

## SOT-23 Plastic-Encapsulate Transistors

### Features

- Complementary to BC807.
- 300mW; Power Dissipation of 300mW
- High Stability and High Reliability

### Mechanical Data

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

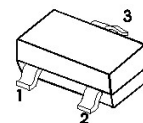


**RoHS**  
COMPLIANT



**Marking:** SOT-23

**Pin definition**



1. BASE  
2. EMITTER  
3. COLLECTOR

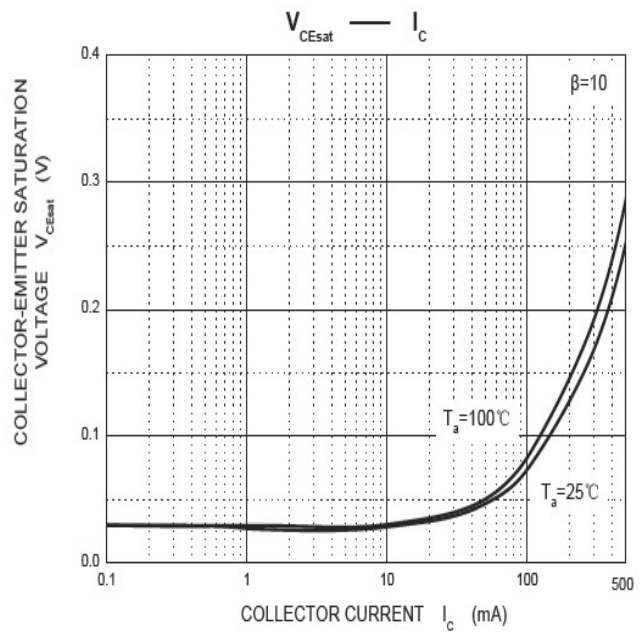
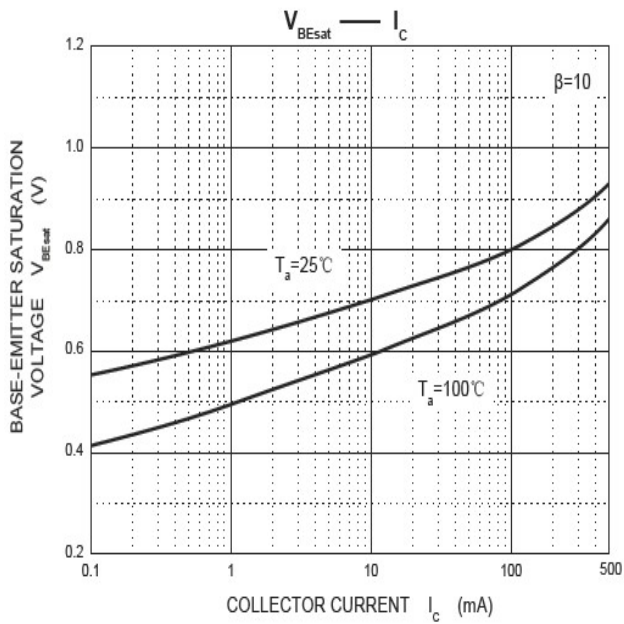
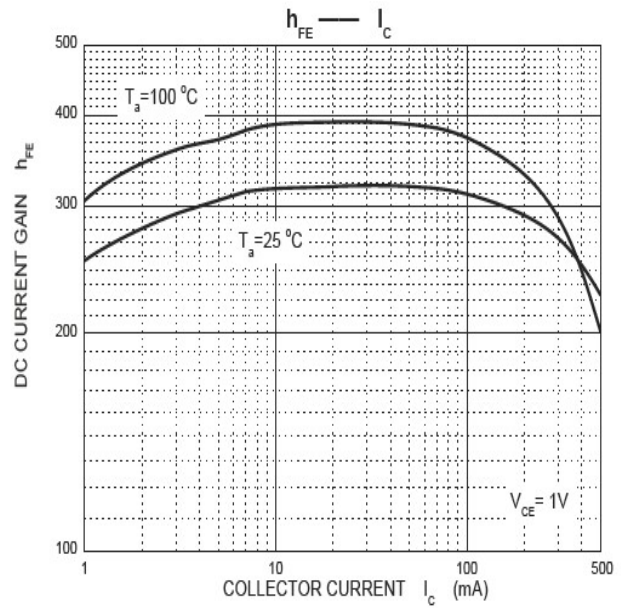
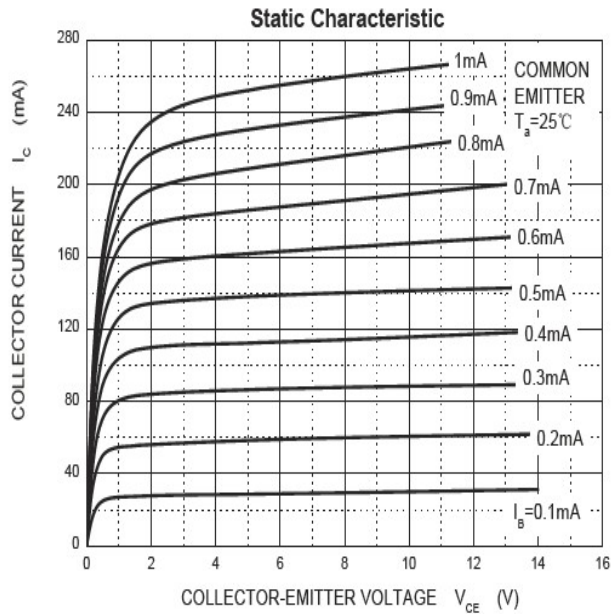
Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	45	V
Emitter -Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>C</sub>	500	mA
Collector Power Dissipation	P <sub>C</sub>	300	mW
Operating junction temperature range	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>STG</sub>	-55-+150	°C
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	417	°C/W

