

Transistor(PNP)

Features

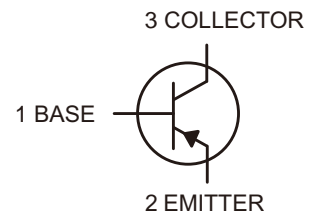
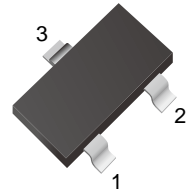
- Collector-emitter voltage $V_{CE}=-50V$
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

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

Ordering Information

Part Number	Marking	Shipping	Reel
LT2A812-TR3	M6	3000PCS Tape&Reel	7 inches
LT2A812-TR12	M6	12000PCS Tape&Reel	13 inches



Maximum Ratings (at 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-150	mA
P_D	Collector Power Dissipation (FR-5 BOARD)	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55~+150	°C

Electrical characteristics ($T_a=25$ unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60V, I_C=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6V, I_C=0$			-0.1	μA
DC current gain *	h_{FE}	$V_{CE}=-6V, I_C=-1mA$	200		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$			-0.3	V
Base-emitter saturation voltage	V_{BE}	$I_C=-1mA, V_{CE}=-6V$	-0.58		-0.68	V
Collect output capacitance	C_{OB}	$V_{CB}=-10V, I_E=0, f=1MHz$		4.5		pF
Transition frequency	f_T	$V_{CE}=-6V, I_C=-1mA$		180		MHz

*Pulse Test: Pulse Width<300uS, Duty Cycle<2.0%.



