



### FEATURE

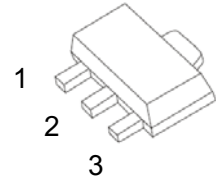
- Switching and amplification in high voltage  
Applications such as telephony
- Low current(max. 500mA)
- High voltage(max.160v)

### SOT-89-3L

1. BASE

2. COLLECTOR

3. EMITTER



Part Number: CXT5401

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

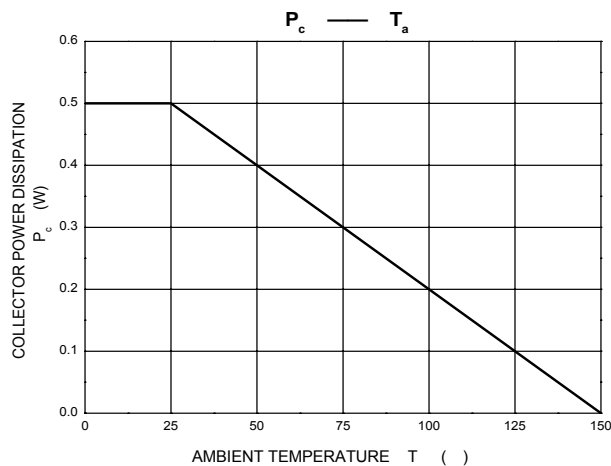
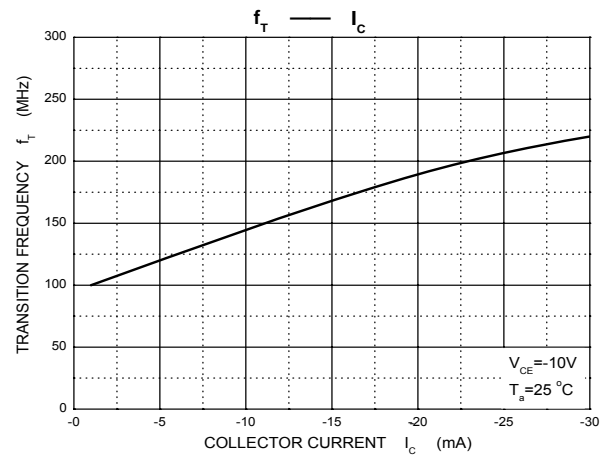
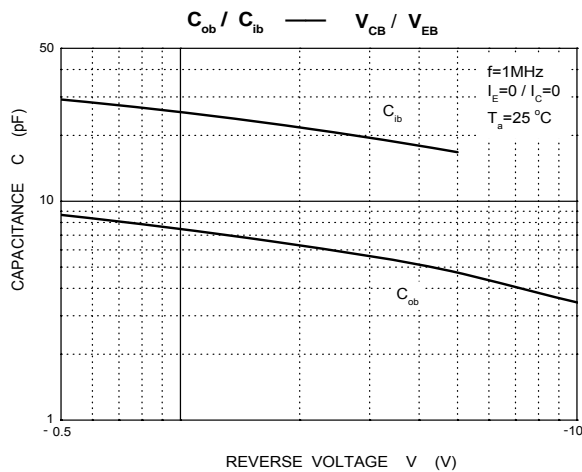
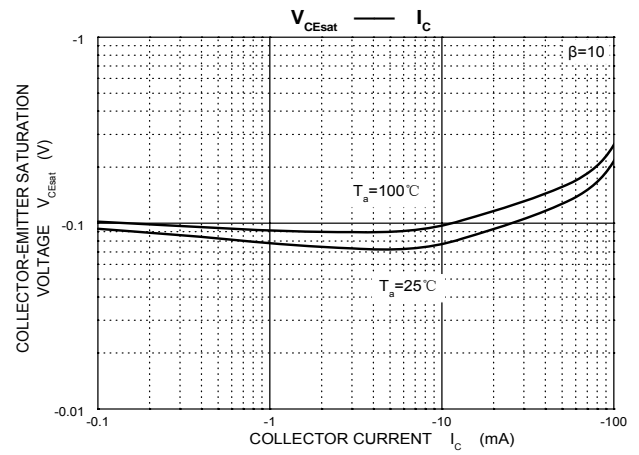
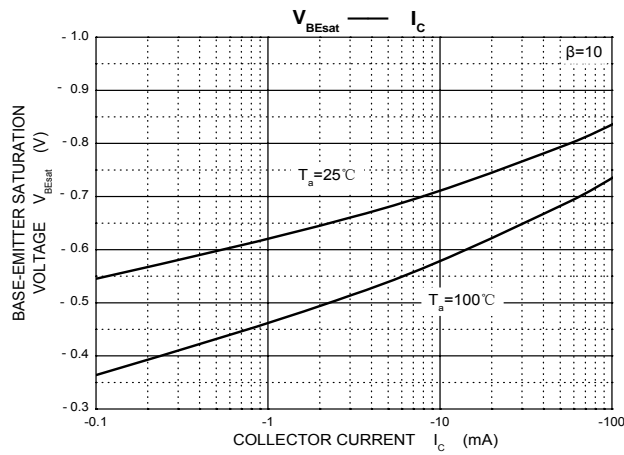
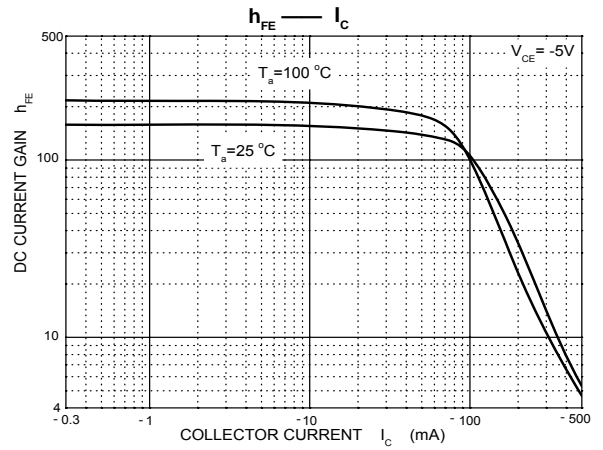
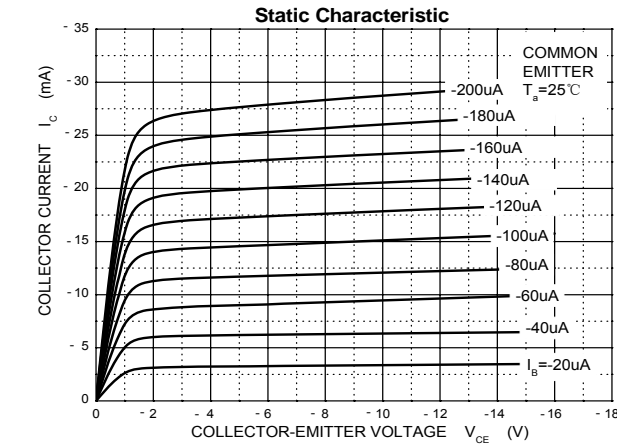
Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-160	V
V <sub>CE0</sub>	Collector-Emitter Voltage	-150	V
V <sub>EB0</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-0.5	A
P <sub>C</sub>	Collector Power Dissipation	0.5	W
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	250	°C/W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~150	°C

### ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -100μA, I <sub>E</sub> =0	-160			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, I <sub>B</sub> =0	-150			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -120 V, I <sub>E</sub> =0			-50	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -3V, I <sub>C</sub> =0			-50	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> =-1 mA	50			
	h <sub>FE(2)</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10 mA	100		300	
	h <sub>FE(3)</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> =-50 mA	50			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -10 mA, I <sub>B</sub> = -1 mA			-0.2	V
	V <sub>CE(sat)</sub>	I <sub>C</sub> = -50 mA, I <sub>B</sub> = -5 mA			-0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -10 mA, I <sub>B</sub> = -1 mA			-1	V
	V <sub>BE(sat)</sub>	I <sub>C</sub> = -50 mA, I <sub>B</sub> = -5 mA			-1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -10mA, f = 100MHz	100		300	MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> = 0, f=1MHz			6	pF
Noise Figure	NF	V <sub>CE</sub> = -5.0V, I <sub>C</sub> = -200μA, R <sub>S</sub> = 10Ω, f=10Hz to 15.7kHz			8	dB

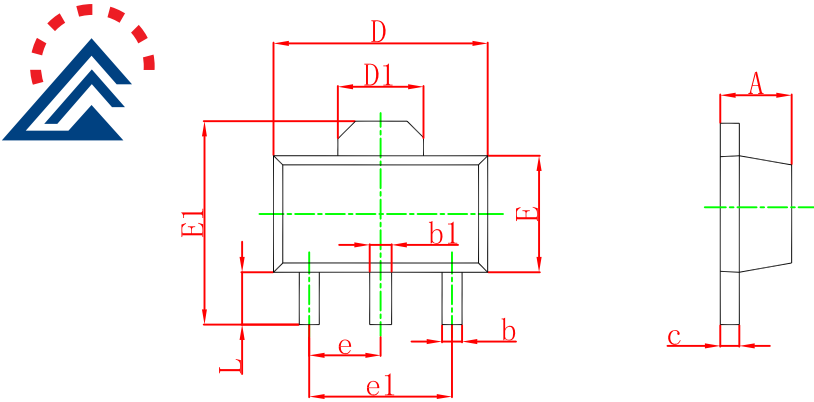


### Typical Characteristics



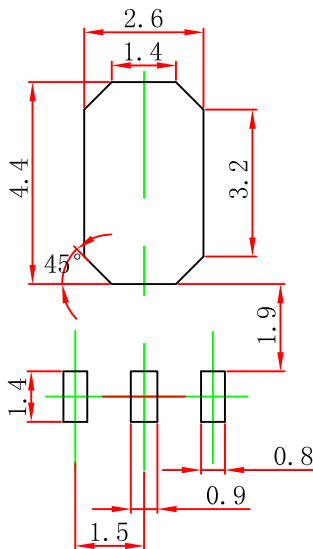


### SOT-89-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

### 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 purposes only.

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT -89	1000pcs	7inch	10,000pcs	203×203×195	40,000pcs	438×438×220