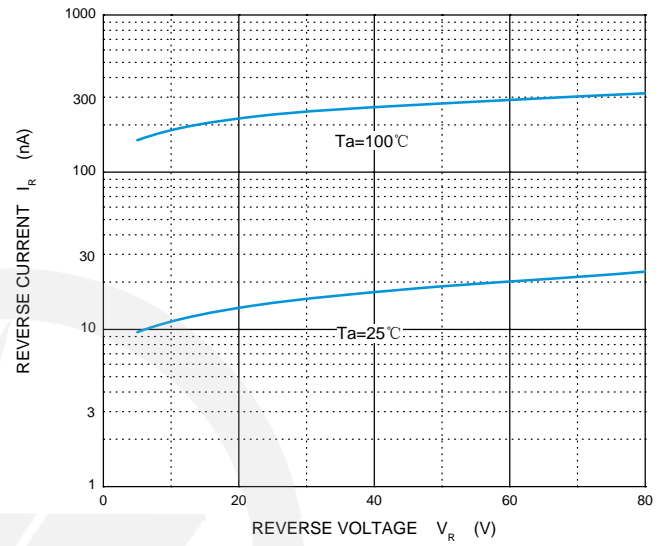


Fig.3 Capacitance Characteristics

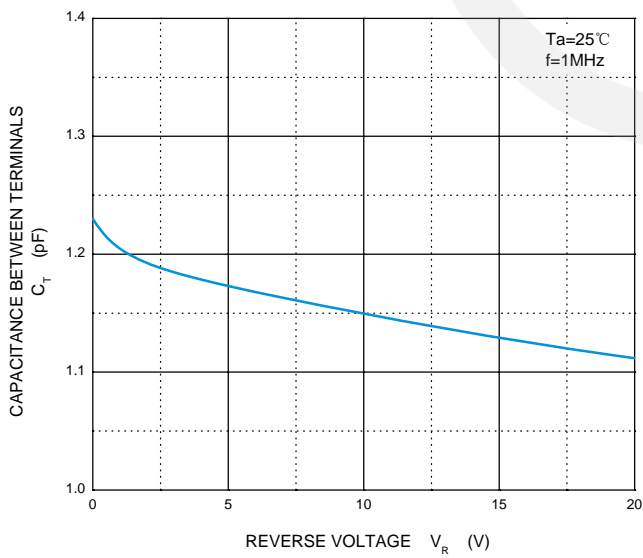
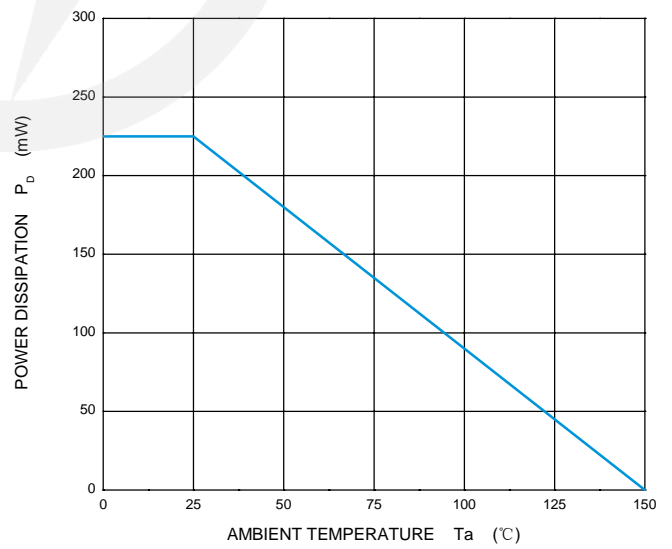
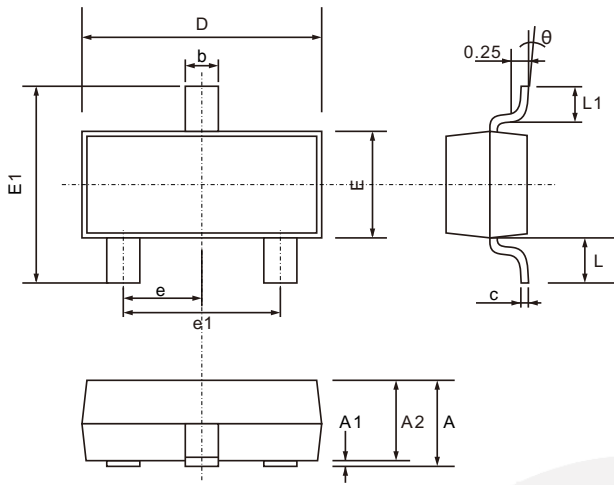


