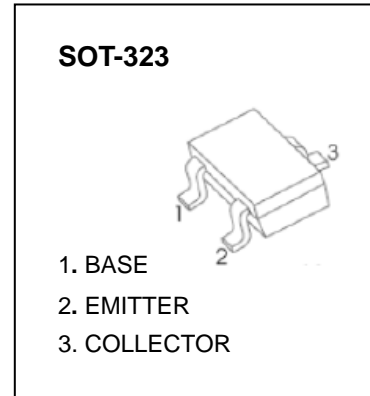


## SOT-323 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

### FEATURES

- For General AF Applications
- High Collector Current
- High Current Gain
- Low Collector-Emitter Saturation Voltage



### MAXMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	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 Dissipation	0.2	W
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	625	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

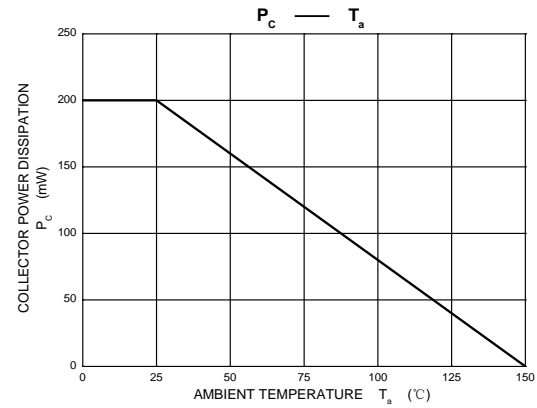
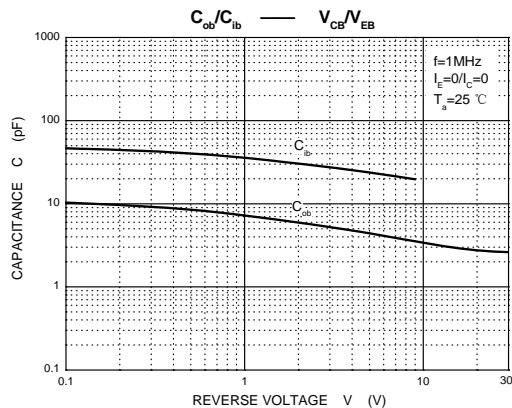
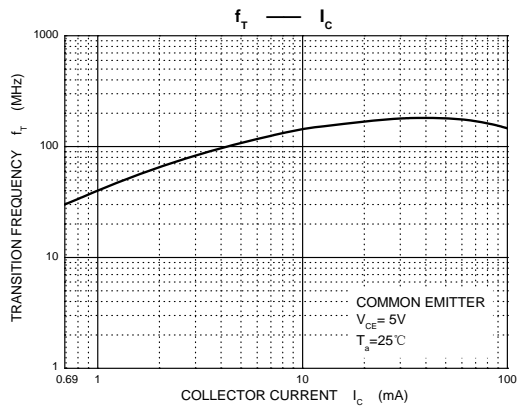
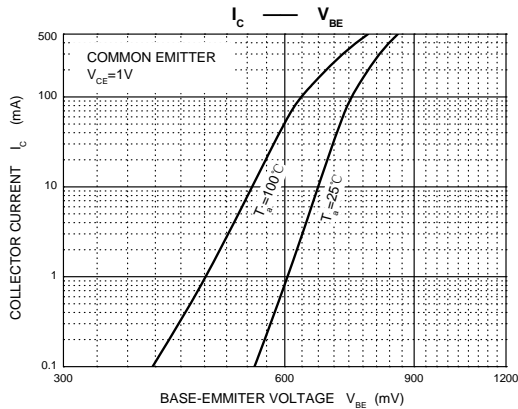
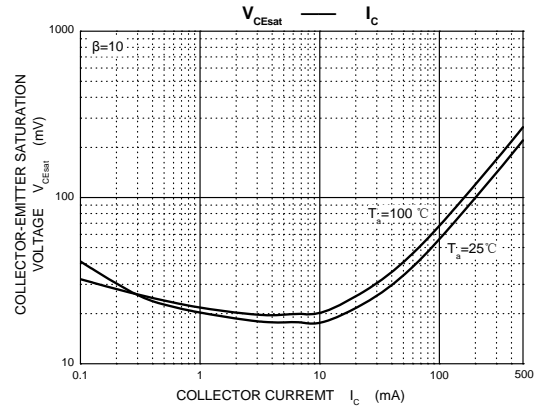
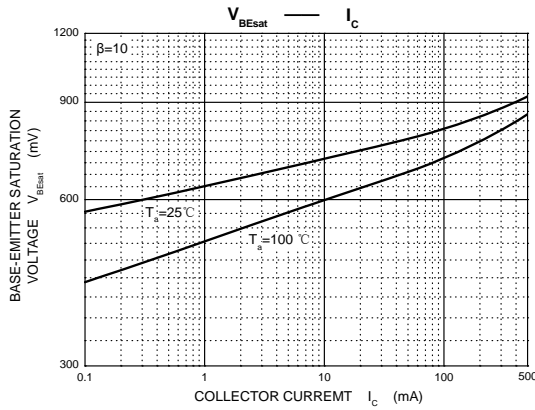
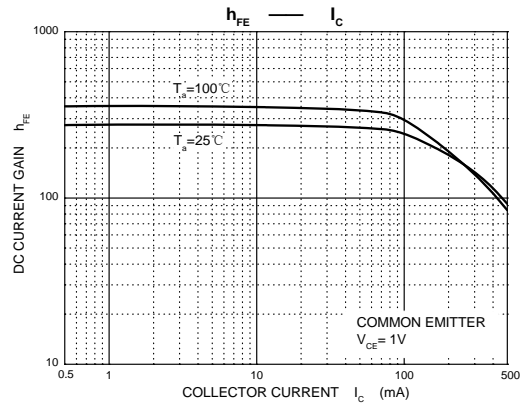
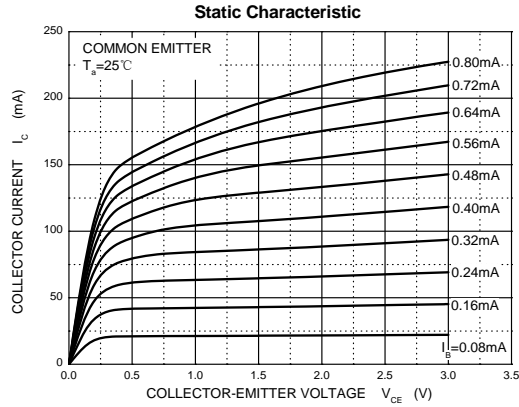
### ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	50			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0	45			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =1μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	100		600	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =500mA	40			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			0.7	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			1.2	V
Base-emitter voltage	V <sub>BE(ON)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =500mA			1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz	100			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz			5	pF

