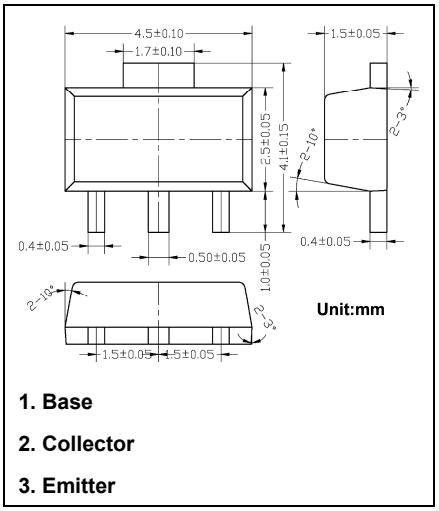
SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOT-89 Plastic-Encapsulate Transistors

CXT5551 NPN Epitaxial Planar Silicon Transistors



1. Base
2. Collector
3. Emitter

Features

- High current (max. 500mA).
- Low voltage (max. 150 V).

Marking: 5551

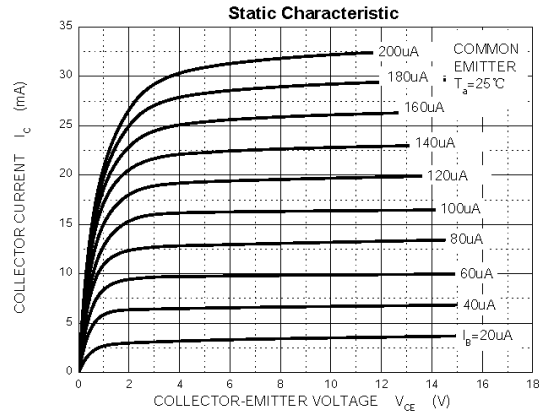
Maximum Ratings (T_a=25°C unless otherwise noted)

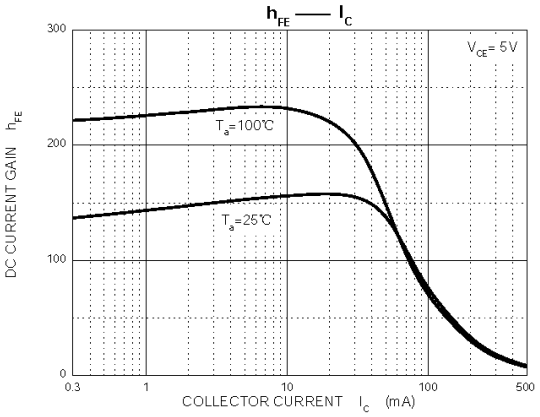
Symbol	Parameter	Value	Unit
V_{CBO}	Collector Base Voltage	180	V
V_{CEO}	Collector Emitter Voltage	160	V
V_{EBO}	Emitter Base Voltage	6	V
I_C	Collector Current	0.6	A
P_D	powerdissipation	0.5	W
$R_{\theta JA}$	thermalresistanceJunction-to-ambient	250	℃/W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-65 ~ +150	°C

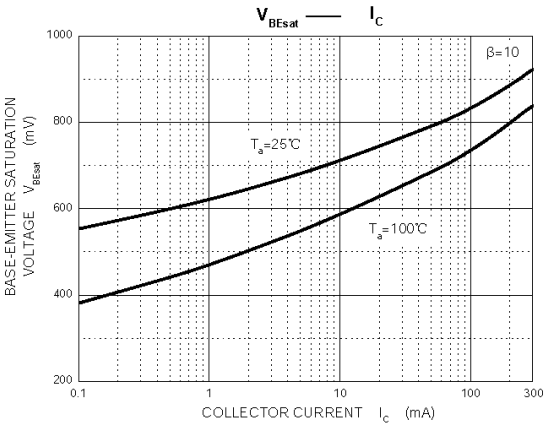
Electrical Characteristics (T_a=25°C unless otherwise specified)

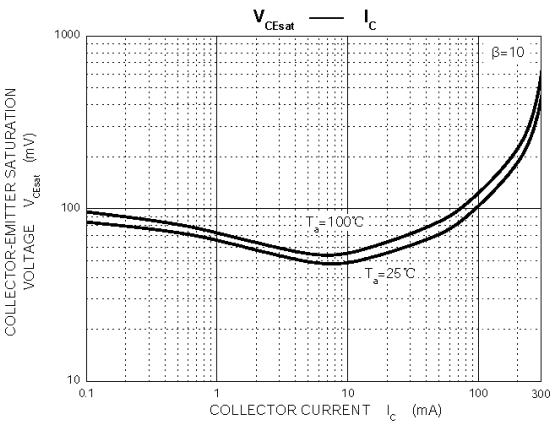
Symbol	Parameter	Testconditons	Min	Typ	Max	Unit
V_{CBO}	Collectortobasebreakdownvoltage	I_C=100μA	180			V
V_{CEO}	Collectortoemitterbreakdownvoltage	I_C=1.0mA	160			V
V_{EBO}	Emittertobasebreakdownvoltage	I_E=10μA	6.0			V
I_{CBO}	Collector cutoff current	V_{CB} = 120 V, I_E = 0			50	nA
		V_{CB} = 120 V, T_A=100℃			50	μA
h_{FE}	DC current gain	I_C = 1.0 mA; V_{CE} = 5.0 V	80			
		I_C = 10mA; V_{CE} = 5.0V	80		250	
		I_C = 50 mA; V_{CE} = 5.0V	30			
$V_{CE(sat)}$	Collector to emitter saturation voltage	I_C = 10 mA; I_B = 1.0mA			0.15	V
		I_C = 50 mA; I_B = 5.0mA			0.20	V
$V_{BE(sat)}$	Basetoemittersaturationvoltage	I_C = 10 mA; I_B = 1.0mA			1.00	V
		I_C = 50 mA; I_B = 5.0mA			1.00	V
C_{ob}	Outputcapacitance	V_{CB} = 10 V, I_E = 0,f=1.0MHz			6.0	pF
T_f	Transitionfrequency	I_C = 10 mA; V_{CE} =10V; f = 100 MHz	100		300	MHz

