

SOT-89 Plastic-Encapsulate Transistors

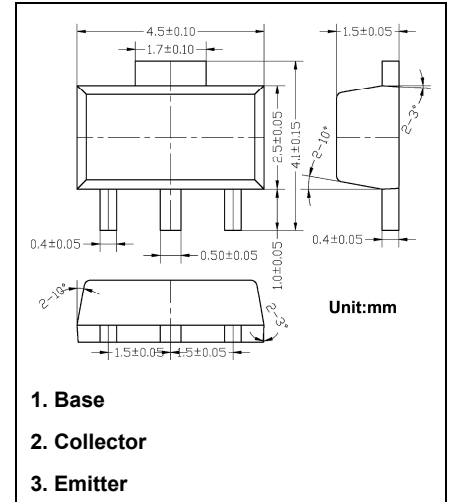
CXT5551

NPN Epitaxial Planar Silicon Transistors

■ Features

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

Marking: 5551



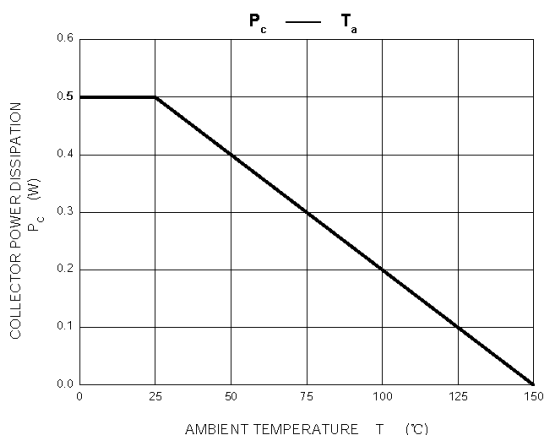
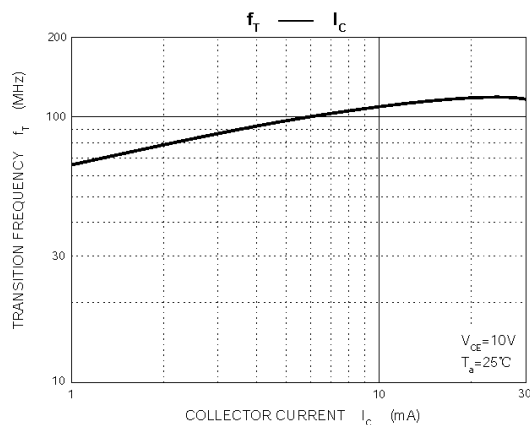
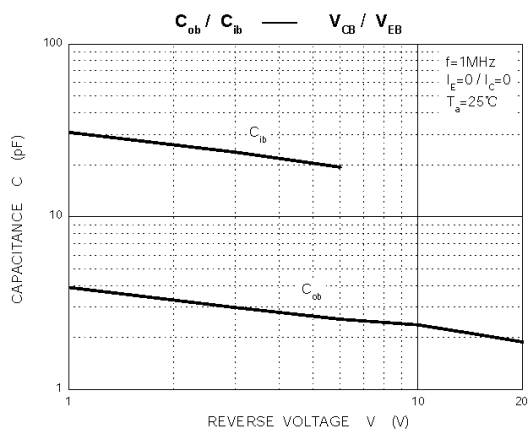
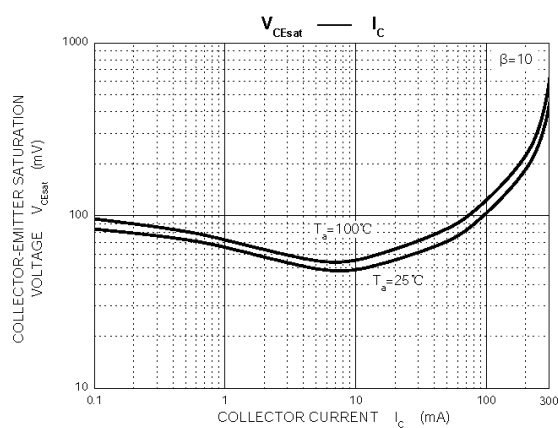
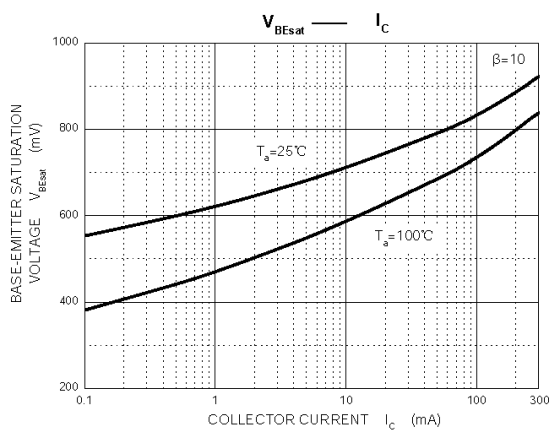
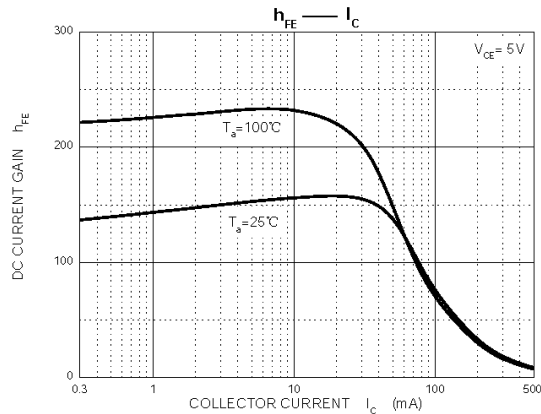
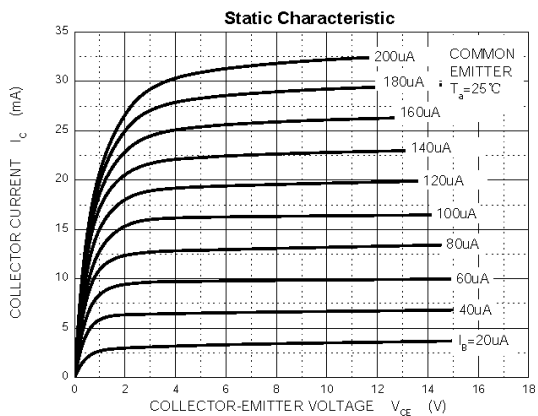
Maximum Ratings (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	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 _{θJA}	thermalresistanceJunction-to-ambient	250	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-65 ~ +150	°C