Electrical Specifications (T <sub>A</sub> =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I <sub>C</sub> =10uA, I <sub>E</sub> =0	50		V
Collector-emitter breakdown voltage	V(BR)CEO	I <sub>C</sub> =10mA, I <sub>B</sub> =0	45		V
Emitter-base breakdown voltage	V(BR)EBO	I <sub>E</sub> =1uA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =45V, I <sub>E</sub> =0		100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0		100	
DC current gain	hFE(1)	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	100	600	
	hFE(2)	V <sub>CE</sub> =1V, I <sub>C</sub> =500mA	40		
Collector-emittersaturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		0.70	V
Collector-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.20	V
Base -emitter saturation voltage	V <sub>BE</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =500mA		1.20	V
Transition frequency	Cob	V <sub>CB</sub> =10V, f=1MHz	10(Typ)		
Delay time	t <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz	100		MHz

Classification OF <sub>hFE(2)</sub>			
RANK	BC817 -16	BC817 -25	BC817 -40
RANGE	100-250	160-400	250-600
Marking	6A	6B	6C

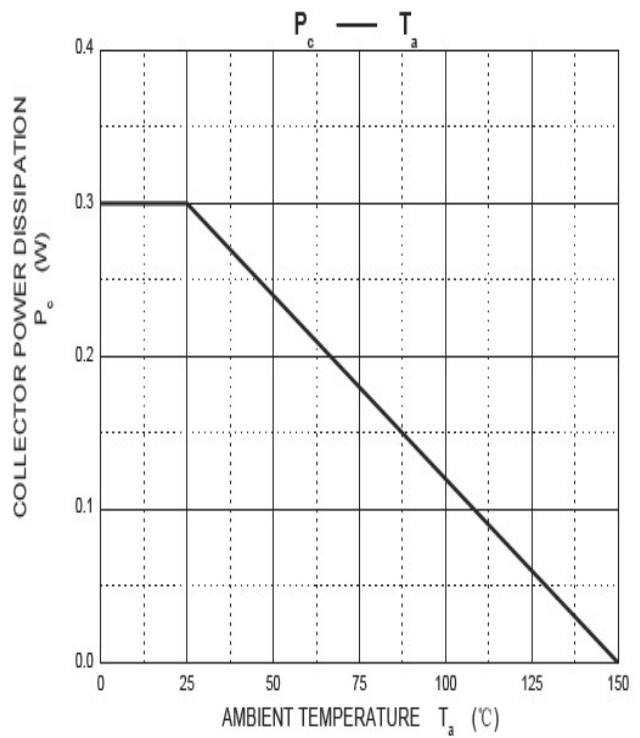
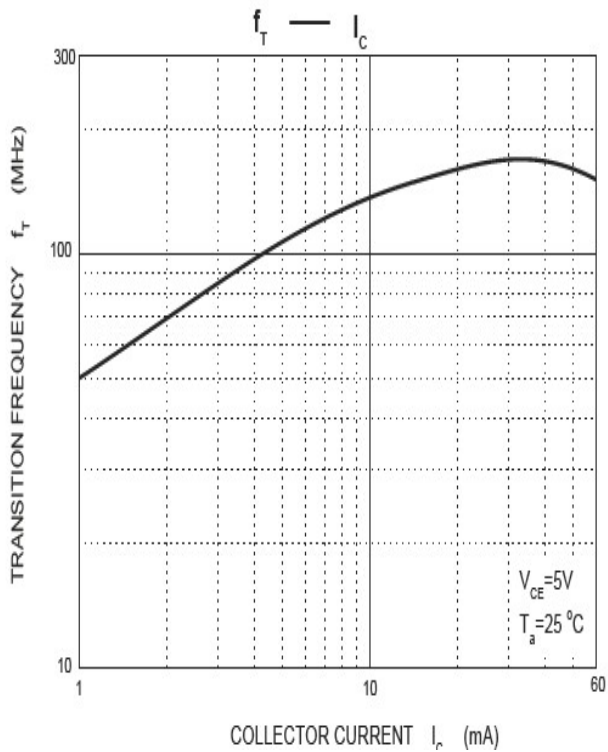
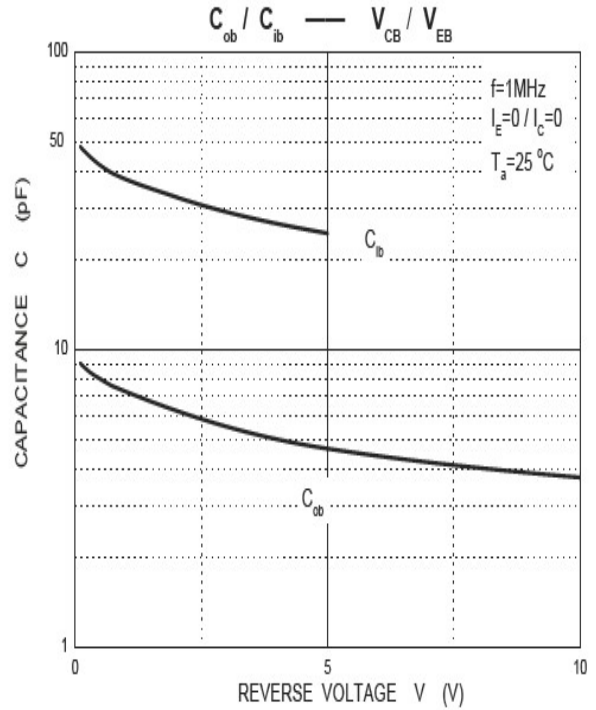
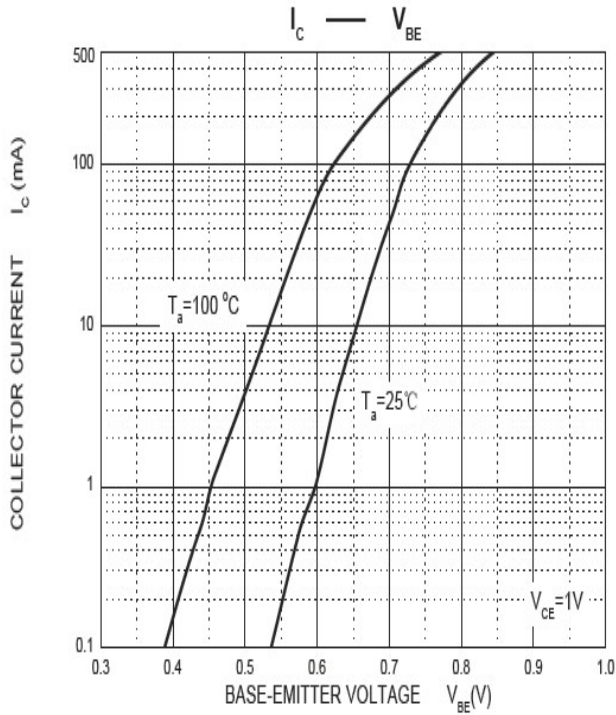
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)