Characteristics Curves

Fig.1 Static Characteristic

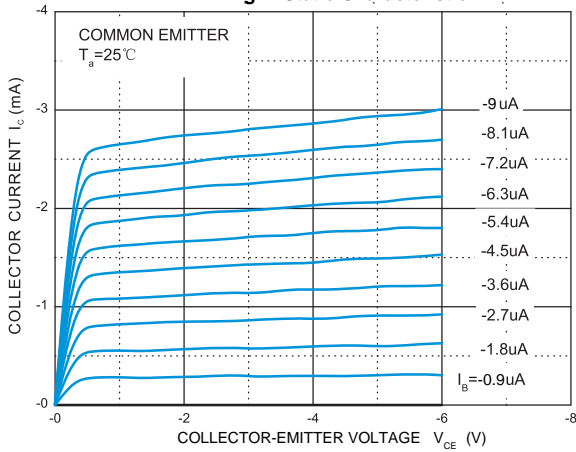


Fig.2 h_{FE} vs I_C

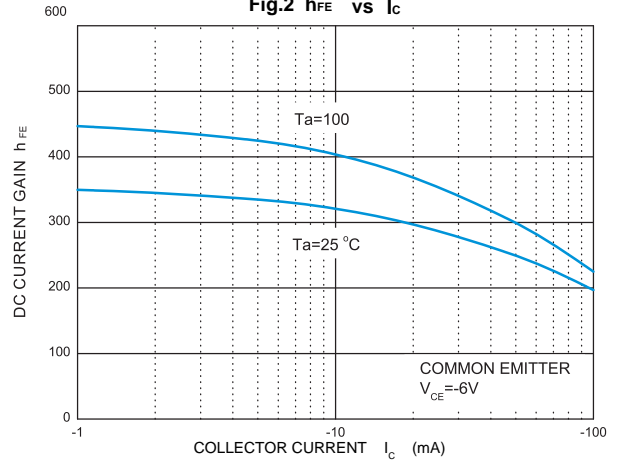


Fig.3 V_{CEsat} vs I_C

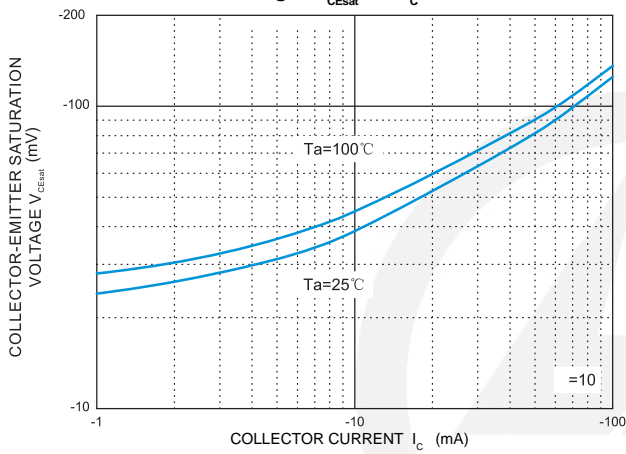


Fig.4 V_{BEsat} vs I_C

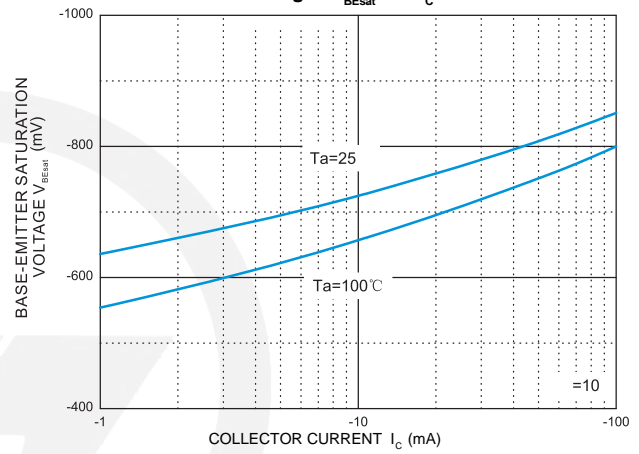


