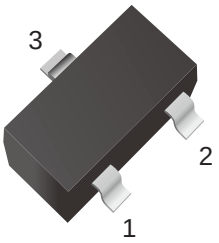
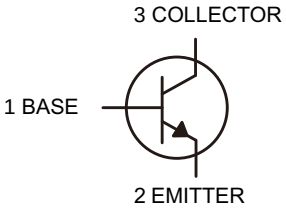
LT52T2222A

Transistor(NPN)

Features

- Epoxy Meets UL 94 V0 Flammability Rating
- Small Outline Surface Mount Package
- Lead free in comply with EU RoHS 2011/65/EU directives





Ordering Information

Part Number	Marking	Shipping	Reel
LT52T2222A-TR3	1P	3000PCS Tape&Reel	7 inchs
LT52T2222A-TR8	1P	8000PCS Tape&Reel	7 inchs

Maximum Ratings (Ta=25℃)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

Electrical Characteristics (Ta=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=10μA, I_E=0	75			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=10mA, I_B=0	40			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	6			V
I_{CEX}	Emitter Cut-Off Current	V_{EB}=3V, V_{CE}=60V			10	nA
h_{FE}	DC Current Gain	V_{CE}=10V,I_C=100μA	35			
		V_{CE}=10V, I_C=1mA	50			
		V_{CE}=10V, I_C=10mA	75			
		V_{CE}=10V, I_C=150mA	100		300	
		V_{CE}=10V, I_C=500mA	40			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C=150mA, I_B=15mA			0.3	V
		I_C=500mA, I_B=50mA			1	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C=150mA, I_B=15mA			1.2	V
		I_C=500mA, I_B=50mA			2.0	
f_T	Transition Frequency	V_{CE}=20V, I_C=20mA, f=100MHz	250			MHz
C_{ob}	Collector Output Capacitance	V_{CB}=10V, I_E=0, f=1MHz			8	pF
t_d	Delay time	V_{CC}=30V,$V_{BE(off)}$=0.5V, I_C=150mA,I_{B1}=15mA			10	nS
t_r	Delay time				25	nS
t_s	Storage time	V_{CC}=30V, I_C=150mA, I_{B1}=-I_{B2}=15mA			225	nS
t_f	Fall time				60	nS

