

Switching Diodes

Features

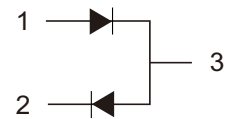
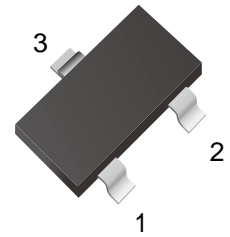
- Very Low Leakage Current
- Low Reverse Recovery Time
- Surface Mount Package
- Epoxy UL:94V-0
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

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

Applications

- Low Leakage Current Applications
- High Speed Switch Applications



Ordering Information

Part Number	Marking	Shipping	Reel
LTV199-TR3	K52	3000PCS Tape&Reel	7 inchs
LTV199-TR12	K52	12000PCS Tape&Reel	13 inchs

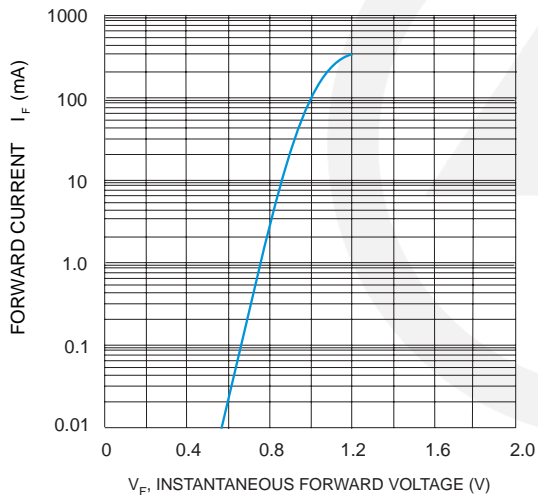
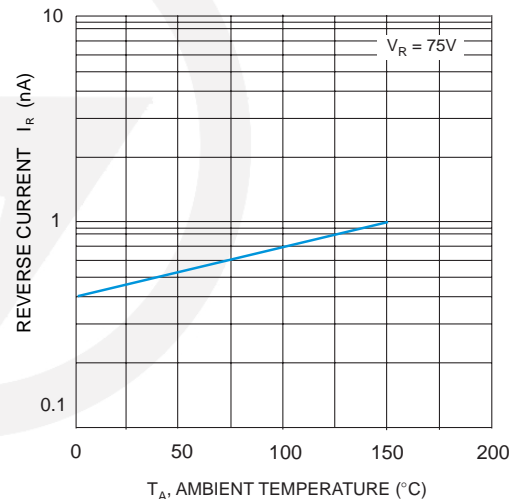
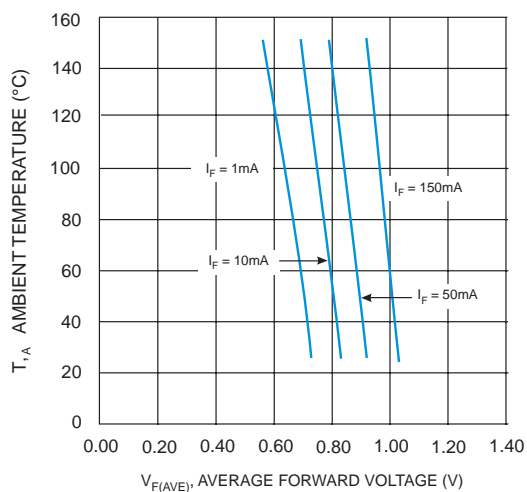
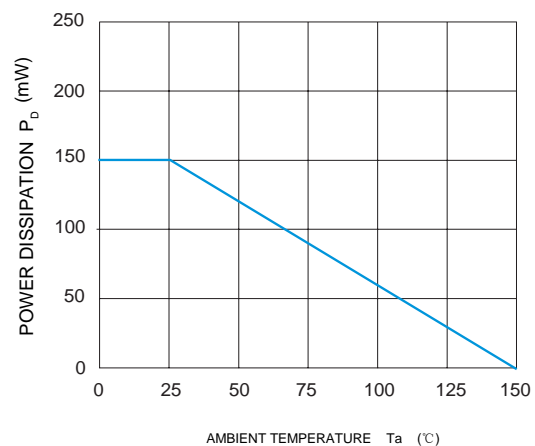
Absolute Maximum Ratings ($T_a=25$ unless otherwise specified)

Parameter	Symbol	Limit	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	85	V
DC Blocking Voltage	V_R	85	V
Forward Continuous Current	I_{FM}	125	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	4.0 1.0 0.5	A
	@t=1.0 μ s		
	@t=1.0ms		
	@t=1.0s		
Power Dissipation	P_D	150	mW
Thermal Resistance Junction to Ambient Air (Note1)	$R_{\theta JA}$	833	$^{\circ}C/W$
Operating and Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}C$

Note 1. Device mounted on FR-4 PC board with recommended pad layout.

