

## Transistor(PNP)

### Features

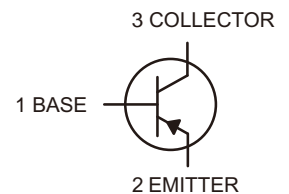
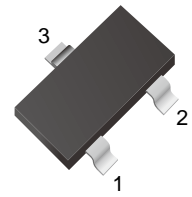
- Ideal for Medium Power Amplification and Switching
- Lead free in comply with EU RoHS 2011/65/EU directives

### Mechanical Data

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

### Ordering Information

Part Number	Marking	Shipping	Reel
LT5401-TR3	2L	3000PCS Tape&Reel	7 inches
LT5401-TR12	2L	12000PCS Tape&Reel	13 inches



### Maximum Ratings( $T_a=25$ unless otherwise noted )

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-160	V
Collector-Emitter Voltage	$V_{CEO}$	-150	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-0.6	A
Collector Power Dissipation	$P_C$	0.3	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	416	$^{\circ}C/W$
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55~+150	$^{\circ}C$

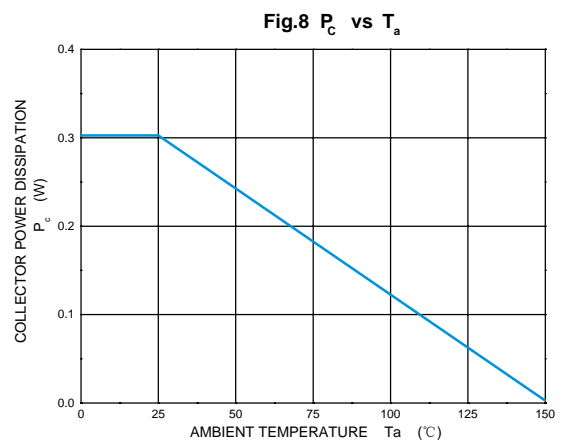
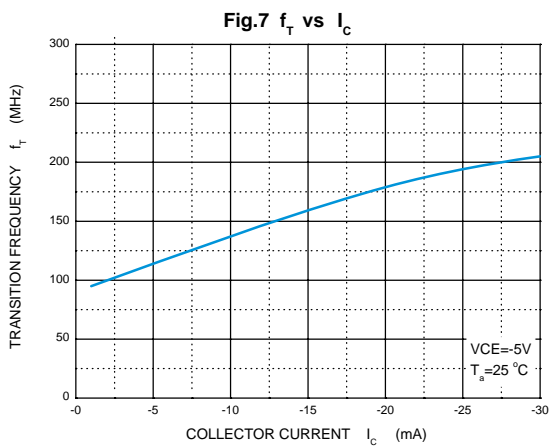
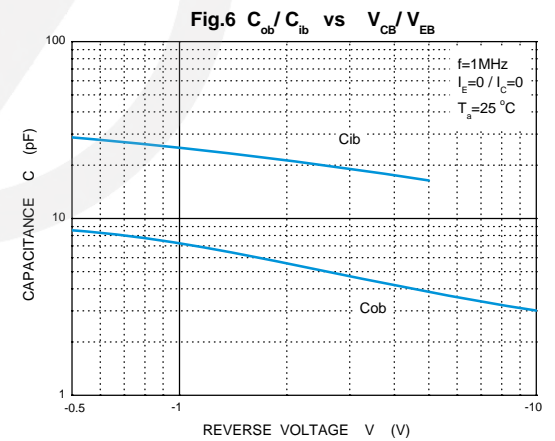
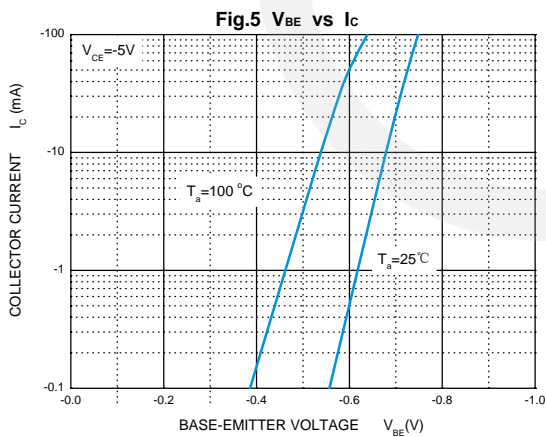
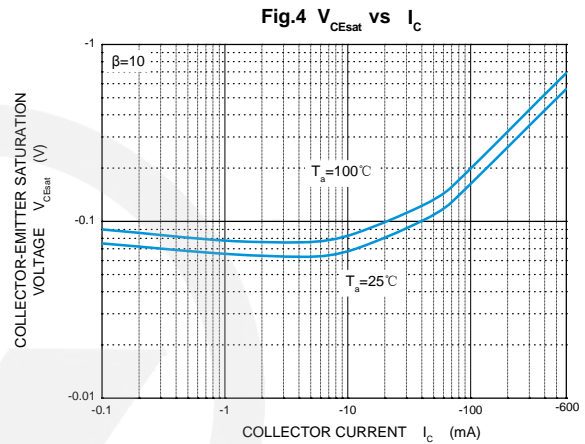
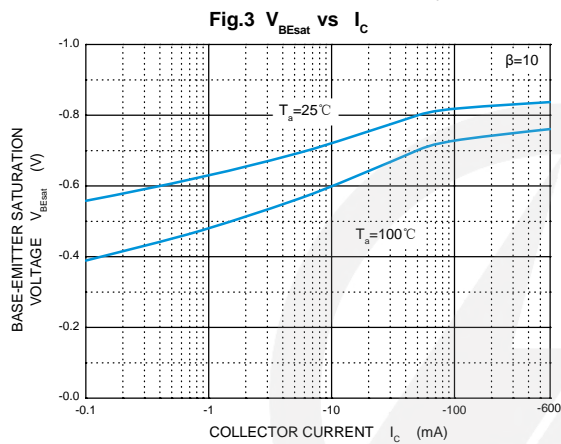
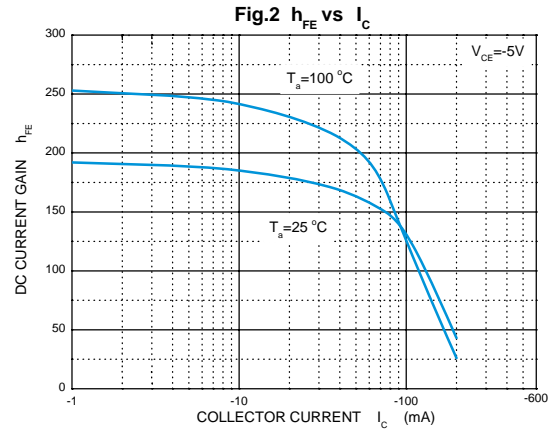
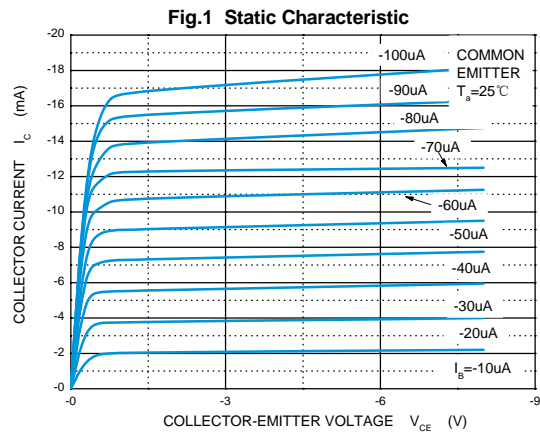
### Electrical Characteristics( $T_a=25$ unless otherwise specified )