Fig.5 I_C vs V_{BE}

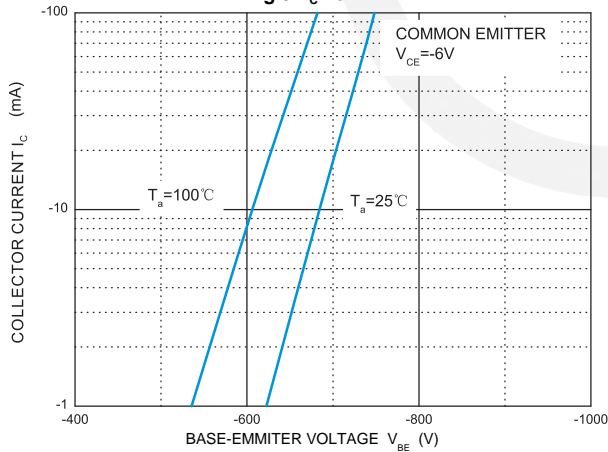


Fig.6 C_{ob}/C_{ib} vs V_{CB}/V_{EB}

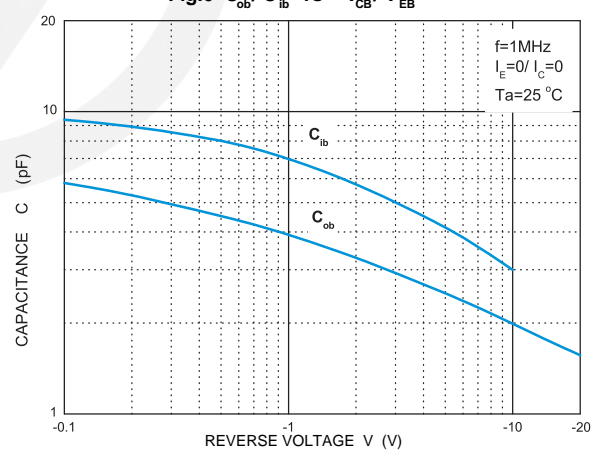


Fig.7 f_T vs I_C

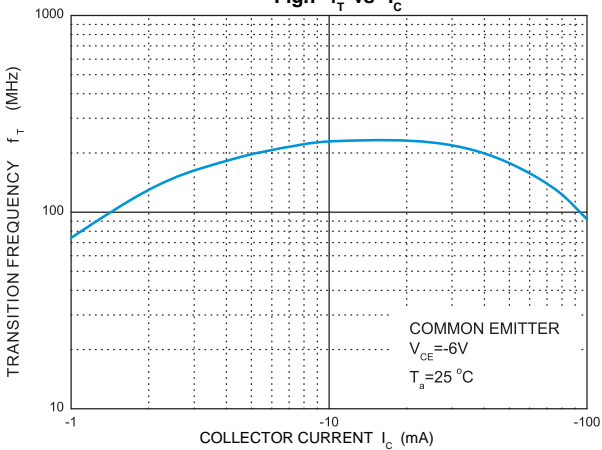
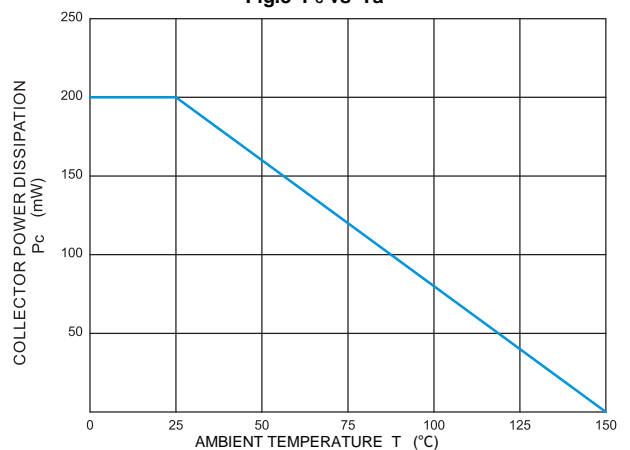
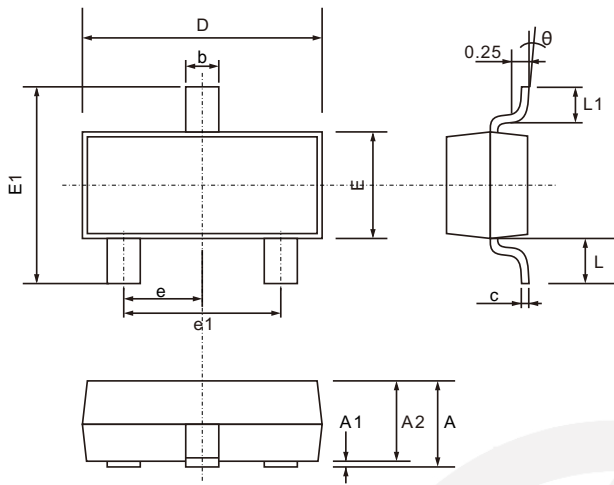