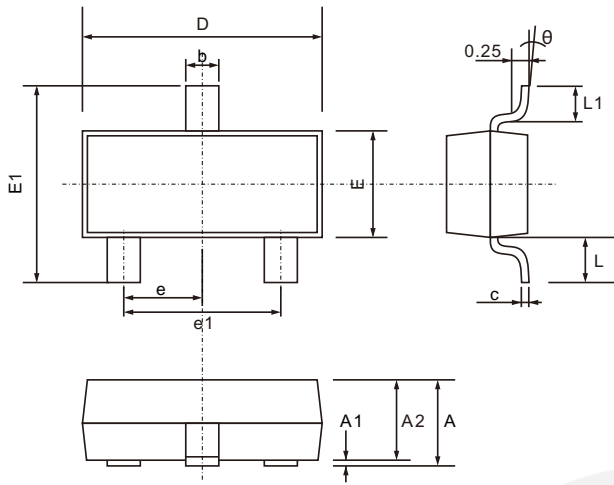
Electrical Characteristics (Ta=25 unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	85			V
Reverse voltage leakage current	I_R	$V_R=75V$ $V_R=75V$ $T_j=150^\circ C$			5 80	nA
Forward voltage	V_F	$I_F=1mA$ $I_F=10mA$ $I_F=50mA$ $I_F=150mA$			900 1000 1100 1250	mV
Total capacitance	C_T	$V_R=0, f=1MHz$		2		pF
Reverse recovery time	t_{rr}	$I_F = I_R=10mA$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$			3	μs

