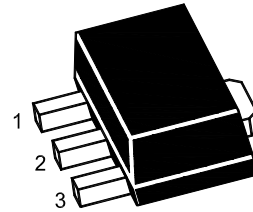


### Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

#### FEATURE

- 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 Plastic Package

MARKING:5401

#### 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>CEO</sub>	Collector-Emitter Voltage	-150	V
V <sub>EBO</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	60		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 to15.7kHz			8	dB

## Typical Characteristics