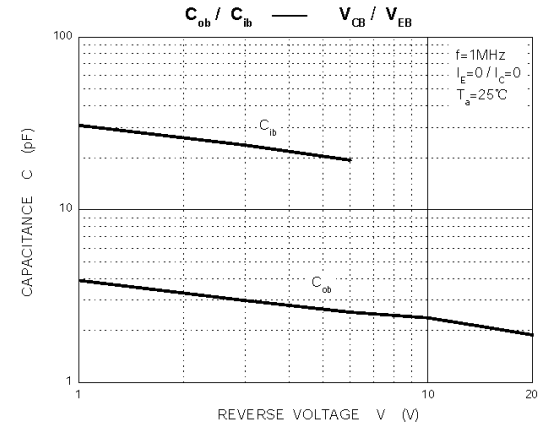
Typical Characteristics

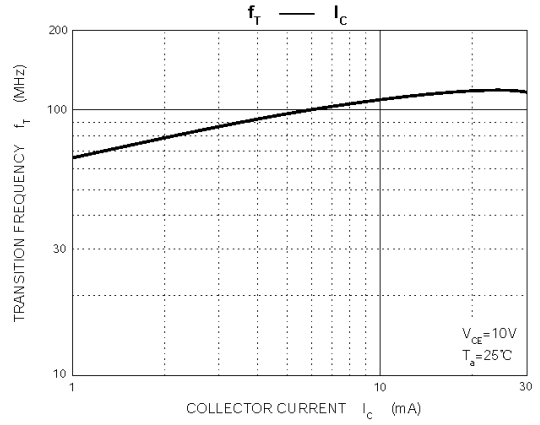


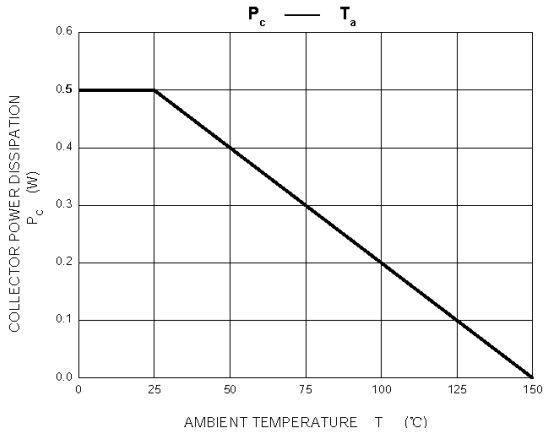




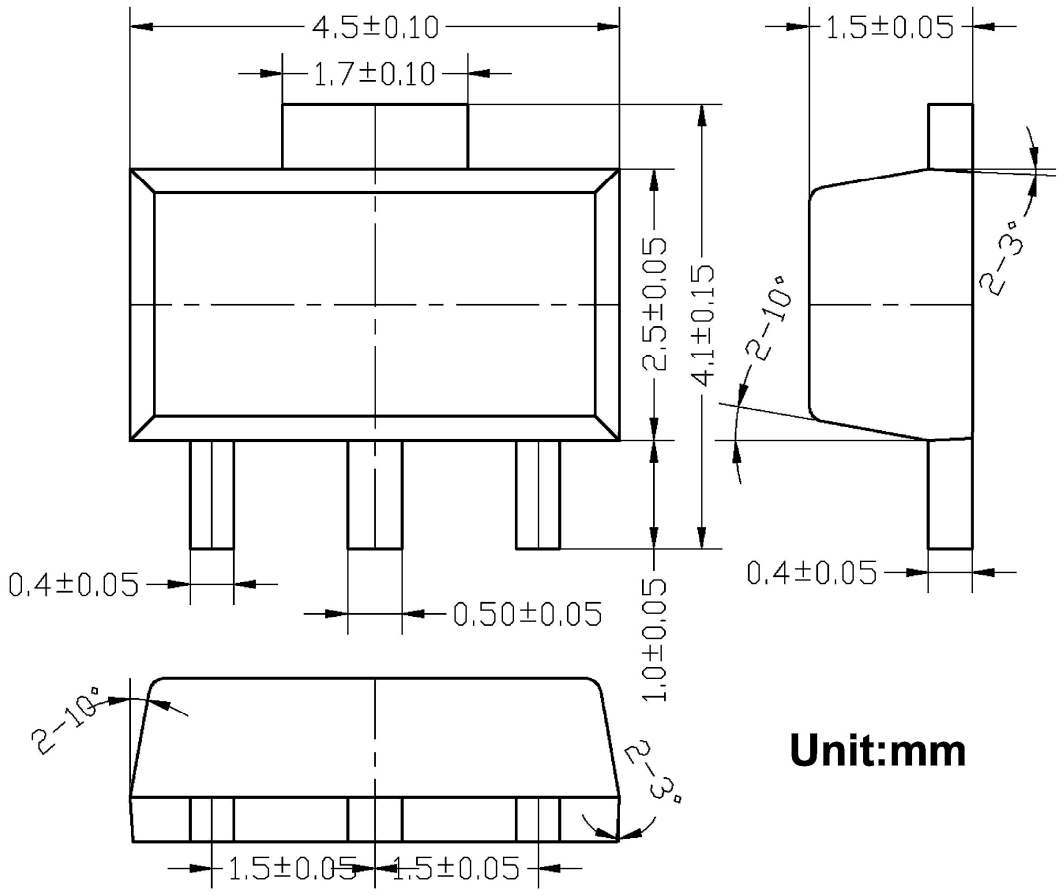




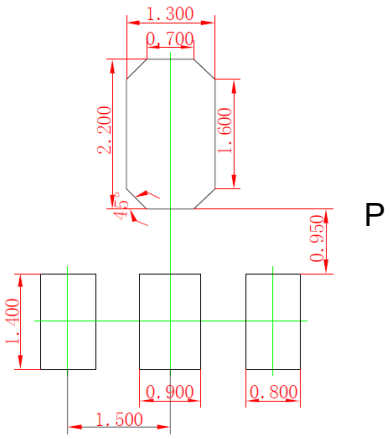




SOT-89-3L PACKAGE OUTLINE DIMENSIONS



SOT-89-3L SUGGESTED PAD LAYOUT

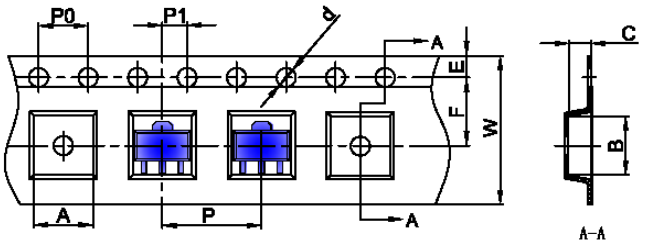


Note:

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

SOT-89-3L TAPE AND REEL

SOT-89-3L Embossed Carrier Tape

