

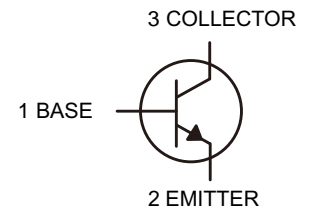
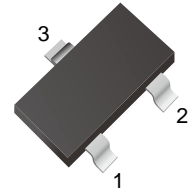
## Transistor(NPN)

### Features

- Power Dissipation of 200mW
- High Stability and High Reliability
- Lead free in comply with EU RoHS 2011/65/EU directives

### Ordering Information

Part Number	Marking	Shipping	Reel
LT2C2412-TR3	J6	3000PCS Tape&Reel	7 inches
LT2C2412-TR12	J6	12000PCS Tape&Reel	13 inches



### Maximum Ratings ( Ta=25 unless otherwise noted )

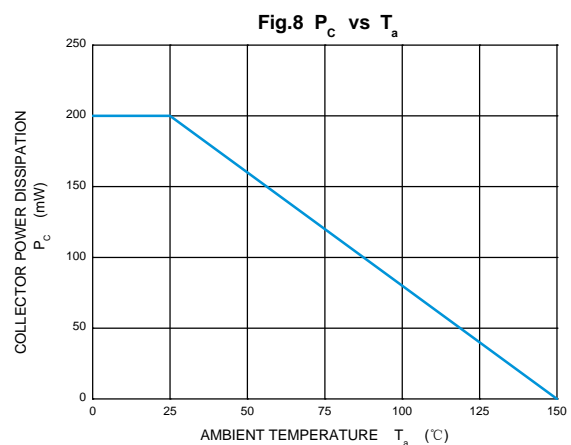