Characteristics Curves

Fig.1 Static Characteristic

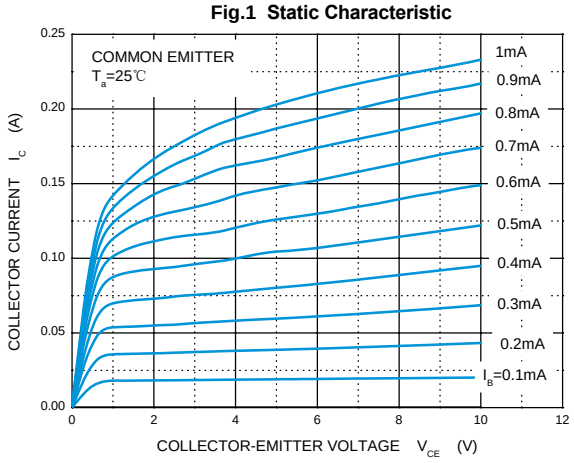


Fig.2 DC Current Gain Characteristics

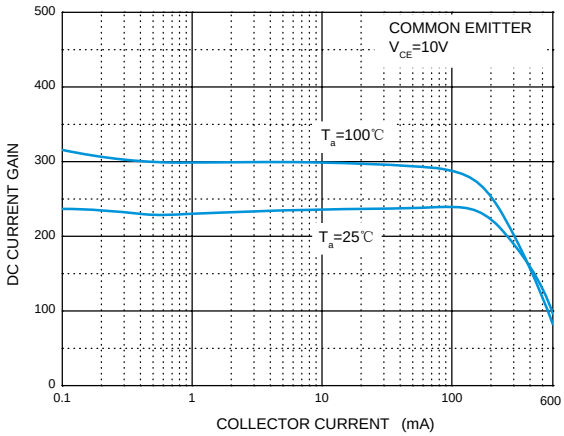


Fig.3 Collector-Emitter Saturation Voltage Characteristics

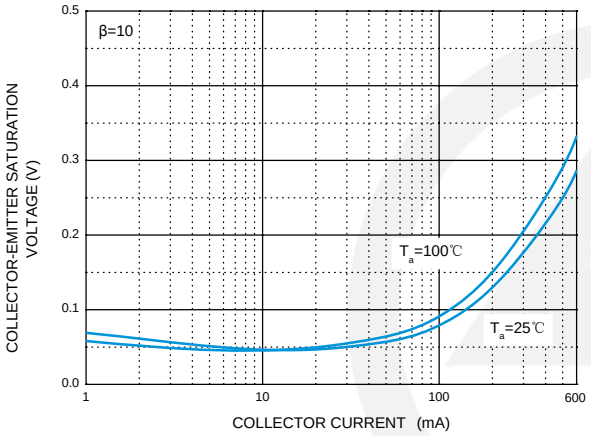


Fig.4 Base-Emitter Saturation Voltage Characteristics

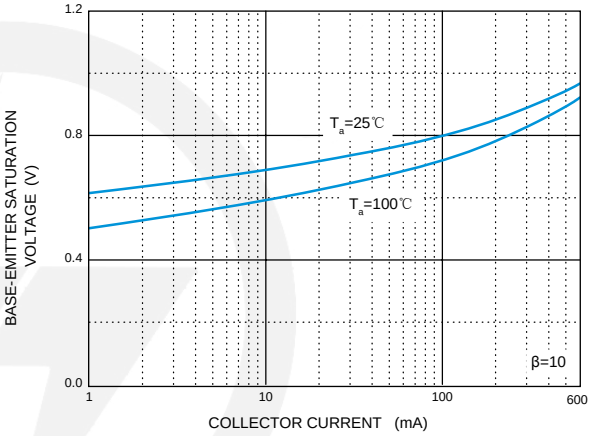


Fig.5 Base-Emitter Voltage Characteristics

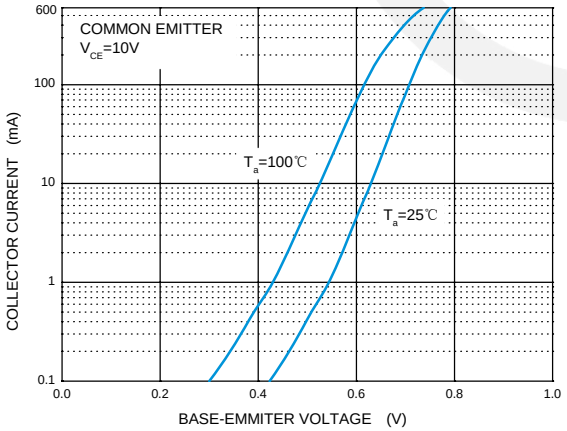
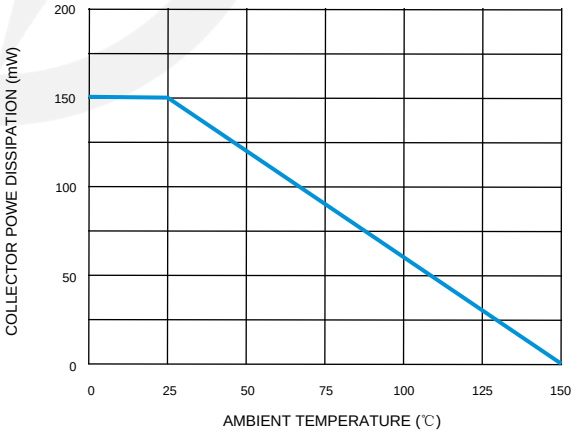
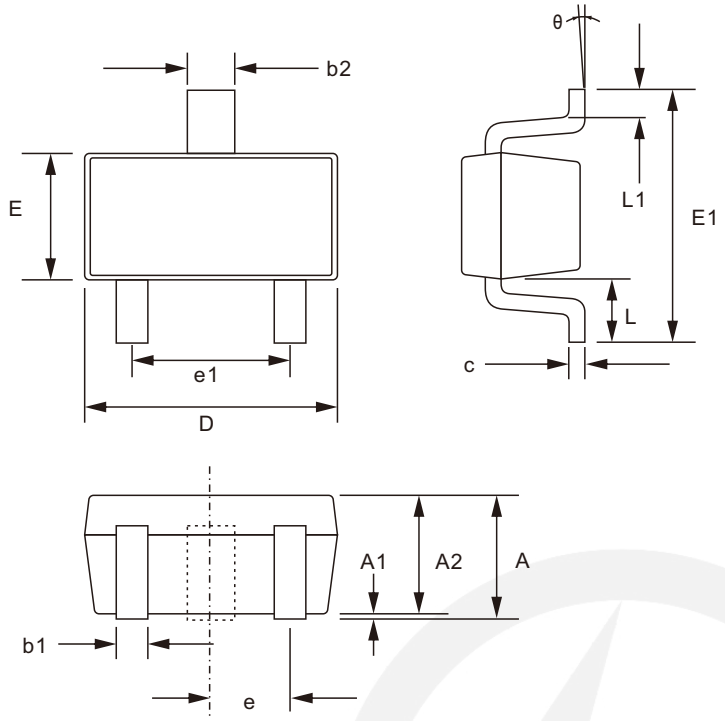