Characteristics Curves
Fig. 1 Typical Forward Characteristics

Fig. 2 Typical Reverse Characteristics

Fig. 3 Typical Forward Voltage vs Ambient Temperature

Fig. 4 Power Derating Curve


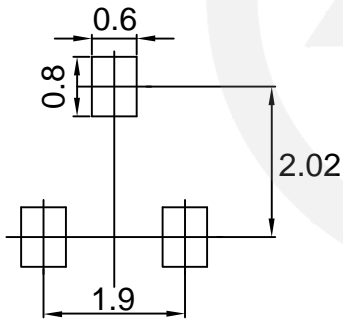
SOT-23 Package Outline

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°

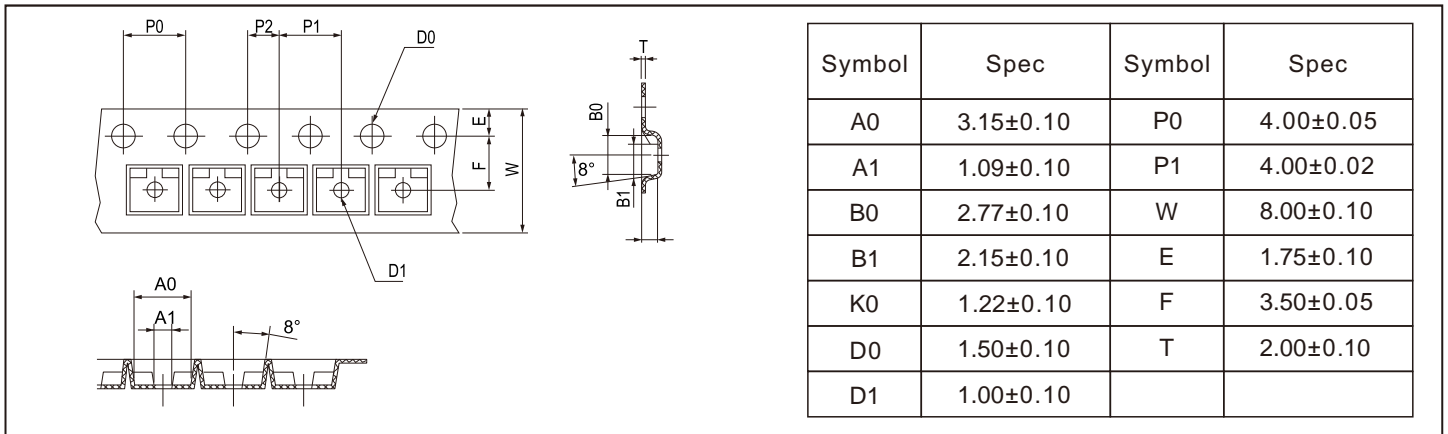
SOT-23 Suggested Pad Layout



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

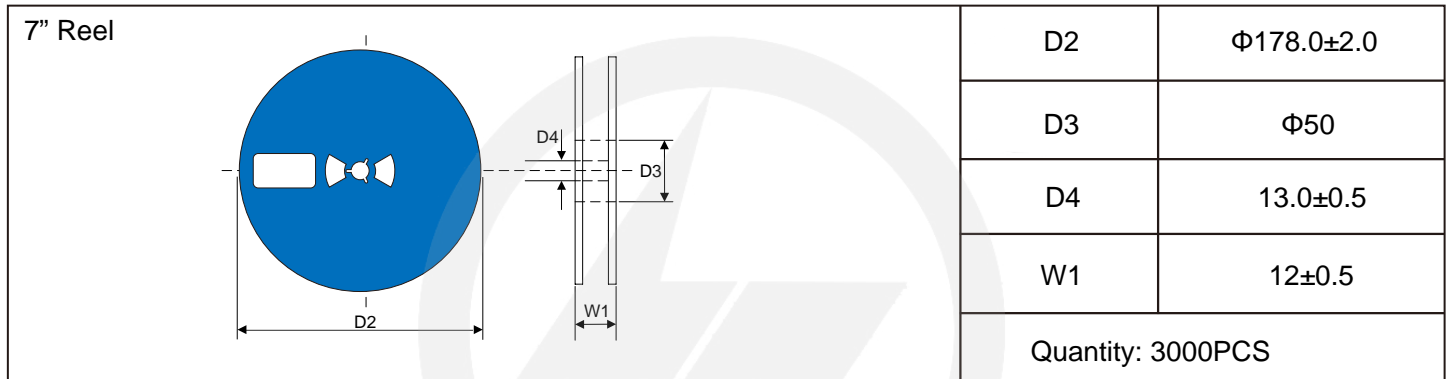
Carrier Tape Dimensions

Unit : mm



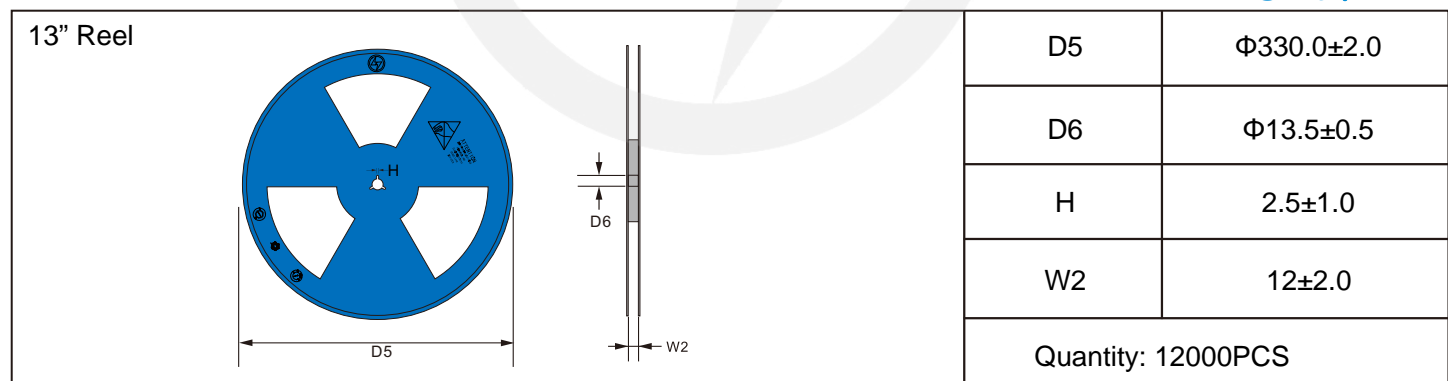
Reel Dimensions

Unit : mm

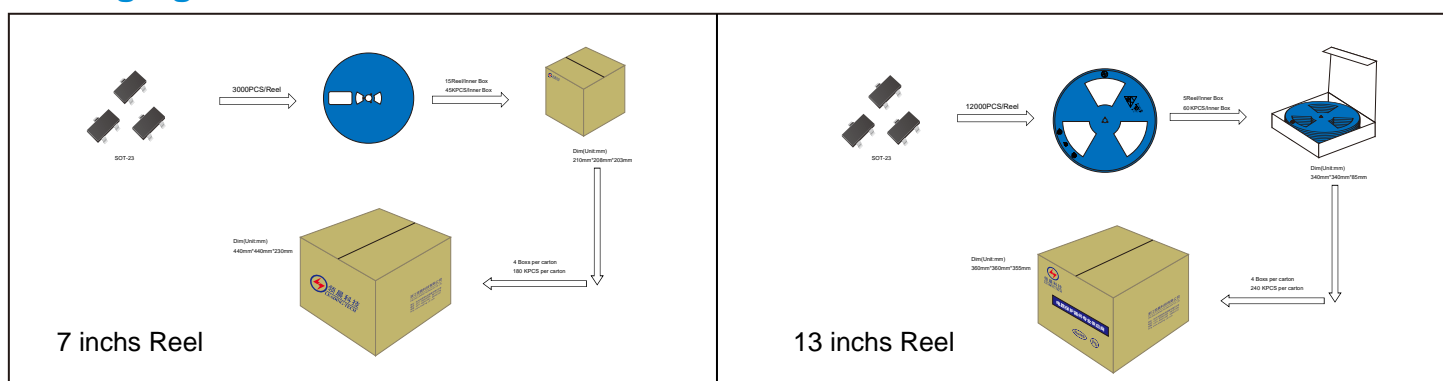


Reel Dimensions

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	2024.08.14	2024.08.14	3.0	New file	/	Ding	
02	2025.06.12	2025.06.12	3.1	Update packaging information	/	Ding	
03	2026.03.04	2026.03.04	3.2	Package outline E1(max)=2.6mm	/	Ding	