

## SS8050 NPN Transistors

### General description

SOT-23 Plastic-Encapsulate Transistors

### SOT-23

#### FEATURES

- Complementary to SS8550
- Power Dissipation of 300mW
- High Stability and High Reliability

#### MECHANICAL DATA

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

1. BASE  
2. EMITTER  
3. COLLECTOR



### Marking: Y1

### Maximum Ratings & Thermal Characteristics T<sub>A</sub> = 25°C unless otherwise noted

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	25	V
Emitter -Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>c</sub>	1500	mA
Collector Power Dissipation	P <sub>c</sub>	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55-+150	°C
Thermal resistance From junction to ambient	R <sub>θJA</sub>	417	°C/W

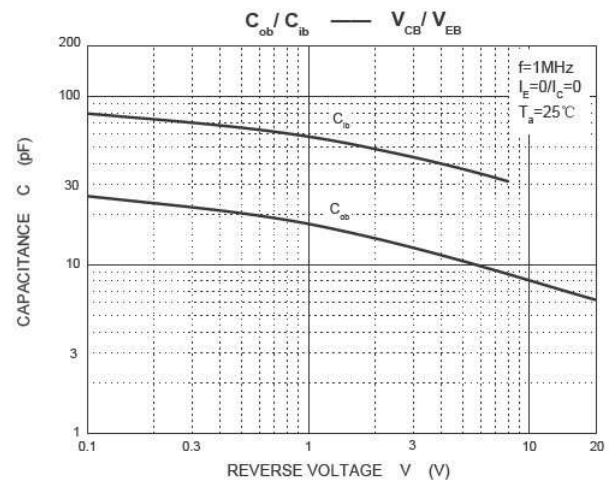
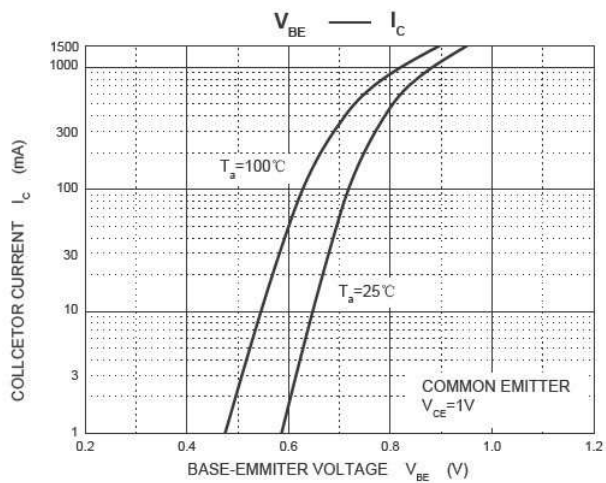
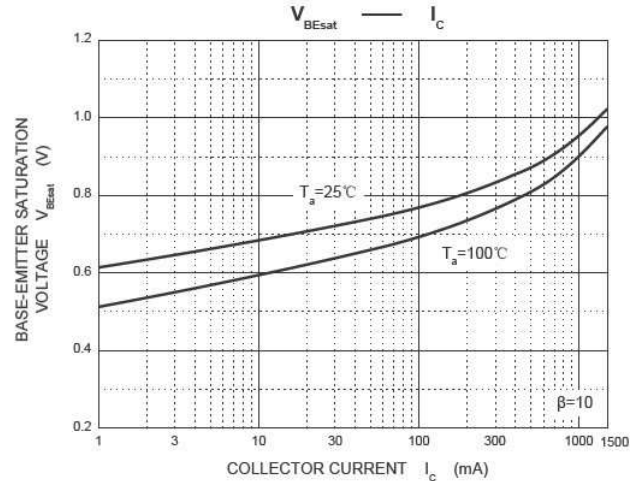
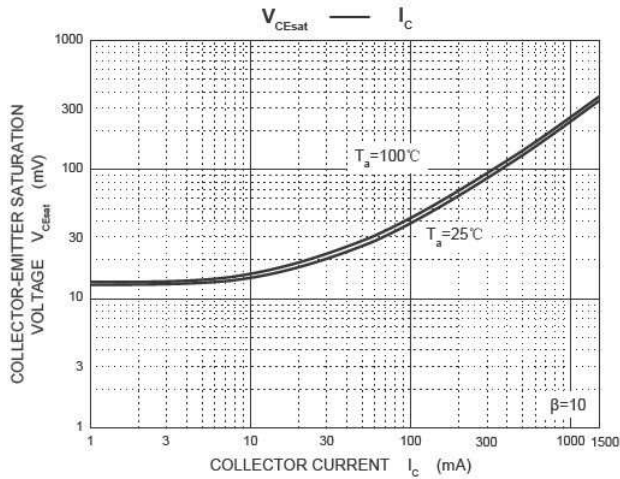
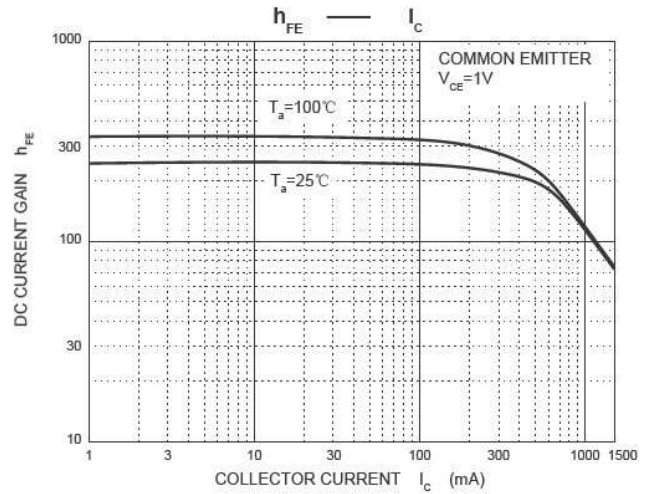
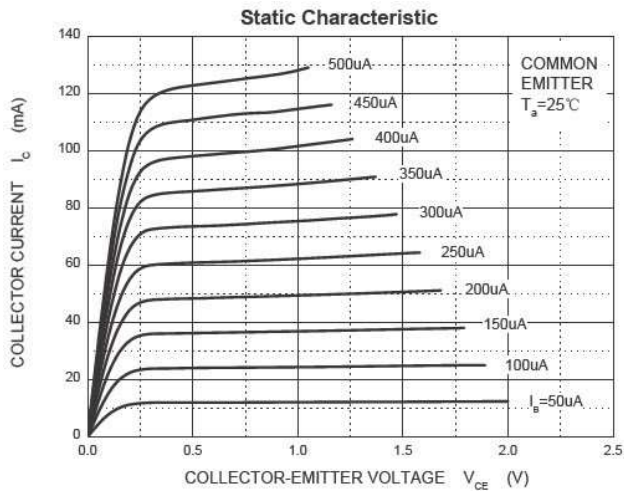
### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100uA, I <sub>E</sub> =0	40		V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =0.1mA, I <sub>B</sub> =0	25		V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100uA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =20V, I <sub>B</sub> =0		100	nA
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =40V, I <sub>E</sub> =0		100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		100	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	120	400	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =800mA	50		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =800mA, I <sub>B</sub> =80mA		0.60	V
Base -emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =800mA, I <sub>B</sub> =80mA		1.20	V
Transition frequency	f <sub>t</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA, f=30MHz	100		MHz