Fig.4 Power Derating Curve



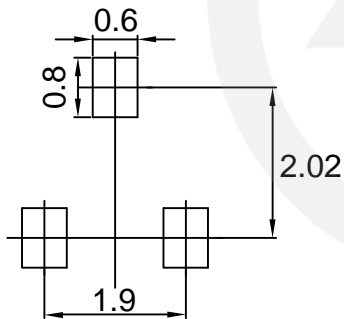
SOT-23 Package Outline

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°

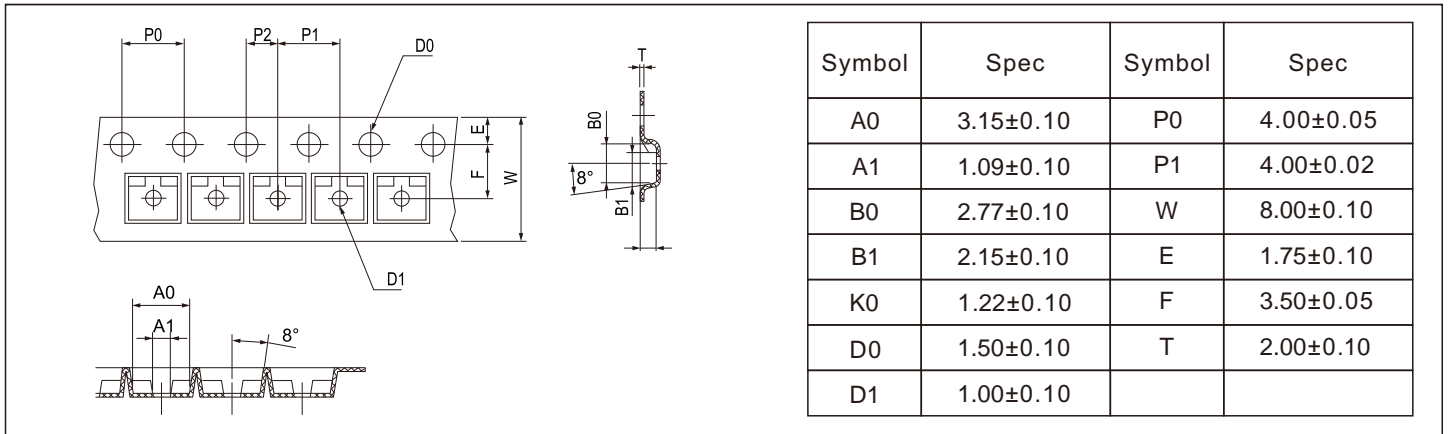
SOT-23 Suggested Pad Layout



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

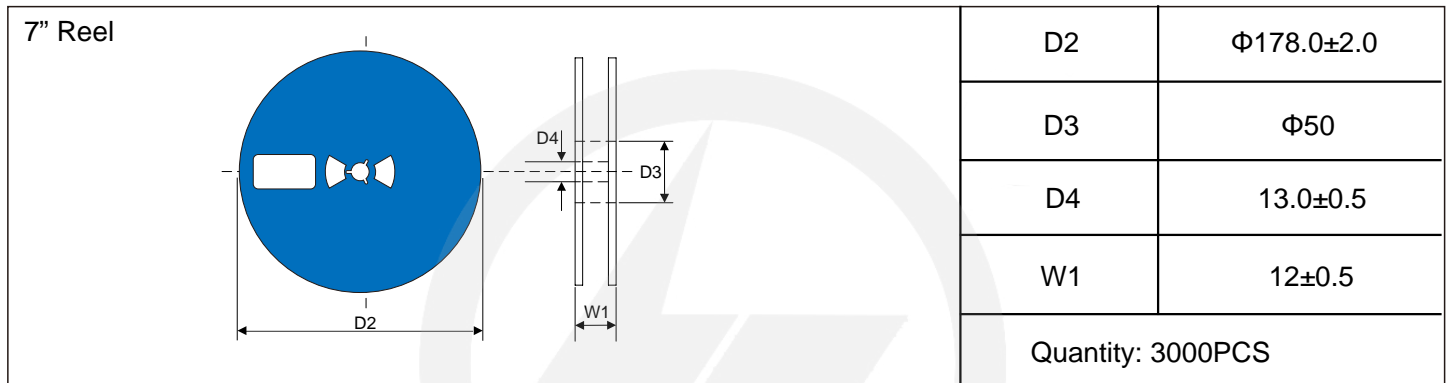