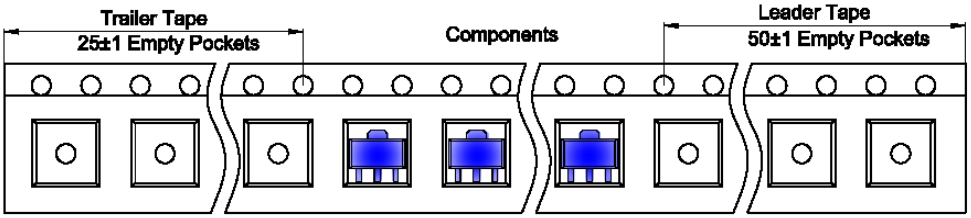


Packaging Description:

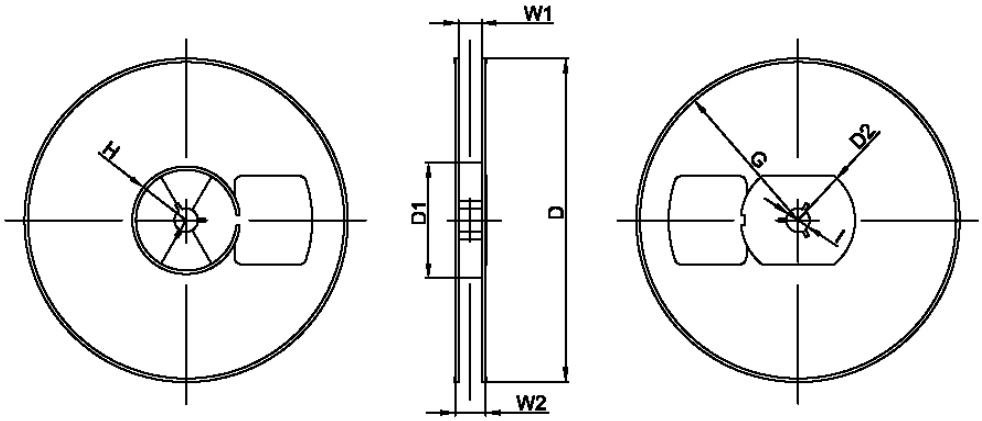
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 1,000 units per 7" or 18.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter									
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer



SOT-89-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	R32.00	R66.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	

Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C