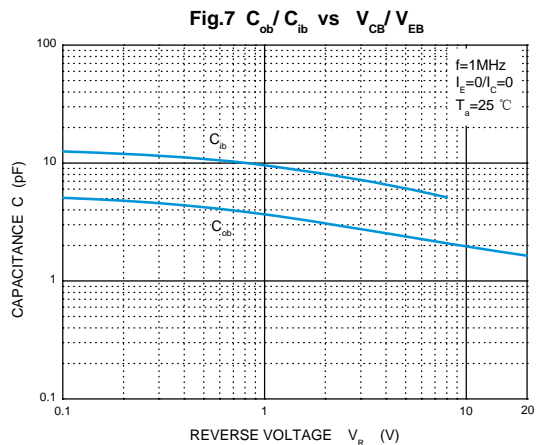
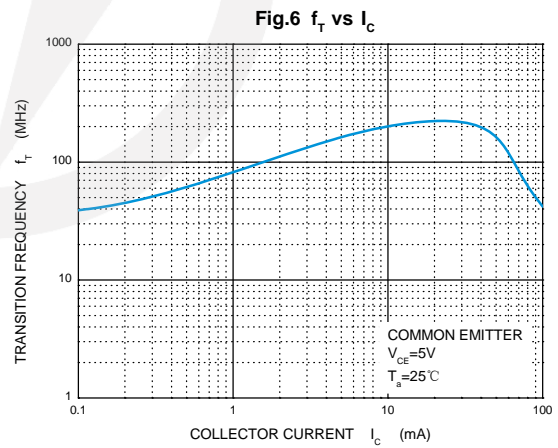
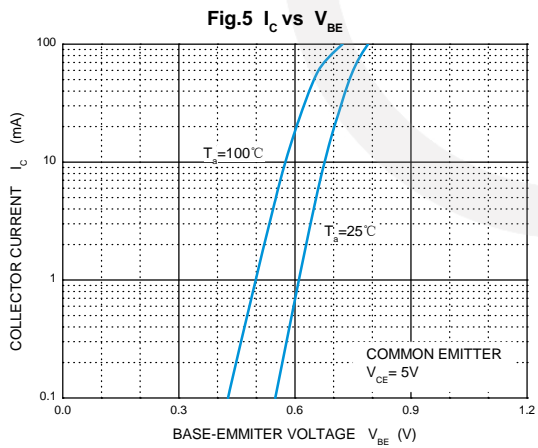
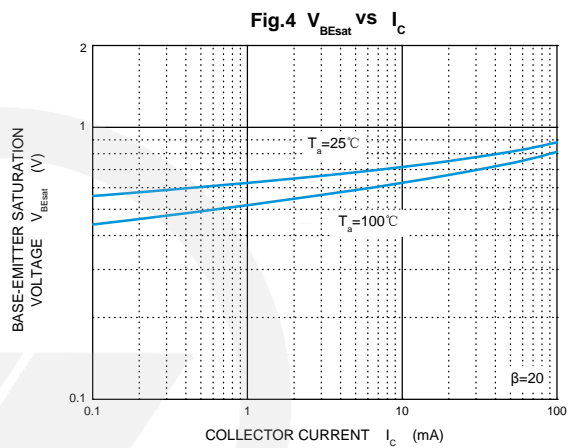
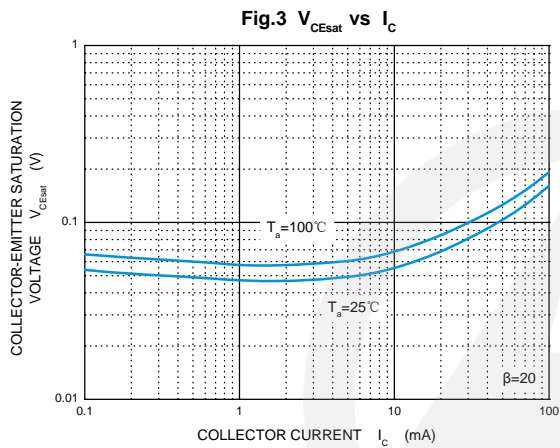
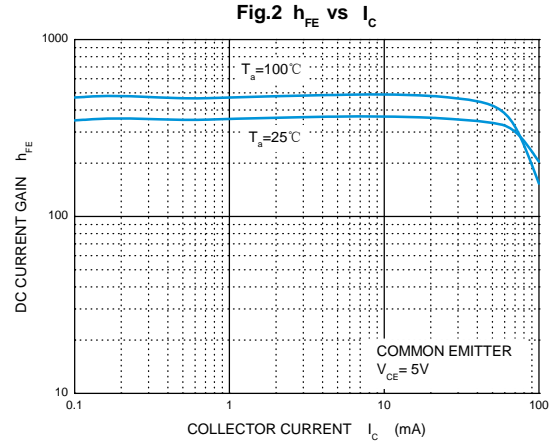
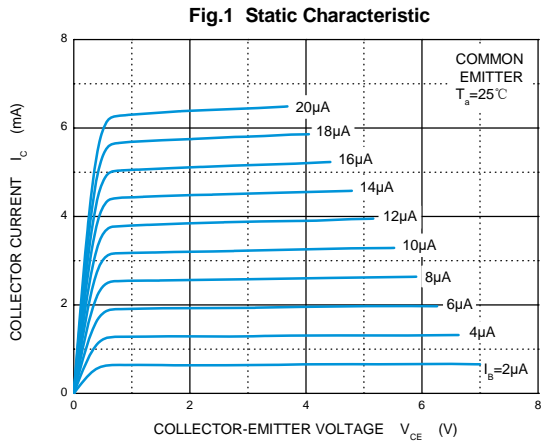
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current	150	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}C/W$
$T_j, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$