Fig.6 Collector Power Derating Curve



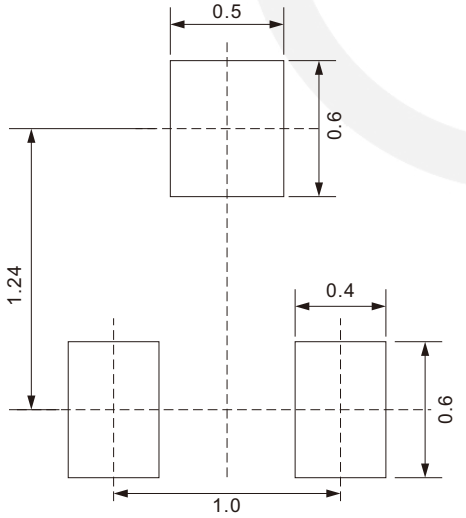
SOT-523 Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.70	0.90
A1	0.00	0.10
A2	0.70	0.80
b1	0.15	0.25
b2	0.25	0.35
c	0.10	0.20
D	1.50	1.70
E	0.70	0.90
E1	1.45	1.75
e	0.50 TYP.	
e1	0.90	1.10
L	0.40 TYP.	
L1	0.10	0.30
θ	0°	8°

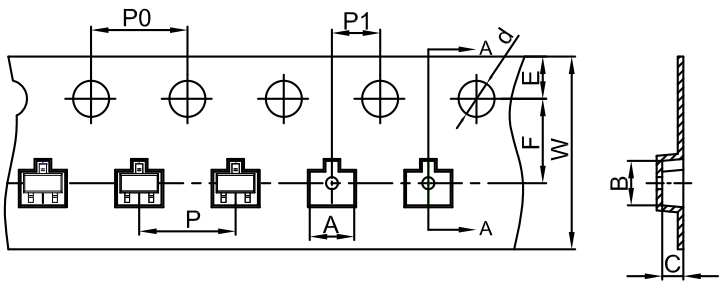
SOT-523 Suggested Pad Layout



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

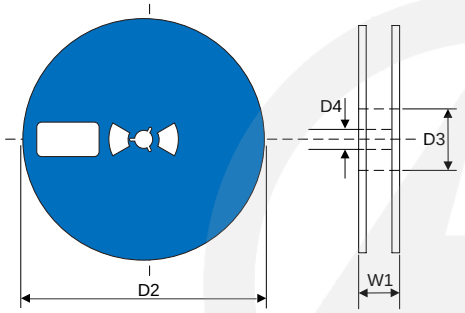


Symbol	Spec	Symbol	Spec
A	1.85	F	3.50
B	1.85	W	8.00
C	0.875	P	4.00
d	Φ1.50	P0	4.00
E	1.75	P1	2.00