Fig.8 P_c vs T_a



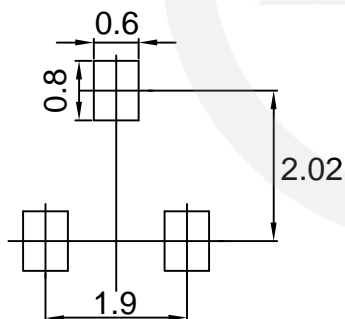
SOT-23 Package Outline

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°

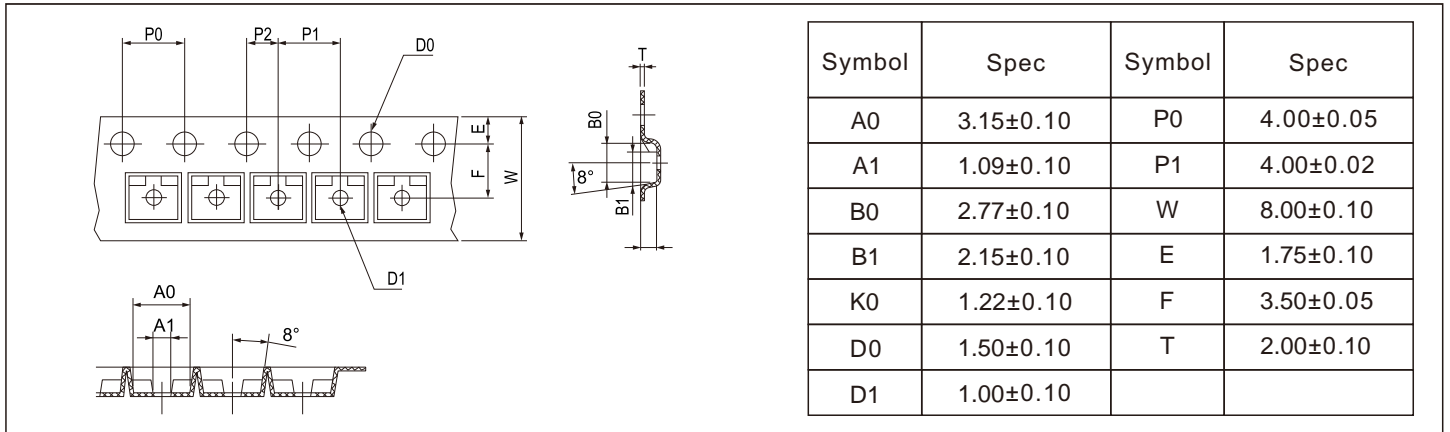
SOT-23 Suggested Pad Layout



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

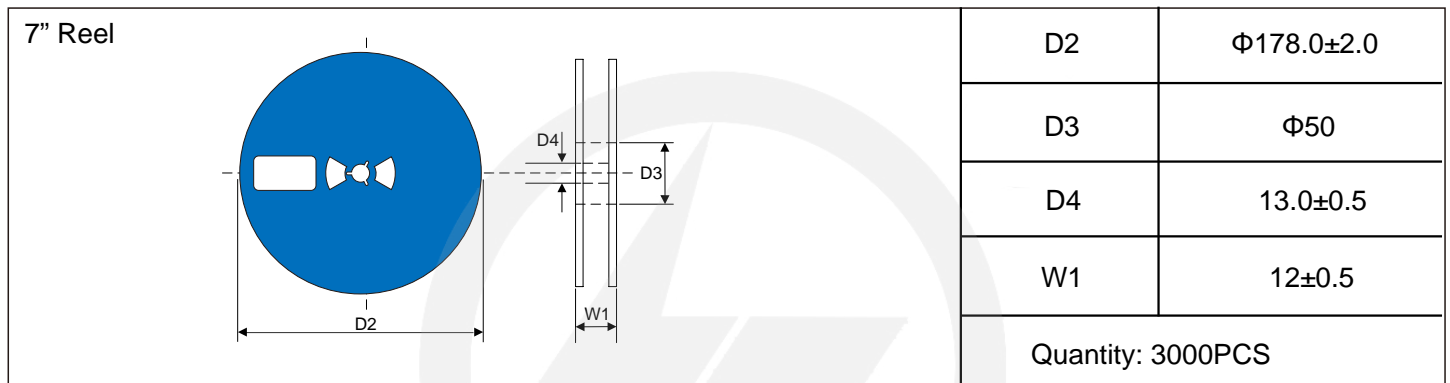
Carrier Tape Dimensions

Unit : mm



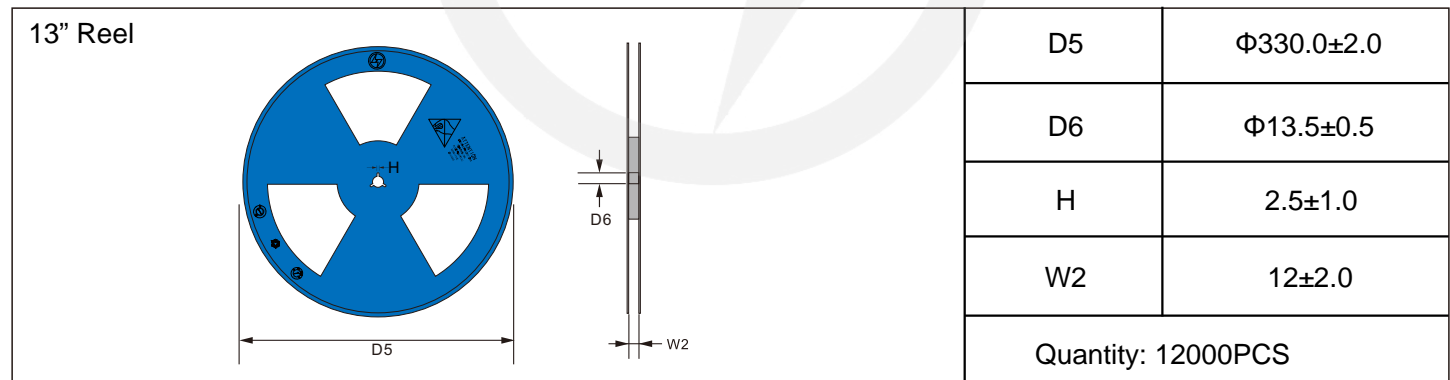