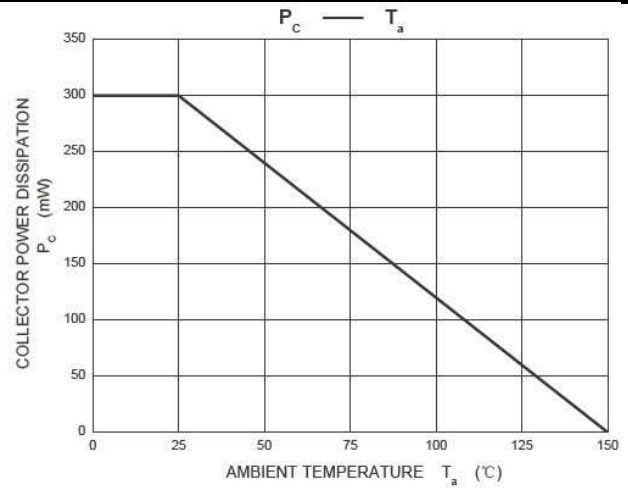
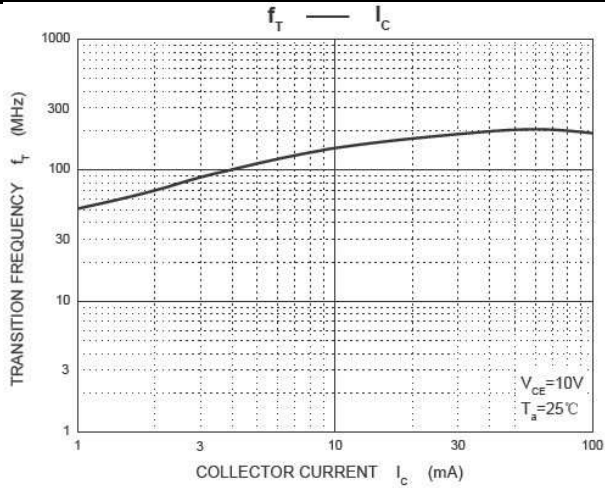
### CLASSIFICATION OF h<sub>FE(1)</sub>

RANK	L	H	J
RANGE	120-200	200-350	300-400

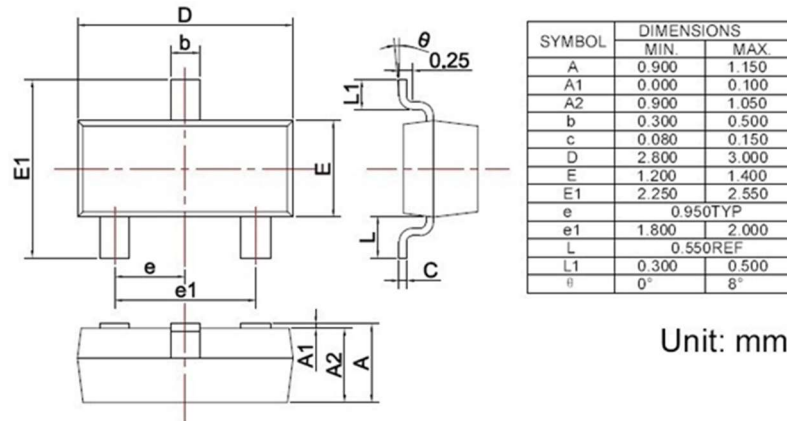
## Typical characteristics



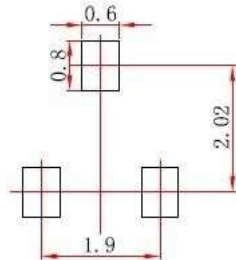
# SS8050



## SOT-23 PACKAGE OUTLINE Plastic surface mounted package



Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



- Note:
1. Controlling dimension: In millimeters.
  2. General tolerance:  $\pm 0.05mm$ .
  3. The pad layout is for reference purposes only.

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