Parameter	Symbol	Test condition	Min	Typ.	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-120V, I_E=0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$			-0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=-5V, I_C=-1mA$	80			
	$h_{FE(2)}$	$V_{CE}=-5V, I_C=-10mA$	100		300	
	$h_{FE(3)}$	$V_{CE}=-5V, I_C=-50mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-10mA, I_B=-1mA$			-0.2	V
	$V_{CE(sat)2}$	$I_C=-50mA, I_B=-5mA$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=-10mA, I_B=-1mA$			-1	V
	$V_{BE(sat)2}$	$I_C=-50mA, I_B=-5mA$			-1	V
Transition frequency	$f_T$	$V_{CE}=-5V, I_C=-10mA, f=30MHz$	100			MHz

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



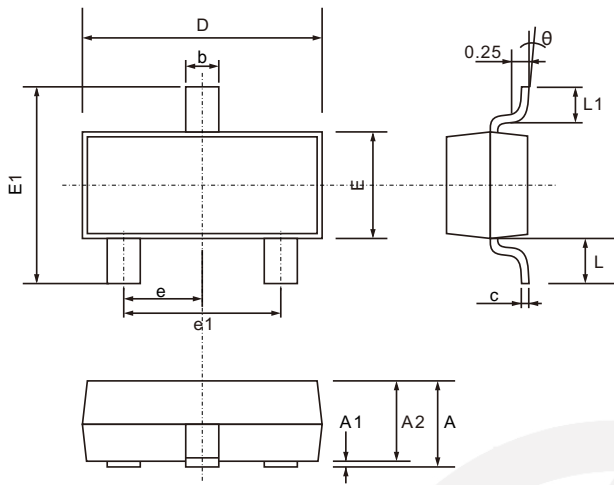
Characteristics Curves





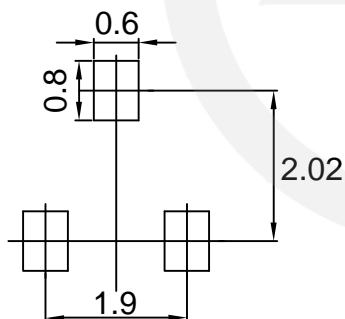
SOT-23 Package Outline

Unit: mm

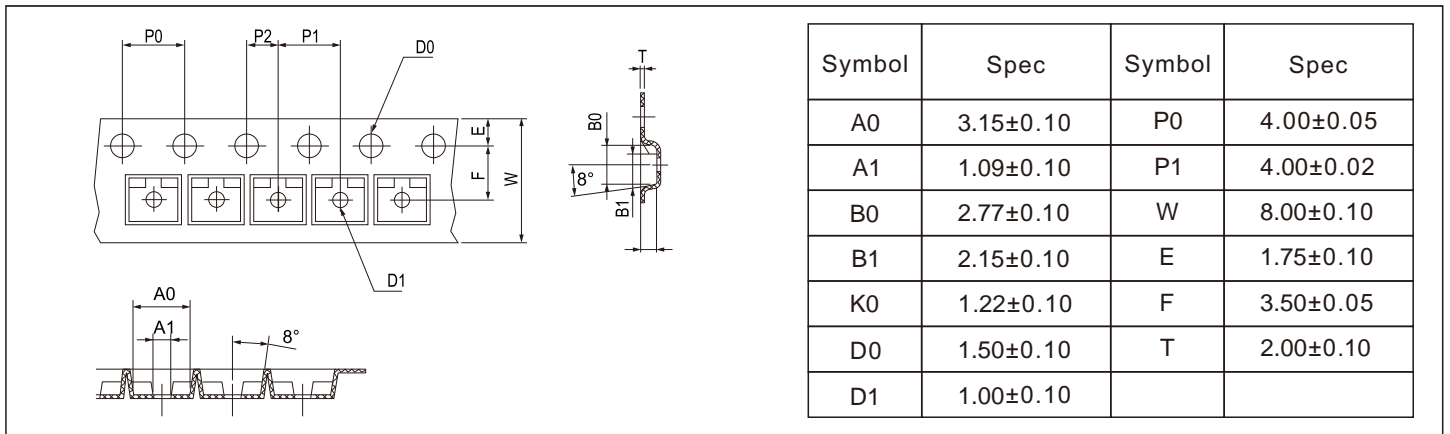
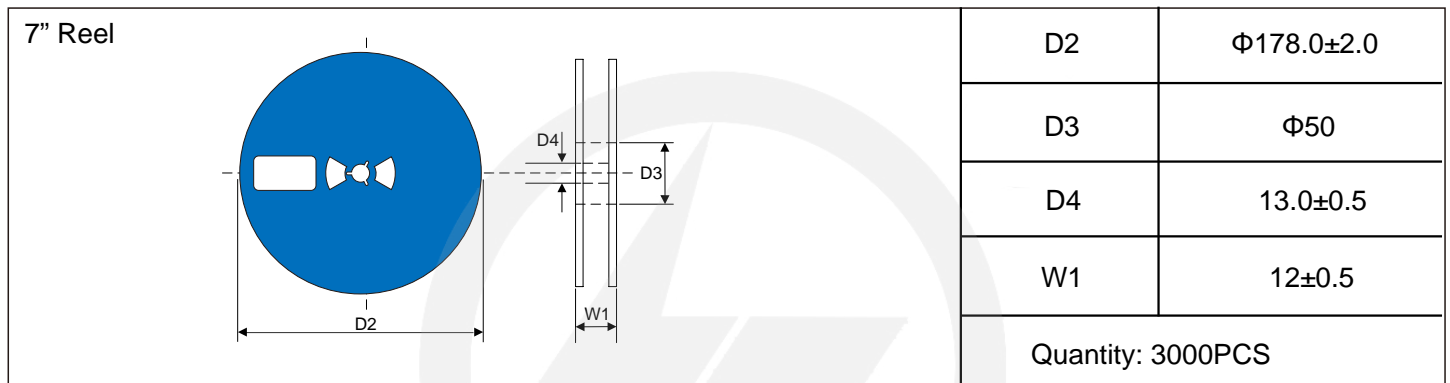
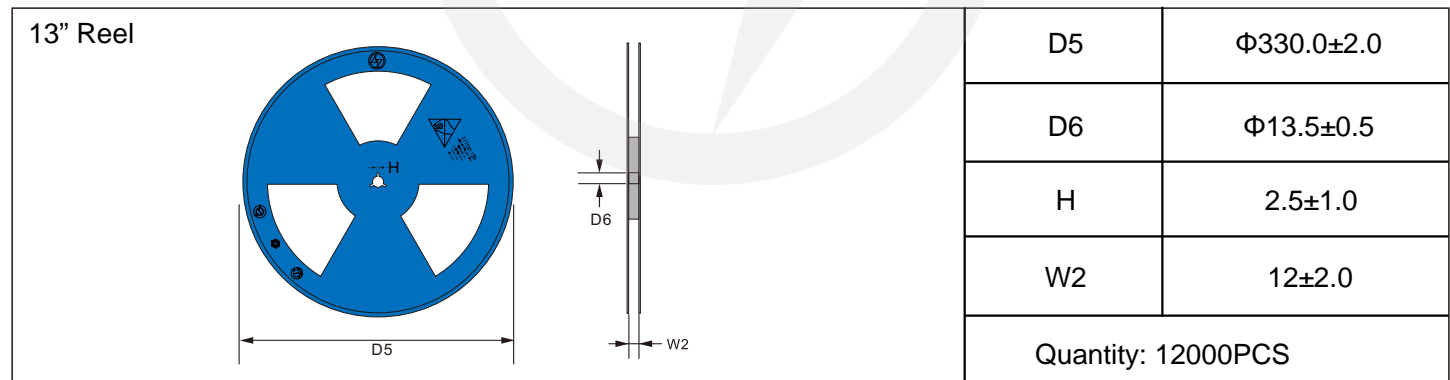
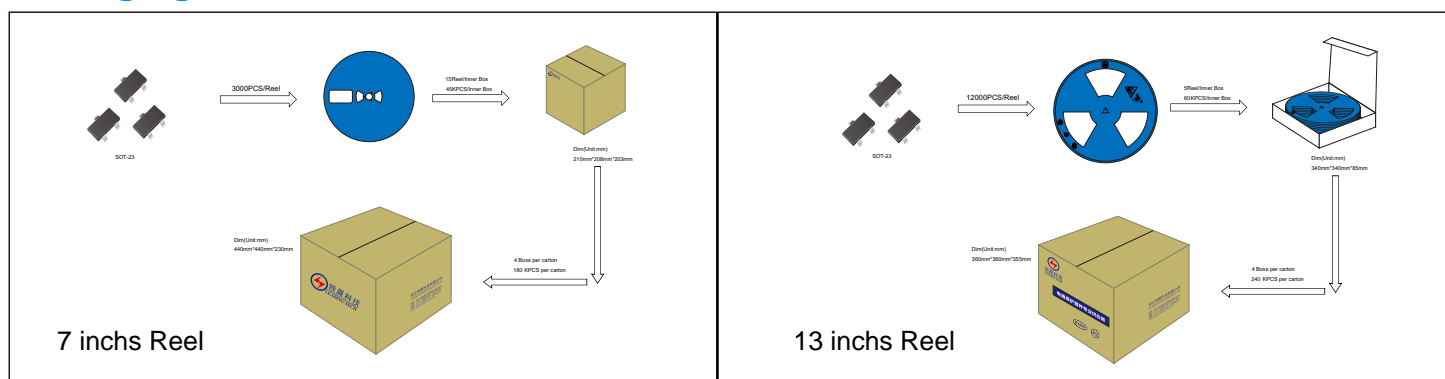


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

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	2024.03.12	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	