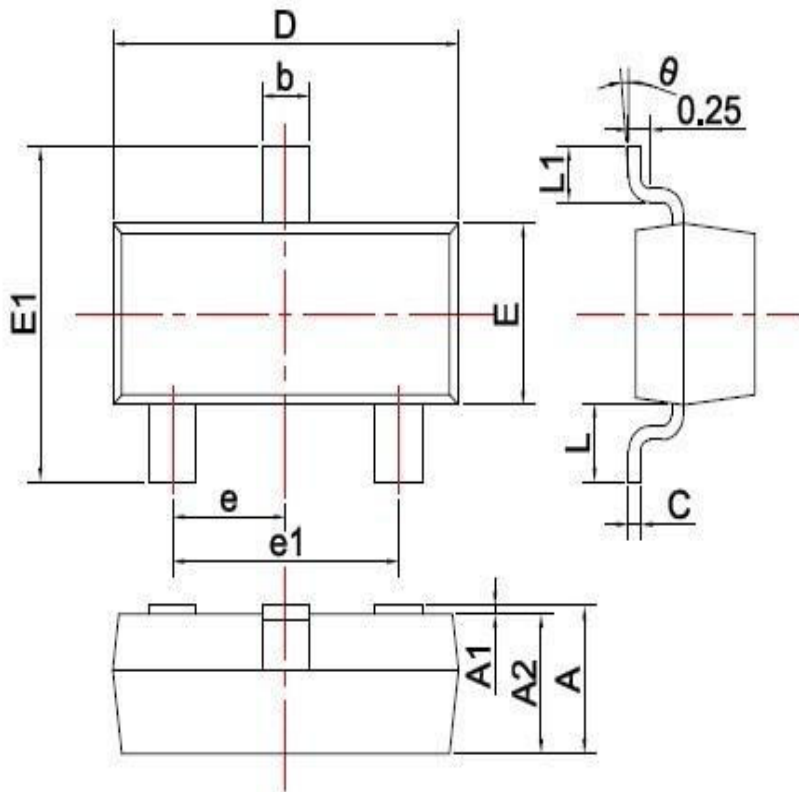
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)



## Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2017.11.13	First issue

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