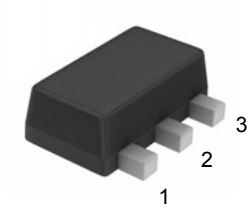
GOOD-ARK
SEMICONDUCTOR

CXT5401
PNP Transistor

Features

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

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89-3L

Absolute Maximum Ratings (T_A=25°C 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-Continuous	I_C	-0.5	A
Collector Power Dissipation	P_C	0.5	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	250	°C/W
Operation Junction and Storage Temperature Range	$T_{J,\ Tstg}$	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-100μA, 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=-10μA, I_C=0	-5	-	-	V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-120V, I_E=0	-	-	-50	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-3V, I_C=0	-	-	-50	nA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-5V, I_C=-1mA	50	-	-	-
	$h_{FE(2)}$	V_{CE}=-5V, I_C=-10mA	100	-	300	-
	$h_{FE(3)}$	V_{CE}=-5V, I_C=-50mA	50	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-0.2	V
		I_C=-50mA, I_B=-5mA	-	-	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-1	V
		I_C=-50mA, I_B=-5mA	-	-	-1	V
Transition Frequency	f_T	V_{CE}=-10V, I_C=-10mA, f=100MHz	100	-	300	MHz
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	-	6	pF
Noise Figure	N_F	V_{CE}=-5.0V, I_C=-200μA, R_S=10Ω, f=10Hz to 15.7kHz	-	-	8	dB