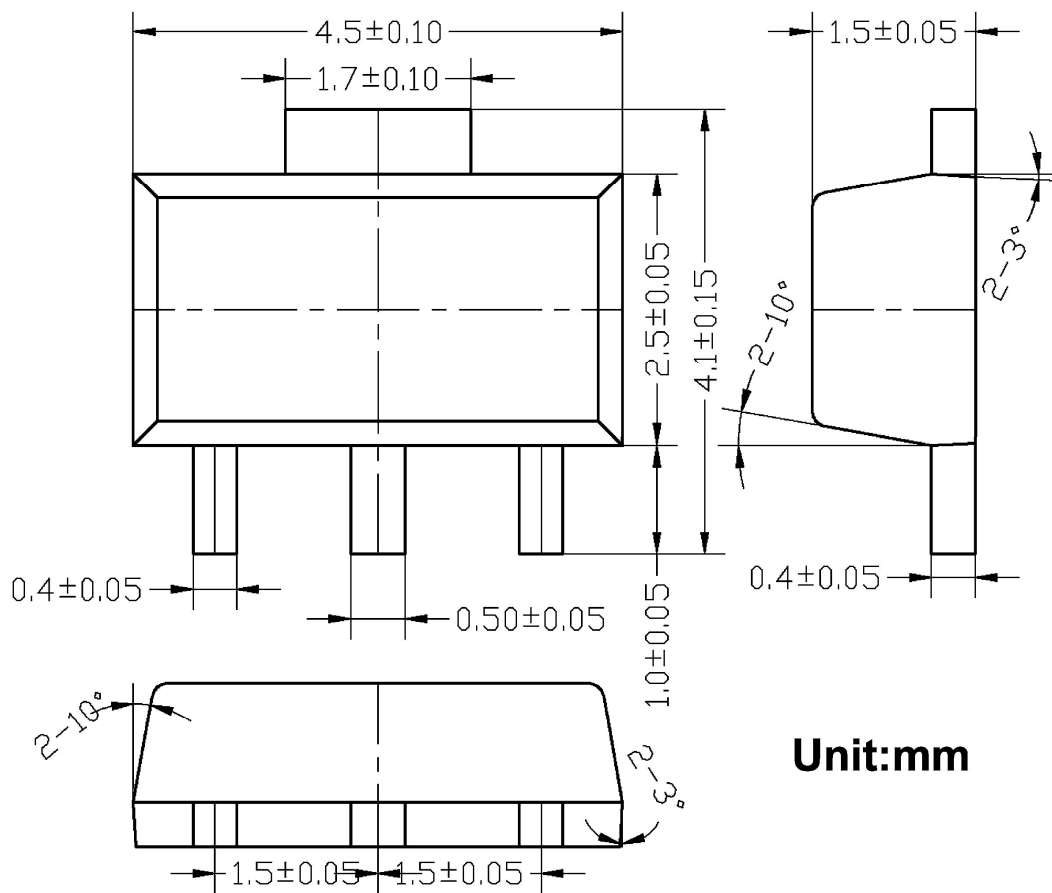
Electrical Characteristics (T_a=25°C unless otherwise specified)