### Electrical characteristics ( Ta=25 unless otherwise specified )

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$			0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=35V, I_B=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=6V, I_C=1mA$	180		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$			1	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=10mA$ $f=30MHz$	150			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=12V, I_E=0, f=1MHz$			3.5	pF



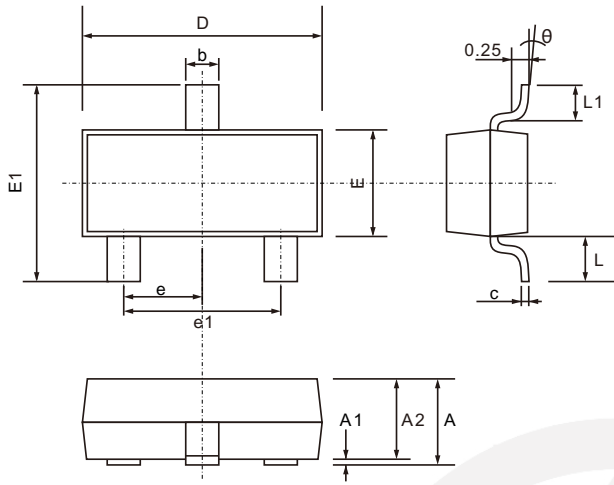
Characteristics Curves





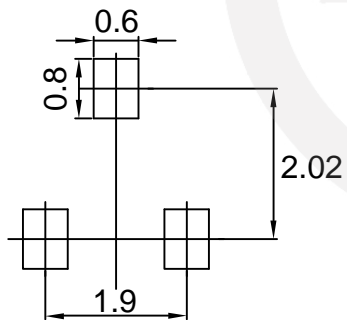
**SOT-23 Package Outline**

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
