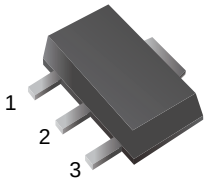
LXT5551

Transistor (NPN)

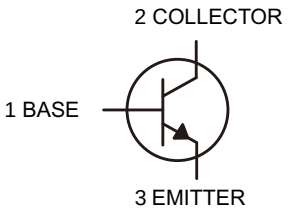
Features

- For Switching and AF Amplifier Applications
- Lead free in comply with EU RoHS 2011/65/EU directives



Ordering Information

Part Number	Marking	Shipping	Reel
LXT5551-TR1	BG1	1000PCS Tape&Reel	7 inchs
LXT5551-TR3	BG1	3000PCS Tape&Reel	13 inchs



Absolute Maximum Ratings

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	180	V
Collector Emitter Voltage	V_{CEO}	160	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Maximum Power Dissipation	P_D	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

Electrical Characteristics (T_A=25℃)

Parameter	Symbol	Min	Max	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 1 mA at V_{CE} = 5 V, I_C = 10 mA at V_{CE} = 5 V, I_C = 50 mA	H_{FE}	 80 80 30	 -- 250 --	--
Collector Base Cutoff Current at V_{CB} = 120 V	I_{CBO}	--	50	nA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	--	50	nA
Collector Base Breakdown Voltage at I_C = 100 μA	$V_{(BR)CBO}$	180	--	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	160	--	V
Emitter Base Breakdown Voltage at I_E = 10 μA	$V_{(BR)EBO}$	6	--	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA at I_C = 50 mA, I_B = 5 mA	$V_{CE(sat)}$	 -- --	 0.15 0.2	V
Base Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA at I_C = 50 mA, I_B = 5 mA	$V_{BE(sat)}$	 -- --	 1 1	V
Transition Frequency at V_{CE} = 10 V, I_C = 10 mA, f = 100 MHz	F_T	100	300	MHz
Output Capacitance at V_{CB} =10 V, f = 1 MHz	C_{ob}	--	6	pF