Symbol	Parameter	Testconditons	Min	Typ	Max	Unit
V _{CB0}	Collectortobasebreakdownvoltage	I _C =100 μ A	180			V
V _{CEO}	Collectortoemitterbreakdownvoltage	I _C =1.0mA	160			V
V _{EBO}	Emittertobasebreakdownvoltage	I _E =10 μ A	6.0			V
I _{CBO}	Collector cutoff current	V _{CB} = 120 V, I _E = 0			50	nA
		V _{CB} = 120 V, T _A =100°C			50	μ A
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			MHz

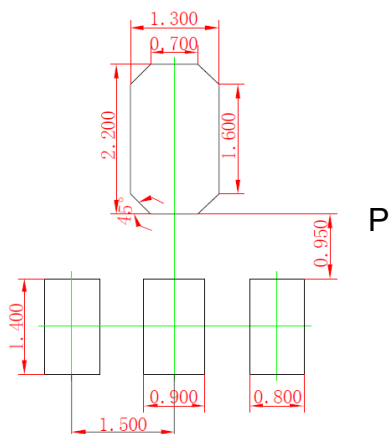
Typical Characteristics



SOT-89-3L PACKAGE OUTLINE DIMENSIONS



SOT-89-3L SUGGESTED PAD LAYOUT

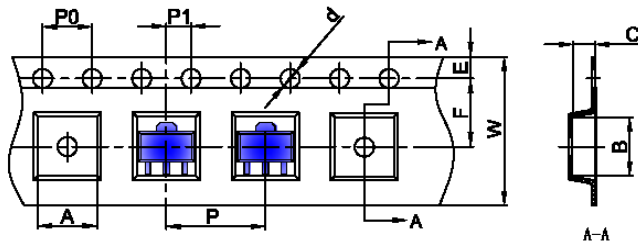


Note:

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

SOT-89-3L TAPE AND REEL

SOT-89-3L Embossed Carrier Tape

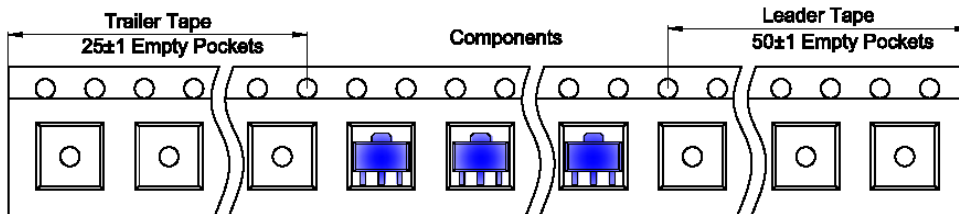


Packaging Description:

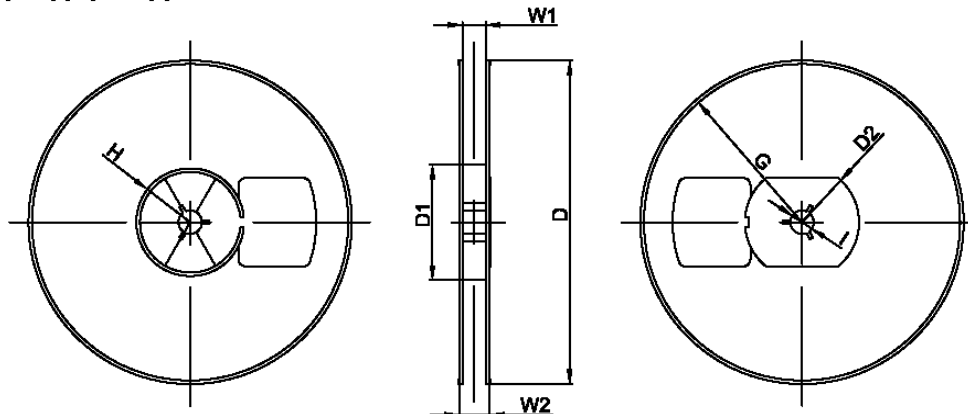
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dielectric (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	∅1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer



SOT-89-3L Reel

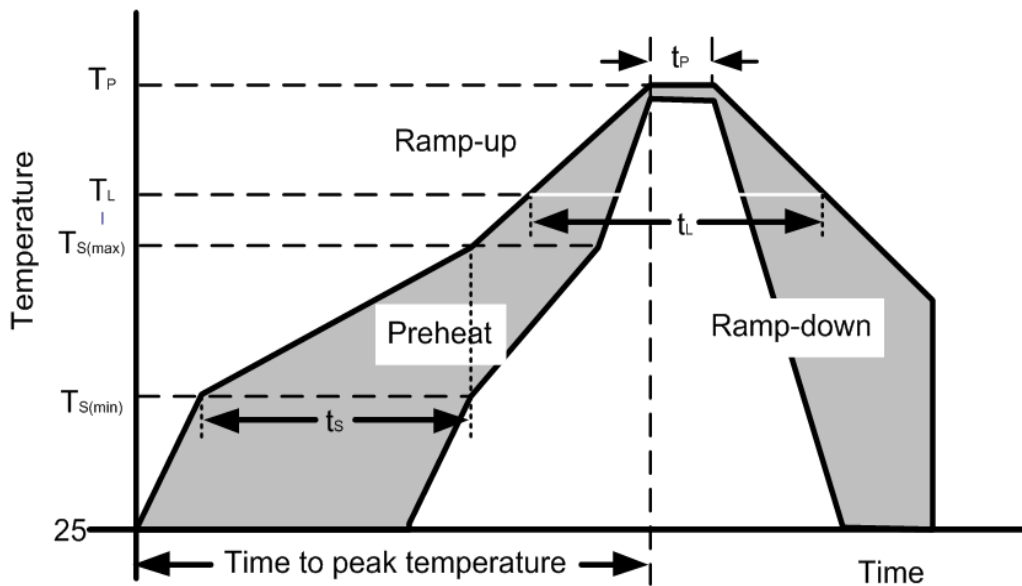


Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	∅180.00	60.00	R32.00	R86.50	R30.00	∅13.00	13.20	16.50

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) (t_s)	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



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