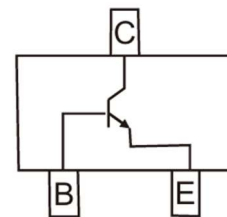
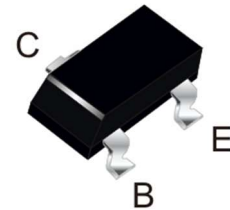


### Features

- Low profile package
- Ideal for automated placement
- Complementary to MMBT2907A (PNP)
- Power Dissipation of 300mW
- High Stability and High Reliability

### Appearance & Symbol

SOT-23



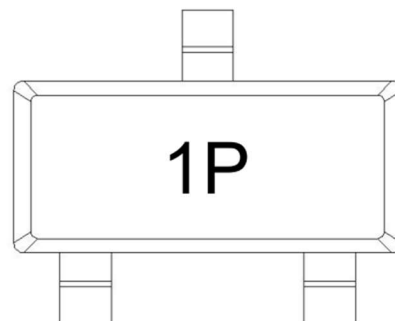
### Mechanical Data

- Package: SOT-23
- UL Flammability Classification Rating 94V-0
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Tape Reel: 3000pcs

### Application

- Amplifying signal
- Electronic switch
- Oscillating circuit
- Variable resistance

### Marking information



1P= Marking Code

**Absolute Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	75	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Collector Current - Continuous	I <sub>C</sub>	600	mA
Collector Power Dissipation	P <sub>C</sub>	300	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	417	°C/W
Junction Temperature	T <sub>J</sub>	-55 to +150	°C
Junction and Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