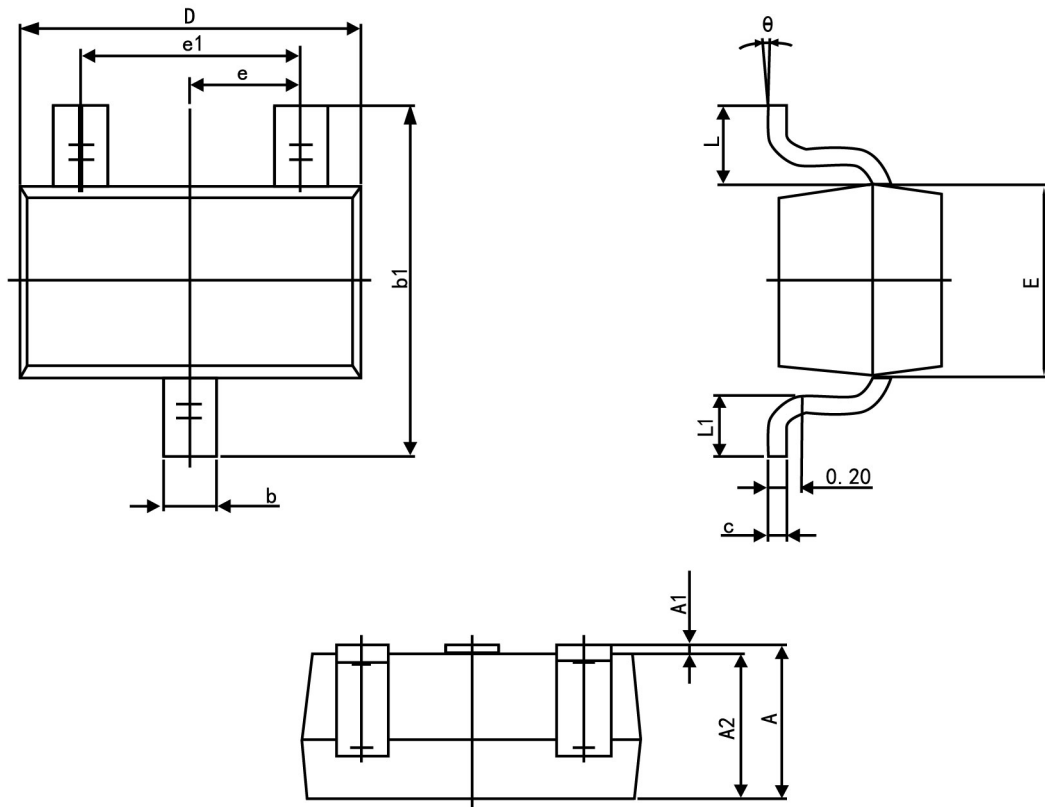
### CLASSIFICATION of h<sub>FE(1)</sub>

Rank	BC817-16W	BC817-25W	BC817-40W
Range	100-250	160-400	250-600
Marking	6A	6B	6C

## Typical Characteristics



## SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.200	0.400
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
$\theta$	0°	8°