Typical Characteristic Curves

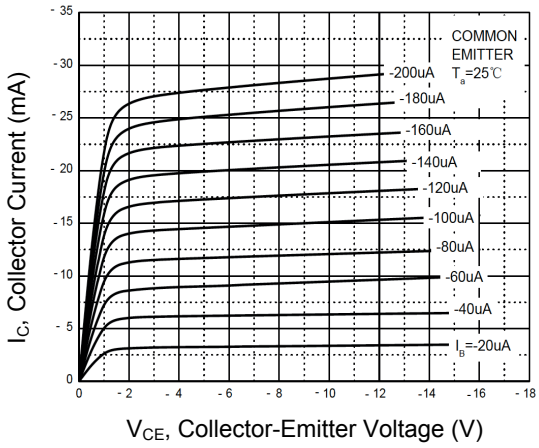


Figure 1. Static Characteristics

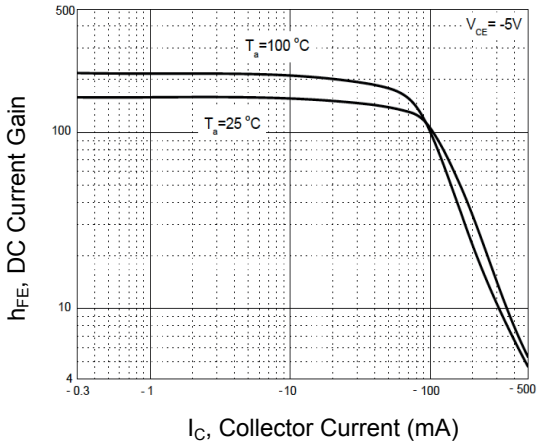


Figure 2. DC Current Gain vs. Collector Current

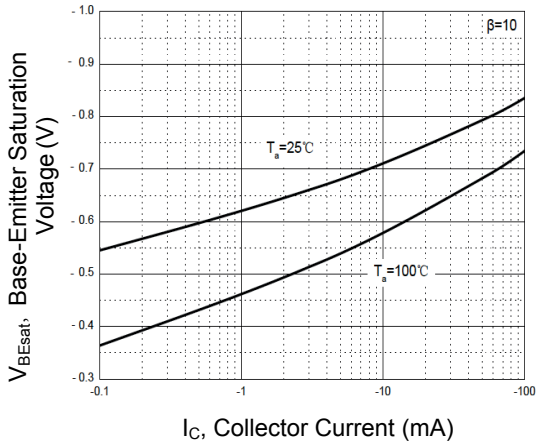


Figure 3. Base-Emitter Saturation Voltage vs. Collector Current

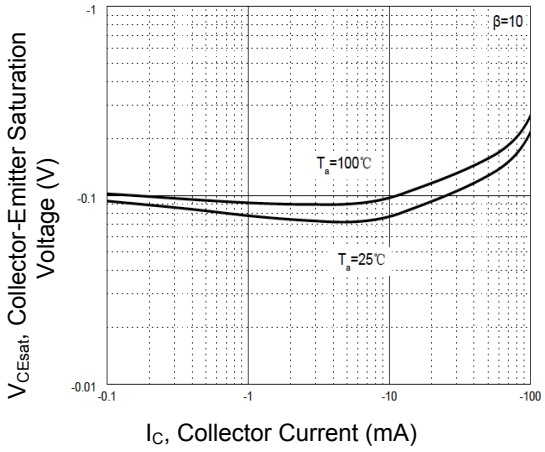


Figure 4. Collector-Emitter Saturation Voltage vs. Collector Current

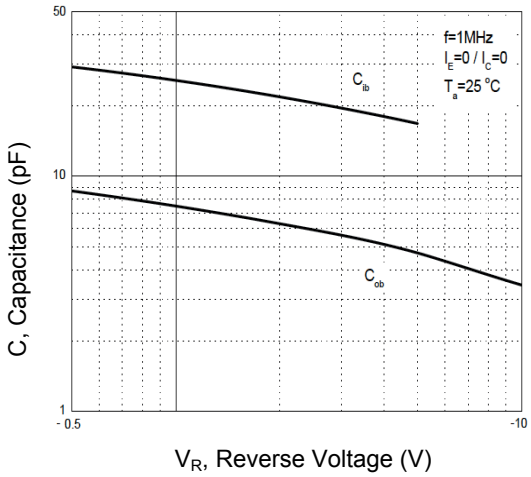


Figure 5. Capacitance Characteristics

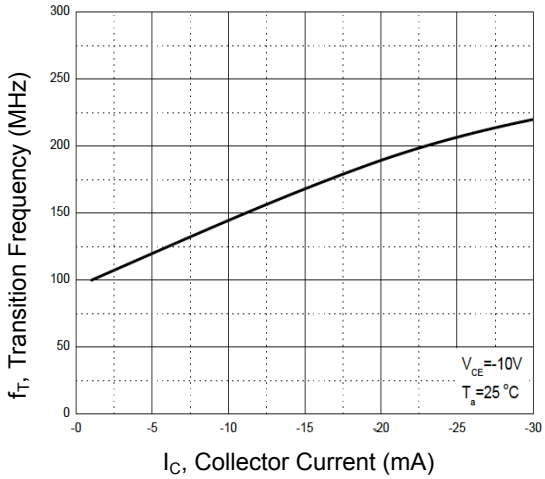


Figure 6. Transition Frequency vs. Collector Current

Typical Characteristic Curves

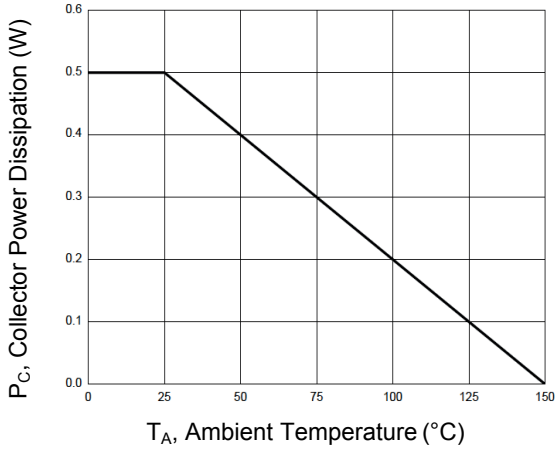
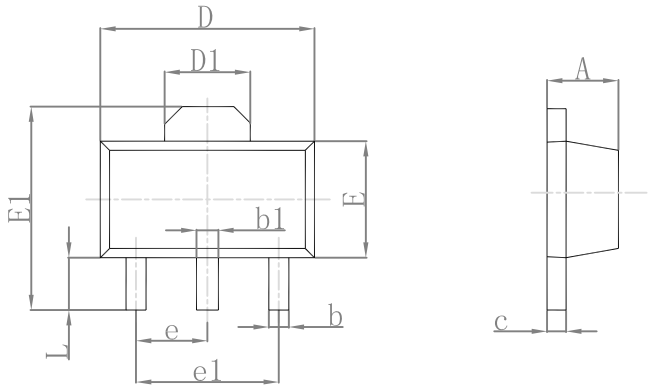


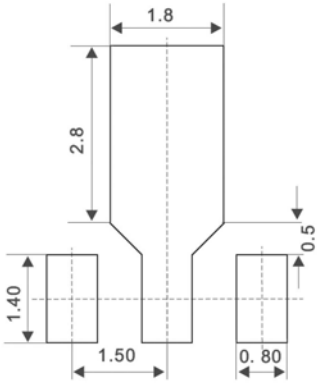
Figure 7. Power Dissipation vs. Ambient Temperature

Package Outline Dimensions (SOT-89-3L)



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.		0.059 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

Recommended Pad Layout



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ±0.050mm.
3. The pad layout is for reference purposes only.

Order Information

Device	Package	Marking	Carrier	Quantity
CXT5401	SOT-89-3L	5401	Tape & Reel	1,000 Pcs / Reel