Reel Dimensions

Unit : mm

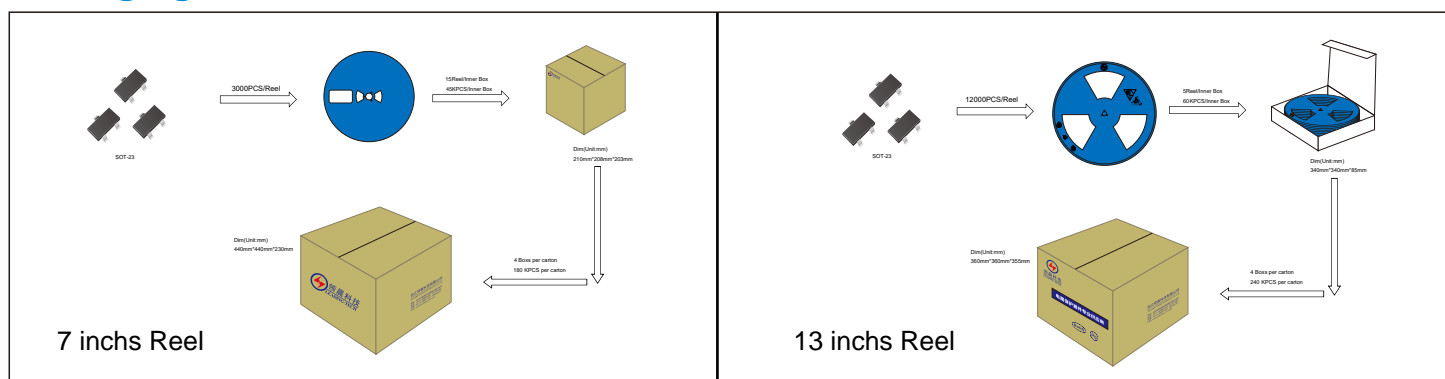


Reel Dimensions

Unit : mm

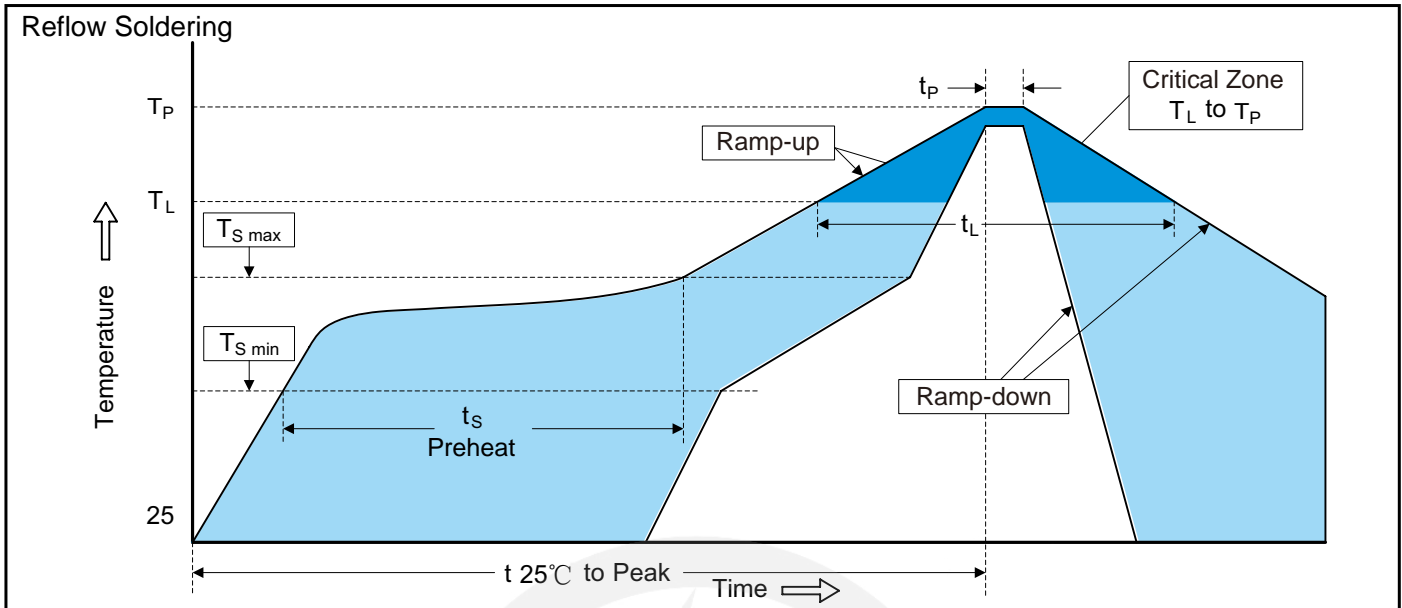


Packaging





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	2024.03.12	2024.03.12	3.0	New file	/	Ge	
02	2025.06.12	2025.06.12	3.1	Update packaging information	/	Ding	
03	2026.03.06	2026.03.06	3.2	Package outline E1(max)=2.6mm	/	Ding	