

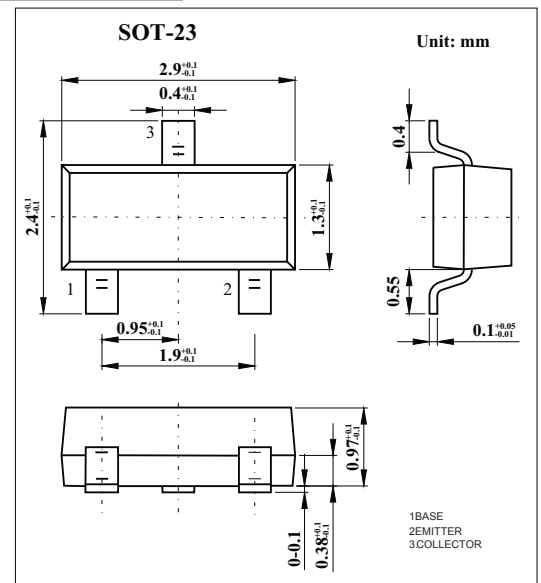
## SOT-23 Plastic-Encapsulate Transistors

### Features

- High current gain bandwidth product.
- power dissipation.(PC=200mW)
- TRANSISTOR (NPN)

### MECHANICAL DATA

- Case: SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V <sub>CBO</sub>	30	V
Collector to Emitter Voltage	V <sub>CEO</sub>	15	V
Emitter to Base Voltage	V <sub>EBO</sub>	5	V
Collector Current to Continuous	I <sub>c</sub>	50	mA
Collector Power Dissipation	P <sub>c</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to 150	°C

## Electrical Specification(T<sub>A</sub>=25°C unless otherwise specified)

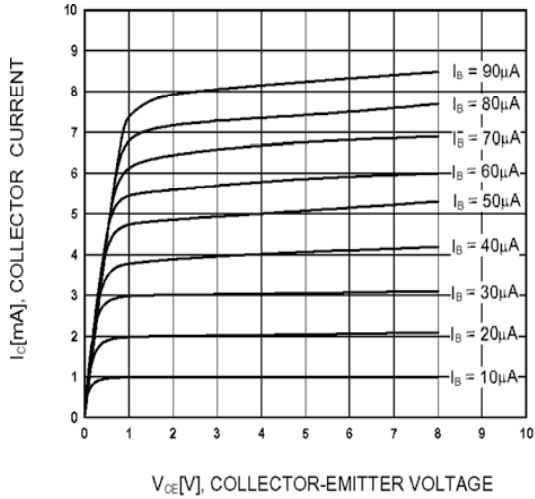
Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> = 100 μA, I <sub>E</sub> =0	30			V
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> = 1mA, I <sub>B</sub> =0	15			V
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100 μA, I <sub>c</sub> =0	5			V
Collector cut to off current	I <sub>CBO</sub>	V <sub>CB</sub> =12V, I <sub>E</sub> =0			0.05	μA
Emitter cut to off current	I <sub>EBO</sub>	V <sub>EB</sub> = 3V, I <sub>c</sub> =0			0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> = 1mA	70		190	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =10mA, I <sub>B</sub> = 1mA			0.5	V
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =10mA, I <sub>B</sub> = 1mA			1.4	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> = 5mA, f=400MHz	600			MHz

### ■ Marking

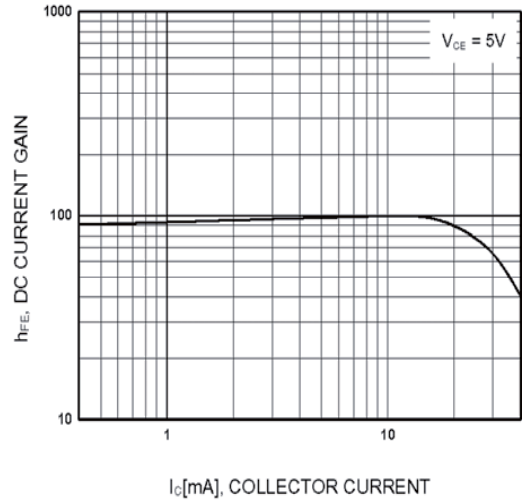
Marking	J8
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# RATINGS AND CHARACTERISTIC CURVES

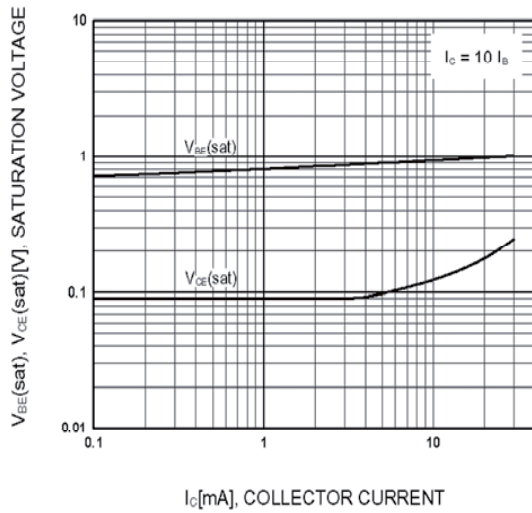
## Typical Characteristics



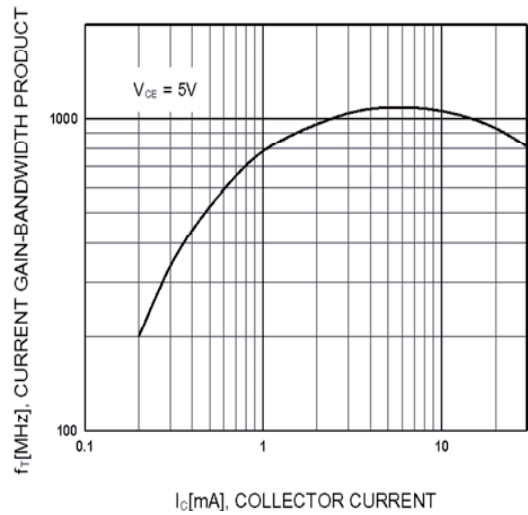
**Static Characteristic**



**DC Current Gain**



**Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Current Gain Bandwidth Product**