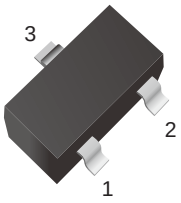
LTM3906T52

Transistor (PNP)

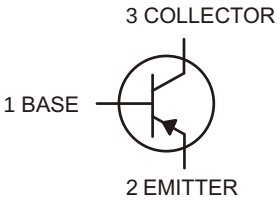
Features



- Epoxy Meets UL 94V-0 Flammability Rating
- Tape specification: Conductive
- Lead free in comply with EU RoHS 2011/65/EU directives

Ordering Information

Part Number	Marking	Shipping	Reel
LTM3906T52-TR3	2A or 3N	3000PCS Tape&Reel	7 inchs
LTM3906T52-TR8	2A or 3N	8000PCS Tape&Reel	7 inchs



Maximum Ratings (Ta=25˚C Unless Otherwise Noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-200	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	˚C/W
T_j	Junction Temperature	150	˚C
T_{stg}	Storage Temperature	-55～+150	˚C

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=-1.0mA, I_B=0	-40			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=-10μA, I_E=0	-40			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=-10μA, I_C=0	-5			V
I_{CBO}	Collector Cut-Off Current	V_{CB}=-30V, I_E=0			-50	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}=-5V, I_E=0			-50	nA
h_{FE}	DC Current Gain	I_C=-0.1mA,V_{CE}=-1.0V	60			
		I_C=-1.0mA,V_{CE}=-1.0V	80			
		I_C=-10mA, V_{CE}=-1.0V	100		300	
		I_C=-50mA,V_{CE}=-1.0V	60			
		I_C=-100mA,V_{CE}=-1.0V	30			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C=-10mA,I_B=-1.0mA			-0.25	V
		I_C=-50mA,I_B=-5.0mA			-0.4	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C=-10mA,I_B=-1.0mA	-0.65		-0.85	V
		I_C=-50mA,I_B=-5.0mA			-0.95	
f_T	Transition Frequency	I_C=-10mA, V_{CE}=-20V, f=100MHz	250			MHz
C_{obo}	Output Capacitance	V_{CB}=-5.0V, I_E=0, f=1.0MHz			4.5	pF
C_{ibo}	Input Capacitance	V_{BE}=-0.5V, I_C=0, f=1.0KHz			10	pF
NF	Noise Figure	V_{CE}=-5V, I_C=-100μ R_S=1KΩ, f=1KHz			4	dB

Switching Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
td	Delay Time	V_{CC}=-3.0V,V_{BE}=-0.5V I_C=-10mA,I_{B1}=-1.0mA			35	nS
tr	Rise Time				35	nS
ts	Storage Time	V_{CC}=-3.0V,I_C=-10mA I_{B1}=I_{B2}=-1.0mA			225	nS
tf	Fall Time				75	nS