Reel Dimensions

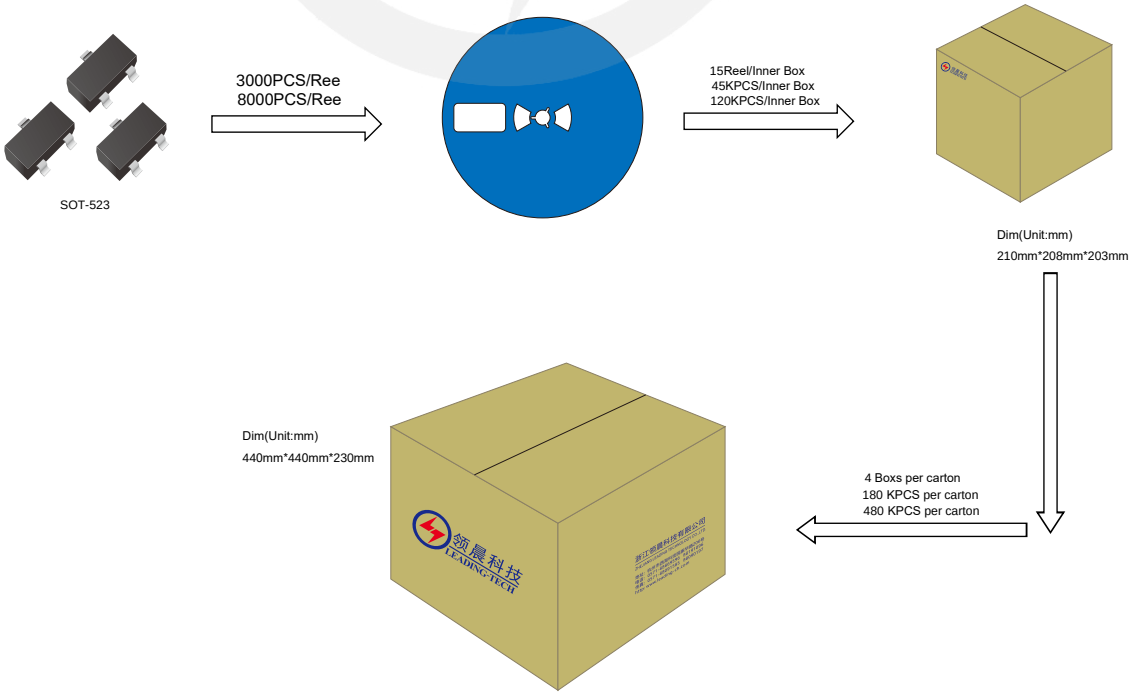
Unit：mm

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0
D4	13.0±0.5
W1	12±0.5
Quantity: 3000/8000PCS	

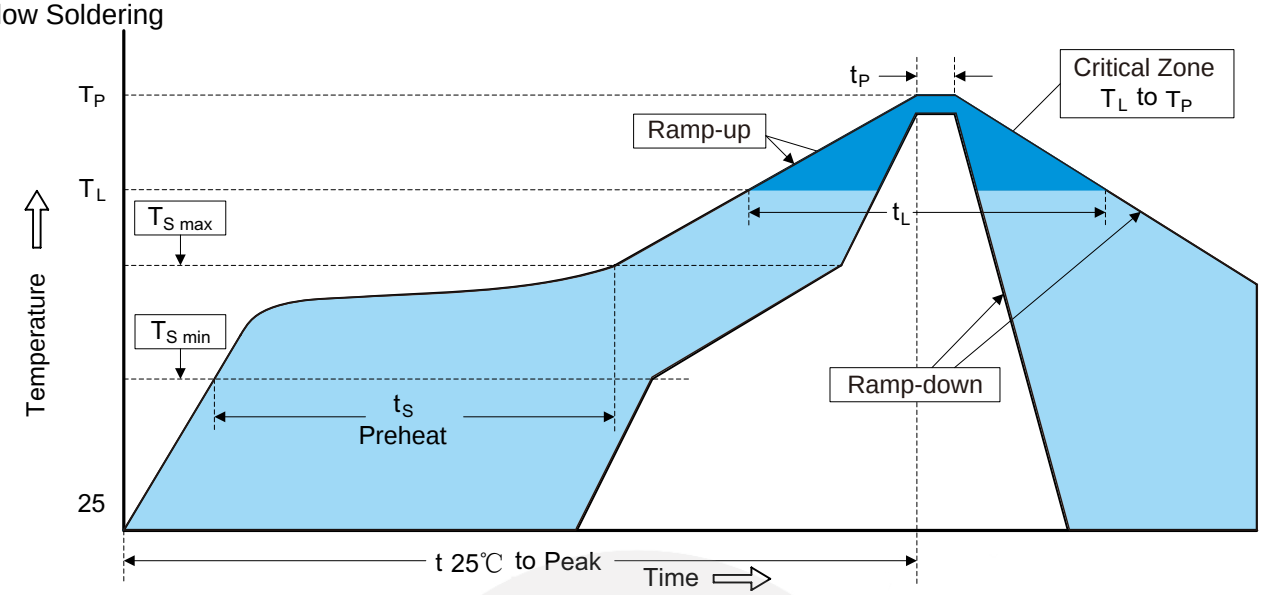
Packaging



7 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	2024.5.5	2024.5.5	3.0	New File	/	Ding	