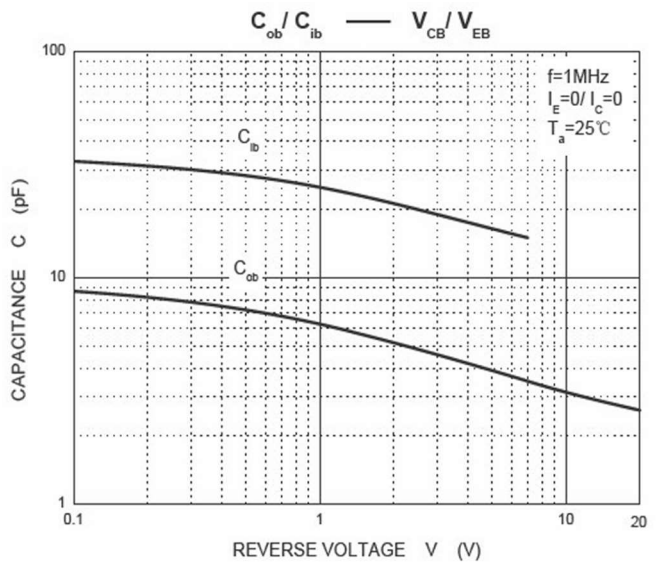
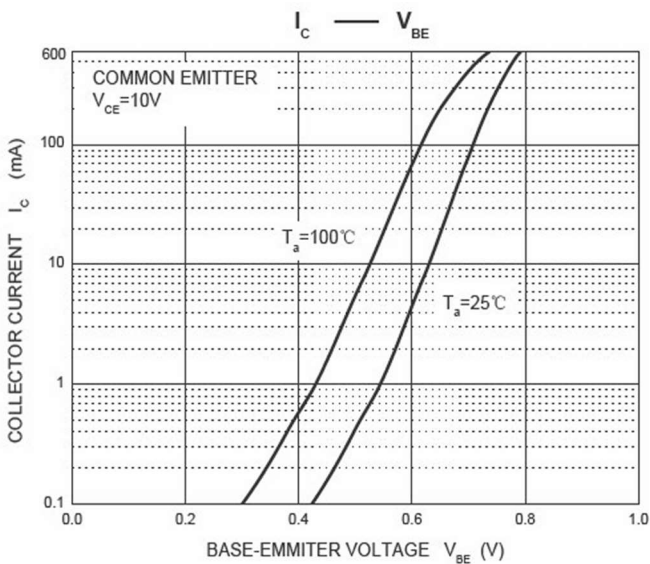
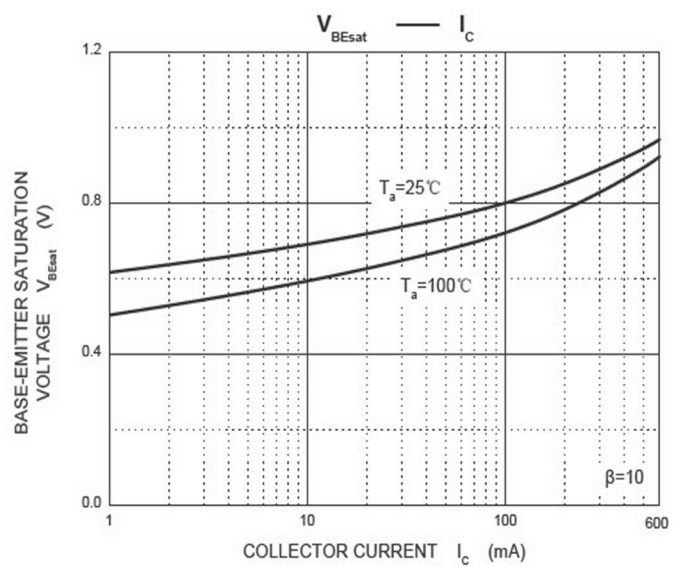
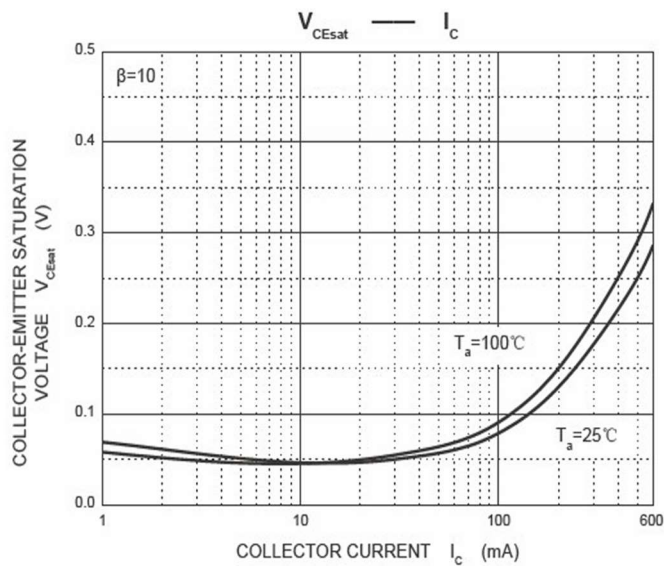
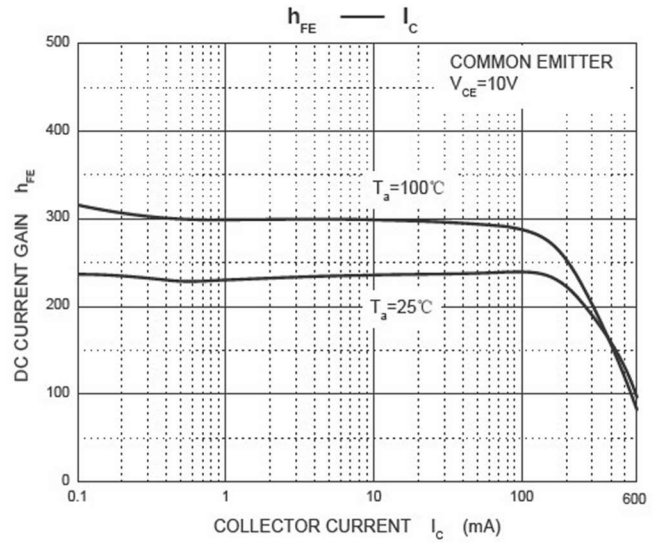
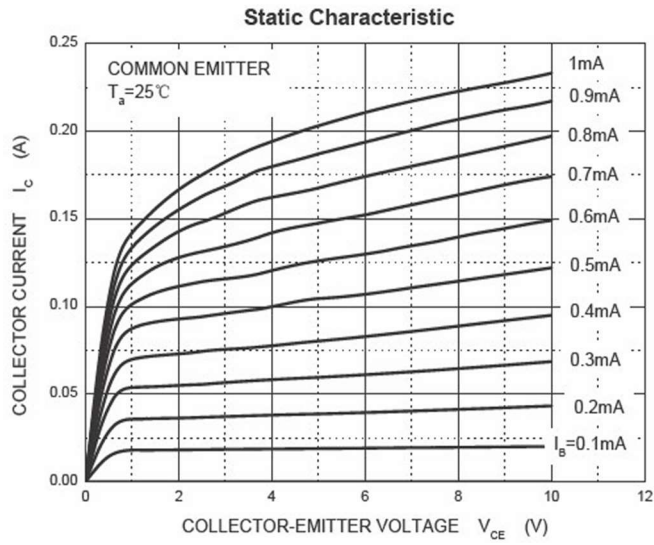
**Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	75		V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0	40		V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0		10	nA
Collector cut-off current	I <sub>CEX</sub>	V <sub>CE</sub> =30V, V <sub>BE(off)</sub> =3V		10	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0		100	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA	100	300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1mA	40		
	h <sub>FE(3)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA	42		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1	V
		I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		0.3	V
Base -emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		2	V
		I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =20mA, f=100MHz	300		MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =30V, V <sub>BE(off)</sub> =0.5V I <sub>C</sub> =150mA, I <sub>B1</sub> =15mA		10	ns
Rise time	t <sub>r</sub>			25	ns
Storage time	t <sub>s</sub>	V <sub>CC</sub> =30V, I <sub>C</sub> =150mA, I <sub>B1</sub> =I <sub>B2</sub> =15mA		225	ns
Fall time	t <sub>f</sub>			60	ns