$\theta$	0°	8°

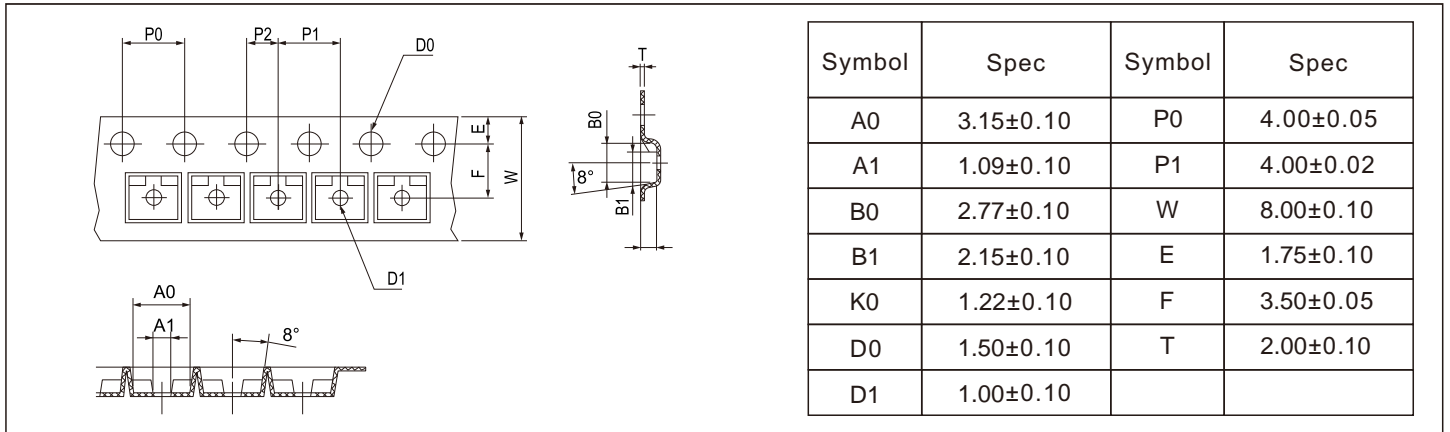
**SOT-23 Suggested Pad Layout**



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

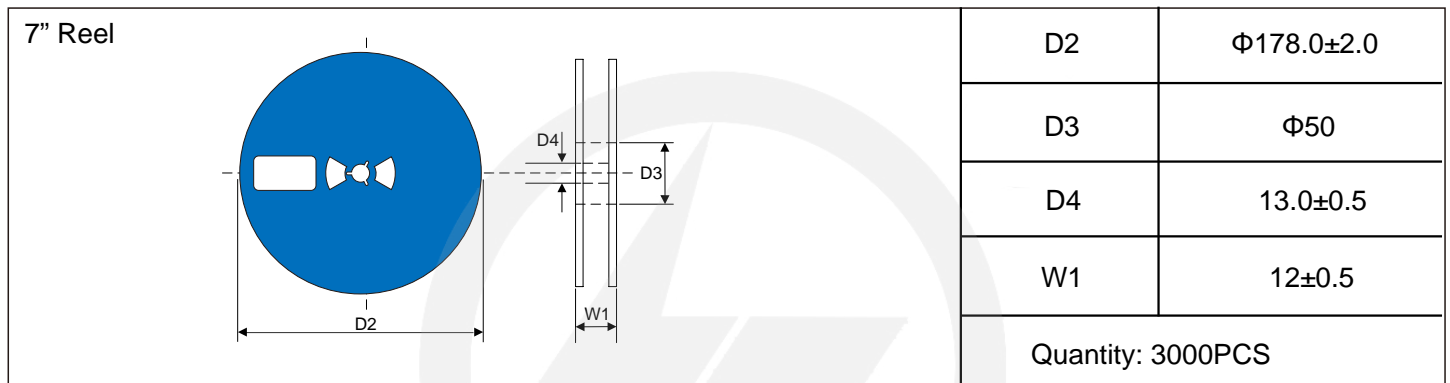
## Carrier Tape Dimensions

Unit : mm



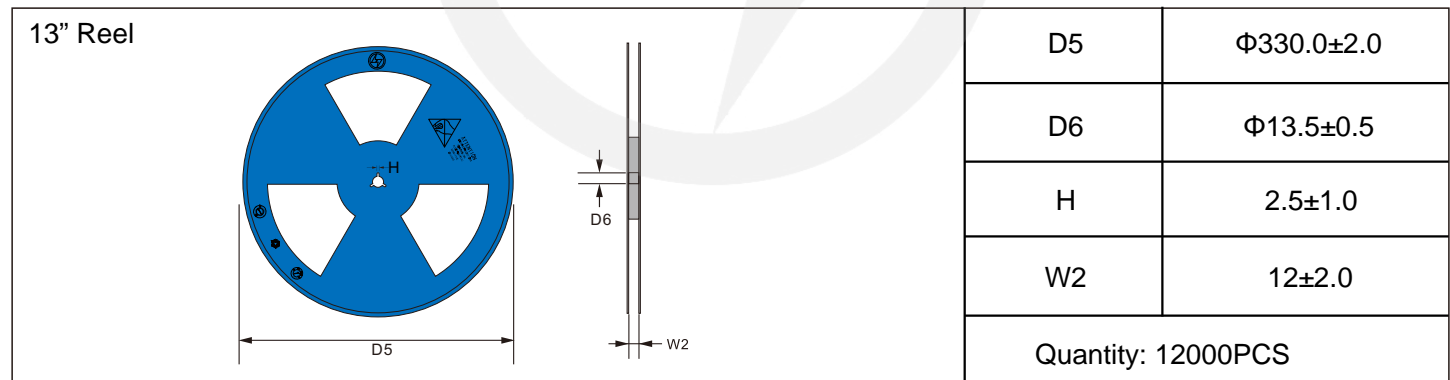
## Reel Dimensions

Unit : mm

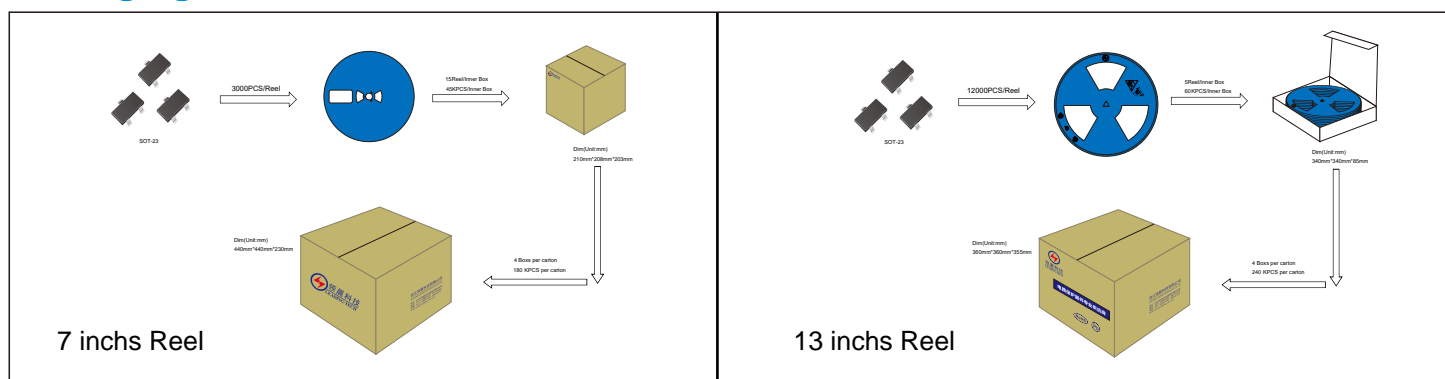


## Reel Dimensions

Unit : mm



## Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	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	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	
03	2026.03.06	2026.03.06	3.2	Package outline E1(max)=2.6mm	/	Ding	