Carrier Tape Dimensions

Unit : mm



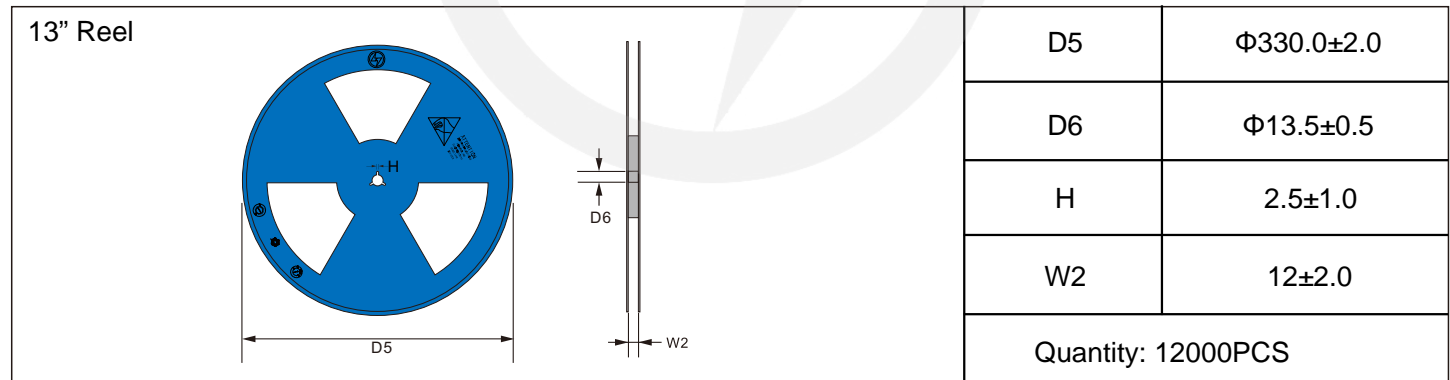
Reel Dimensions

Unit : mm

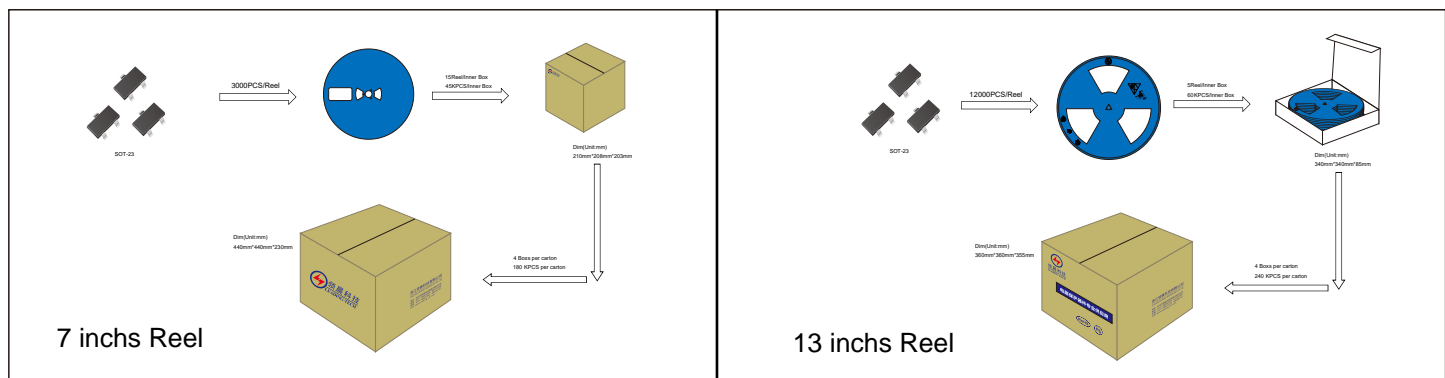


Reel Dimensions

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	2024.04.18	2024.04.18	3.0	New file	/	Ding	
02	2026.03.04	2026.03.04	3.1	Package outline E1(max)=2.6mm	/	Ding	