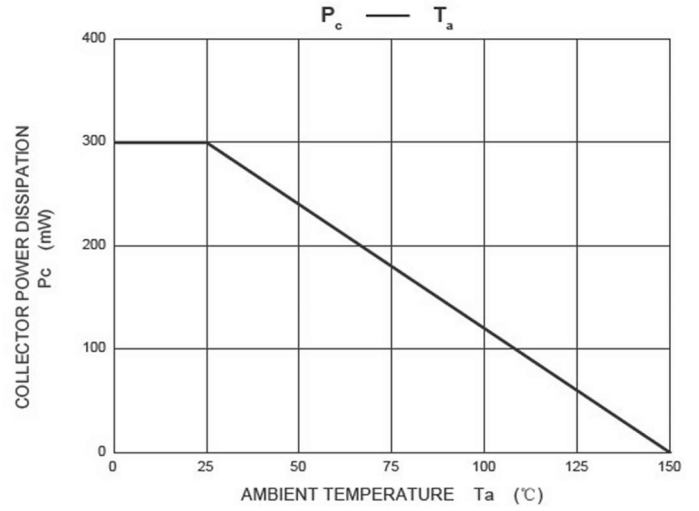
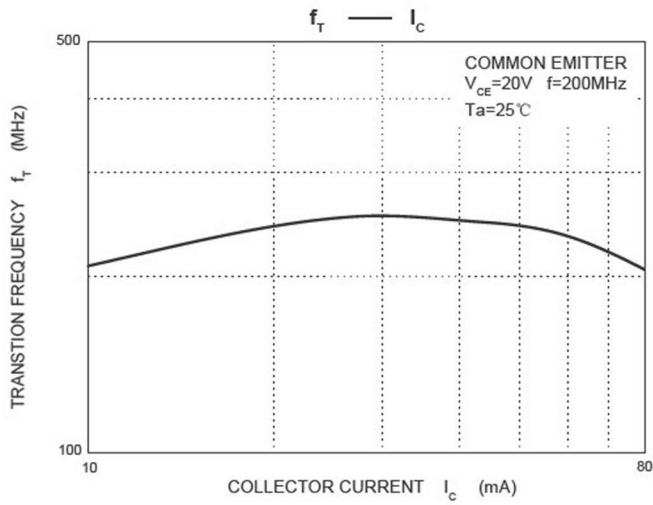
**Classification of h<sub>FE(1)</sub>**

Rank	L	H
Range	100 - 200	200 - 300

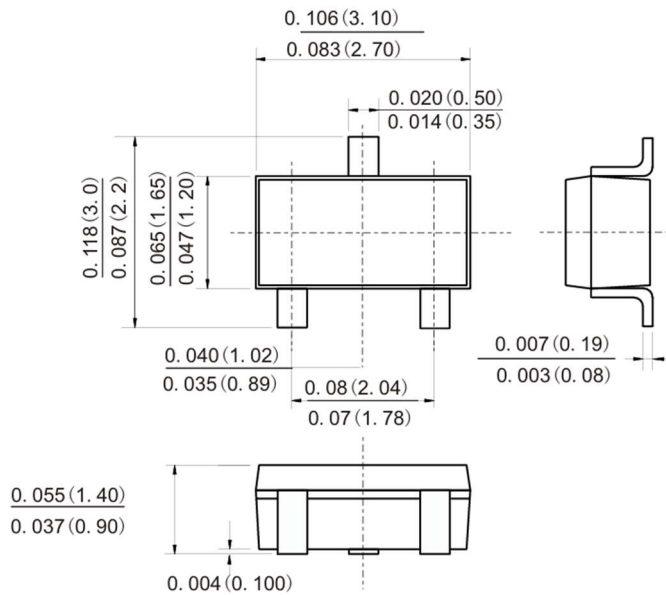
Typical Characteristics



## Typical Characteristics

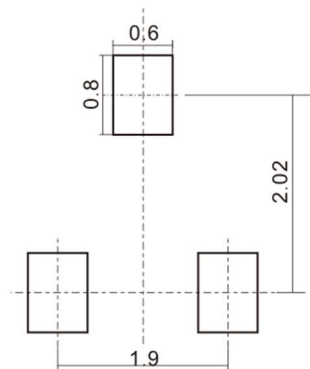


## Package Outline Dimensions (Units: mm) SOT-23



Dimensions in inches and (millimeters)

## Suggested Land Pattern



Dimensions in millimeters