Characteristics Curves

Fig.1 h_{FE} vs I_C

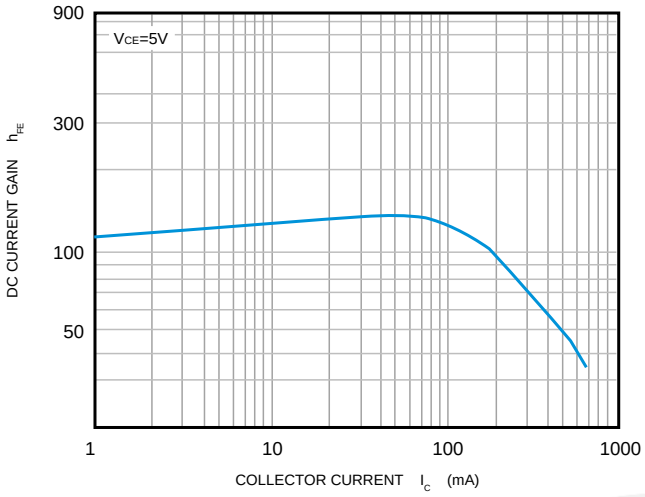


Fig.2 I_C vs V_{BE}

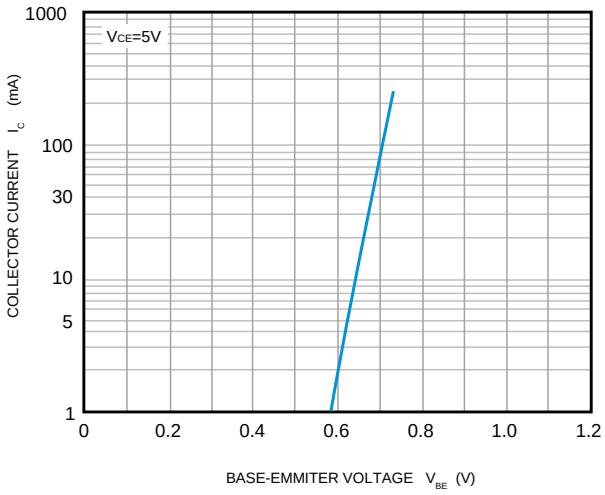


Fig.3 f_T vs I_C

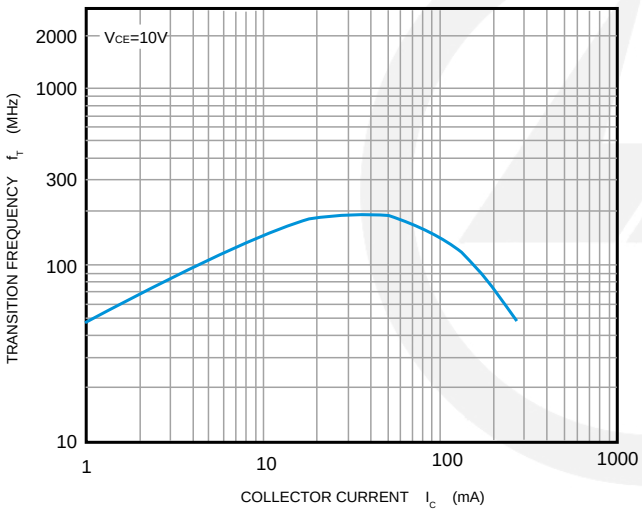


Fig.4 V_{CEsat} vs I_C

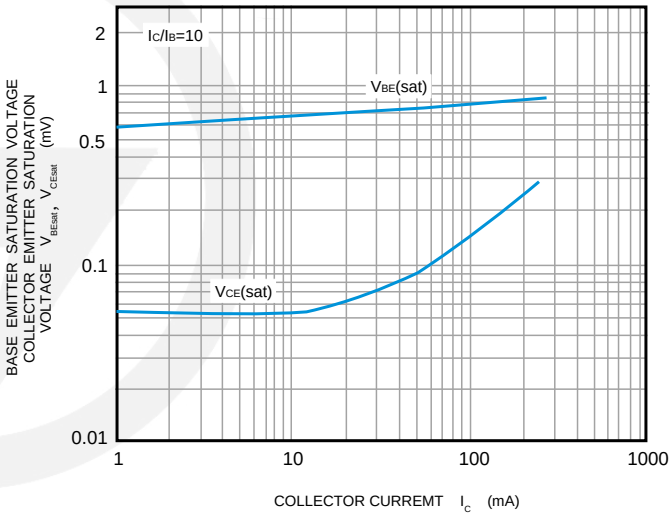
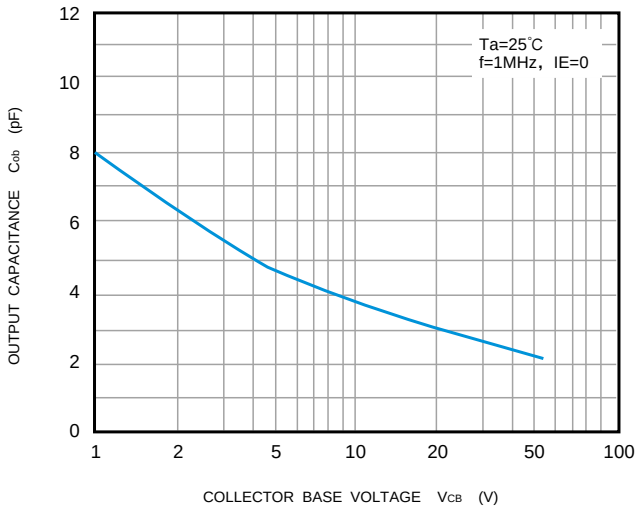
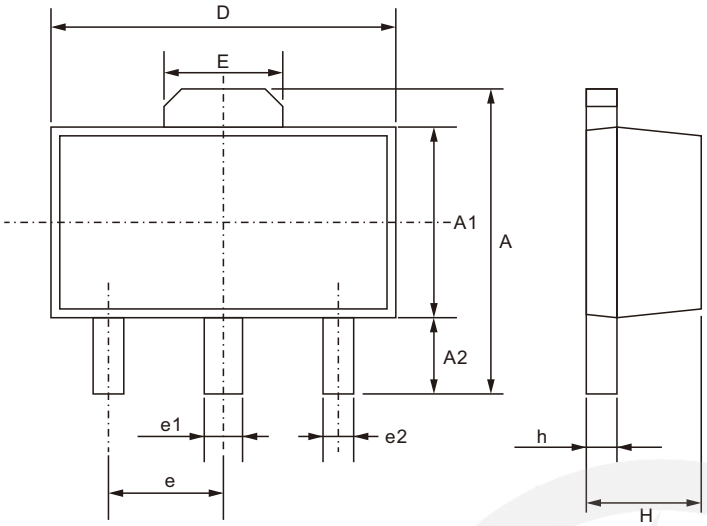


Fig.4 C_{ob} vs V_{CB}



SOT-89 Package Outline

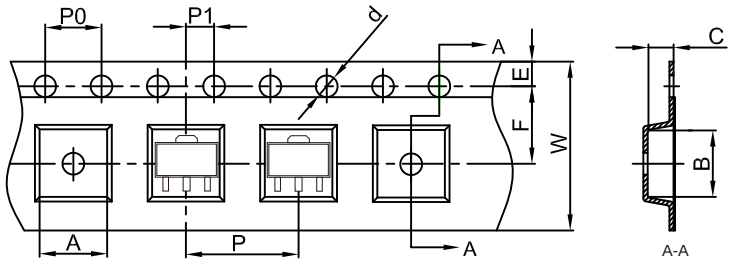


Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	3.750	4.250
A1	2.400	2.600
A2	0.950	1.050
D	4.400	4.600
E	1.500	1.600
e1	0.470	0.530
e2	0.350	0.450
e	1.500 TYP.	
H	1.400	1.600
h	0.300	0.500