Characteristics Curves

Fig.1 Static Characteristic

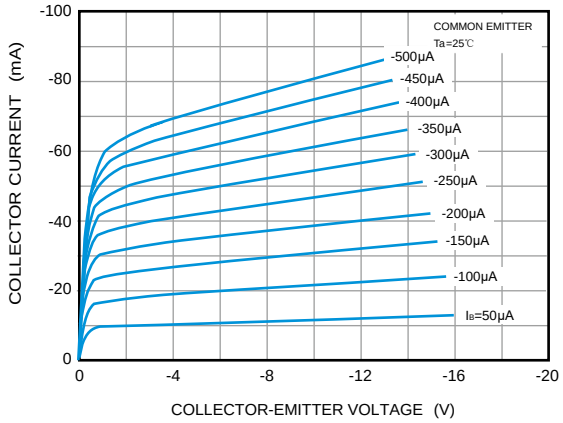


Fig.2 DC Current Gain Characteristics

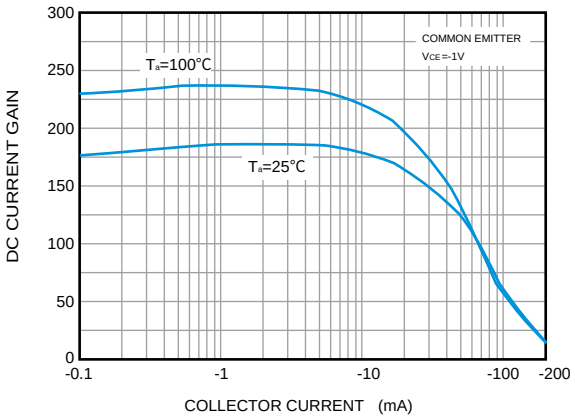


Fig.3 Collector-Emitter Saturation Voltage Characteristics

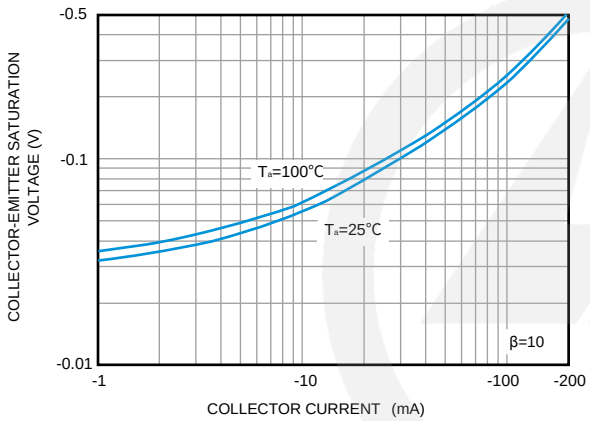


Fig.4 Base-Emitter Saturation Voltage

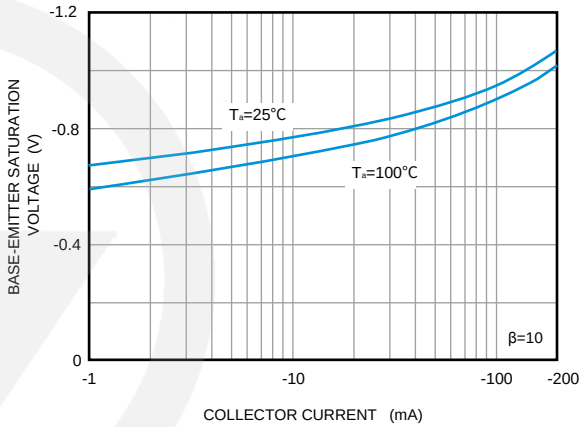


Fig.5 Base-Emitter Voltage Characteristics

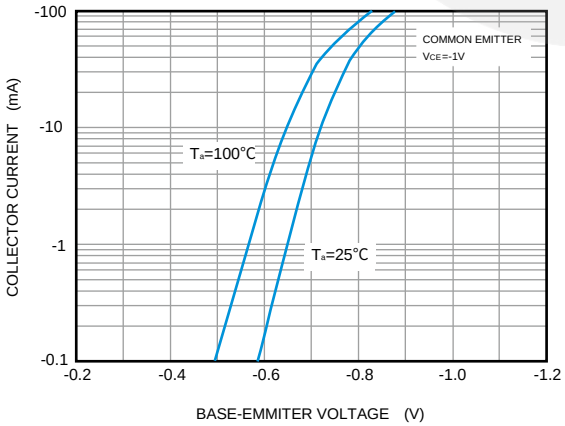
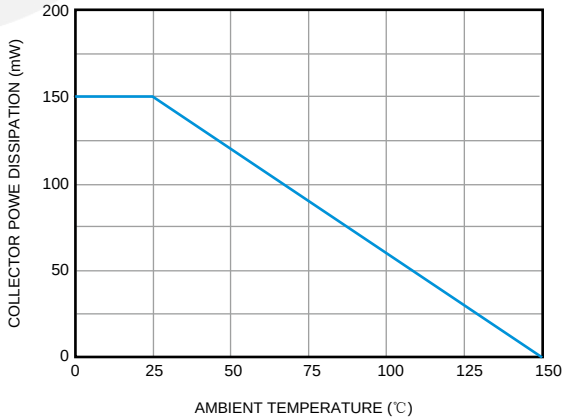
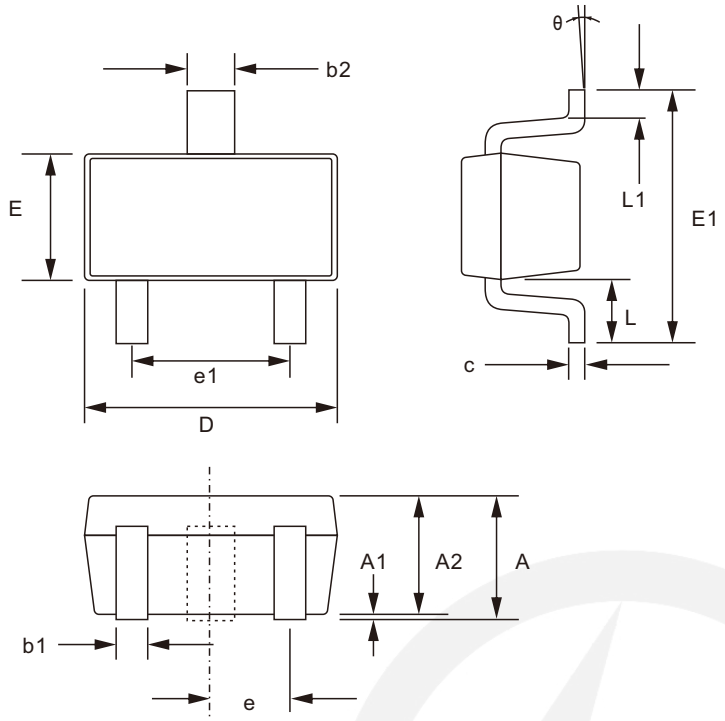


Fig.6 Collector Power Derating Curve



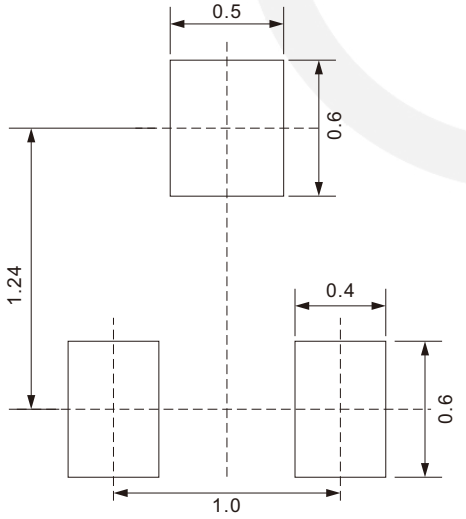
SOT-523 Package Outline



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°

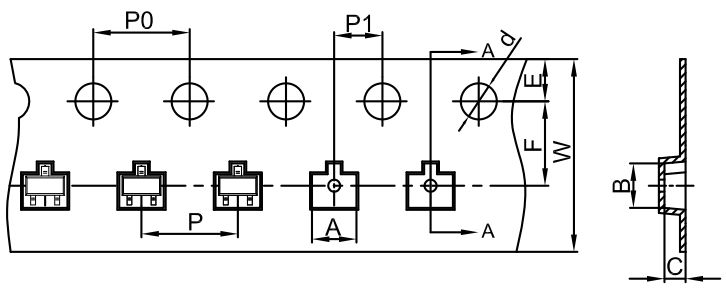
SOT-523 Suggested Pad Layout



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

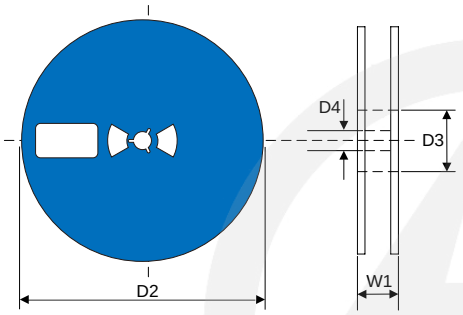


Symbol	Spec	Symbol	Spec
A	1.85	F	3.50
B	1.85	W	8.00
C	0.875	P	4.00
d	Φ1.50	P0	4.00
E	1.75	P1	2.00