Carrier Tape Dimensions

Unit：mm

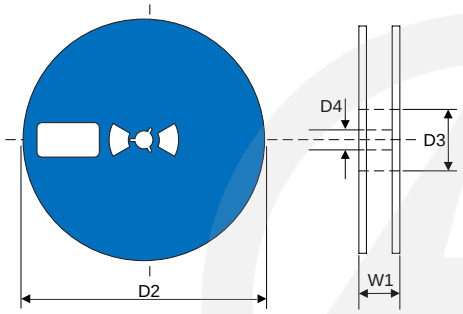


Symbol	Spec	Symbol	Spec
A	4.85	F	5.50
B	4.45	P0	4.00
C	1.85	P	8.00
d	Ø1.50	P1	2.00
E	1.75	W	12.00

Reel Dimensions

Unit：mm

7” Reel

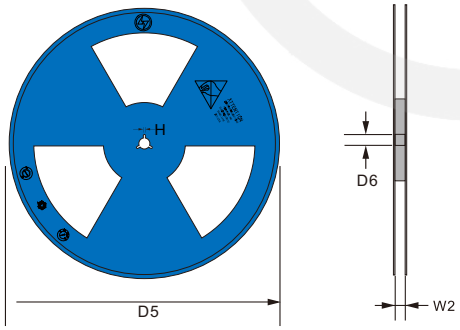


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 1000PCS	

Reel Dimensions

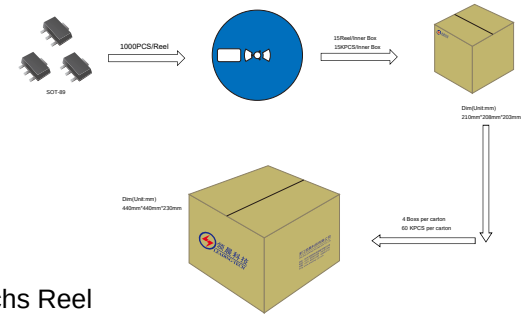
Unit：mm

13” Reel

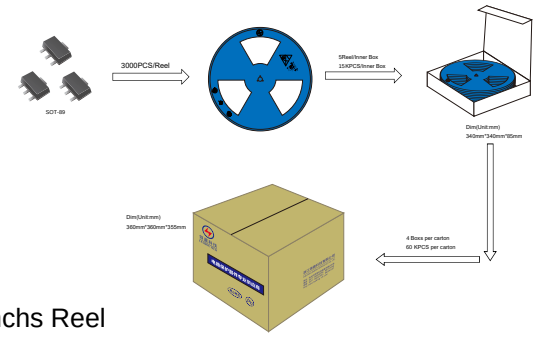


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

Packaging



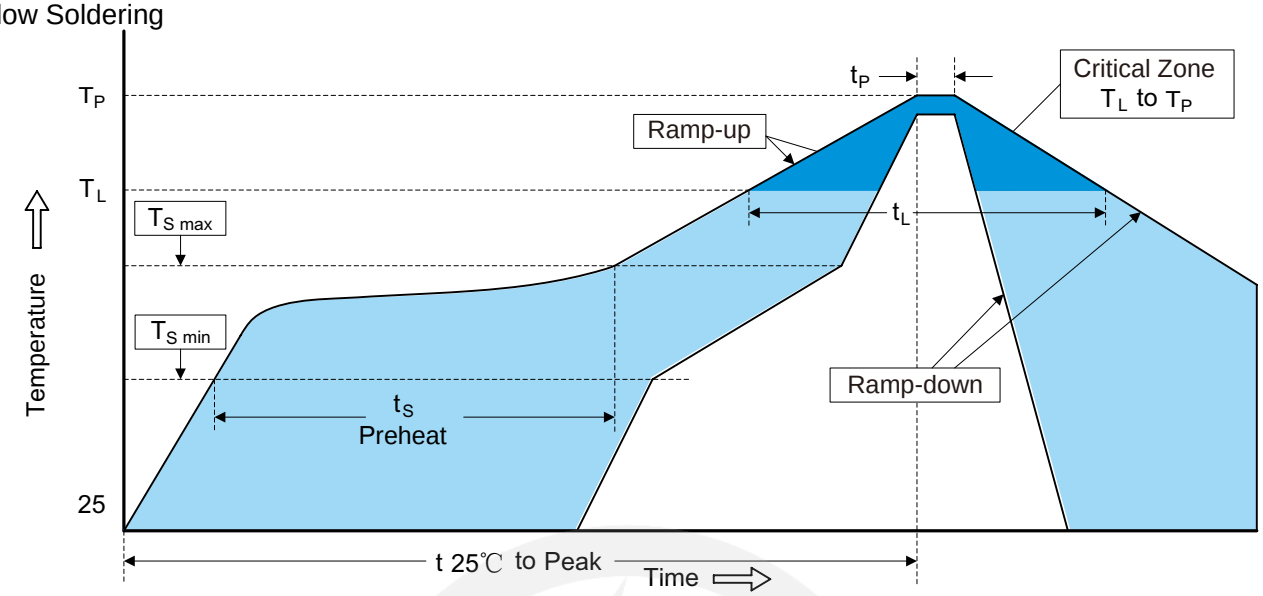
7 inchs Reel



13 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	2024.10.09	2024.10.09	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	