Reel Dimensions

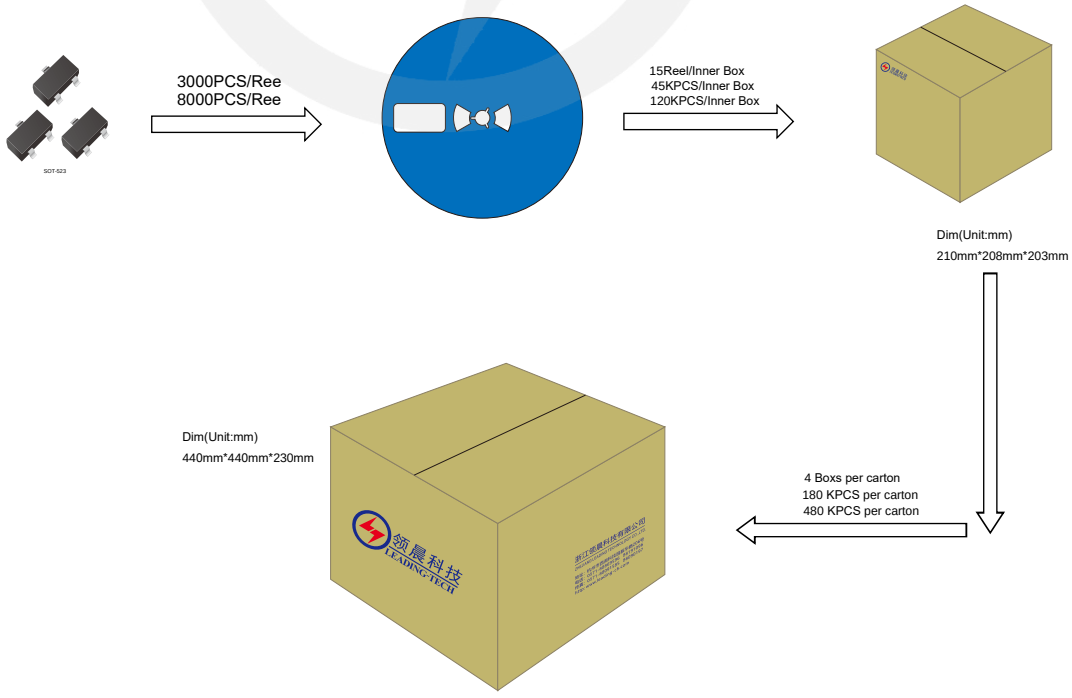
Unit：mm

7” Reel



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

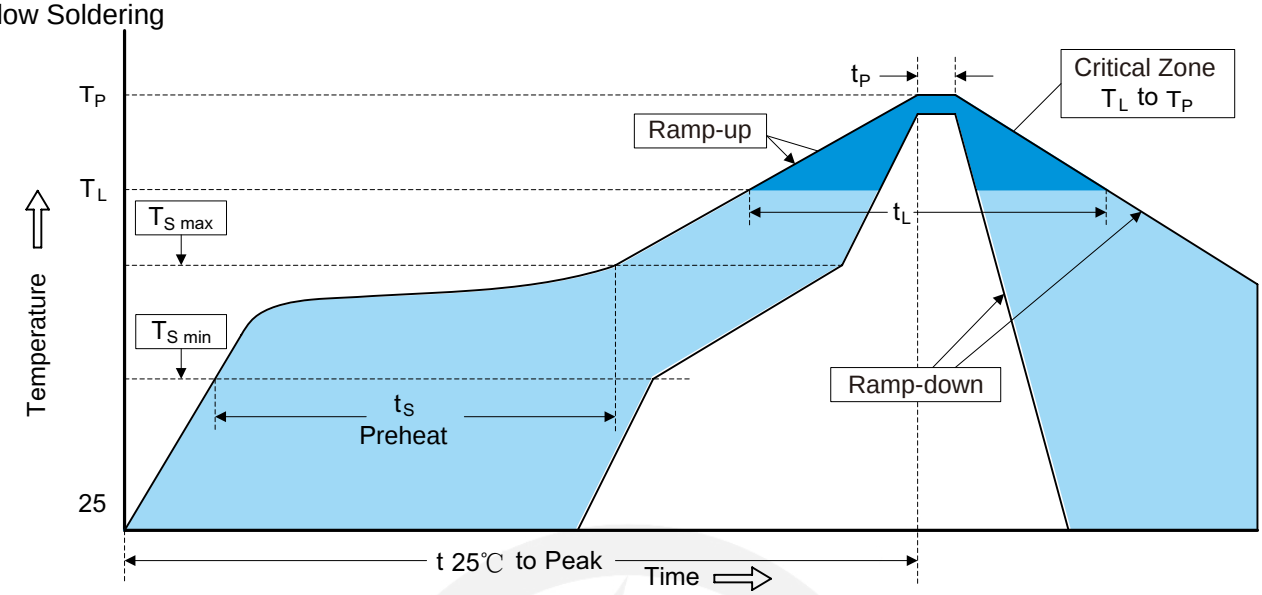
Packaging



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	2024.8.18	2024.8.18	3.0	New File	/	Ding	