

## FEATURES

- Ideally suited for automatic insertion
- Epitaxial planar die construction
- Complementary to BC817W

## MAXIMUM 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 Power Dissipation	0.2	W
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	625	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Storage Temperature	-55~+150	°C

### SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

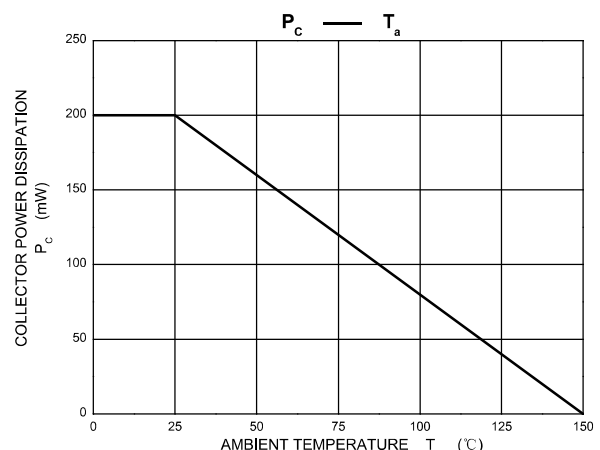
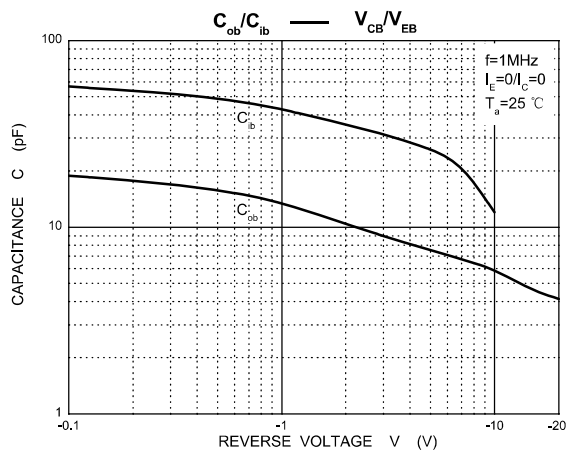
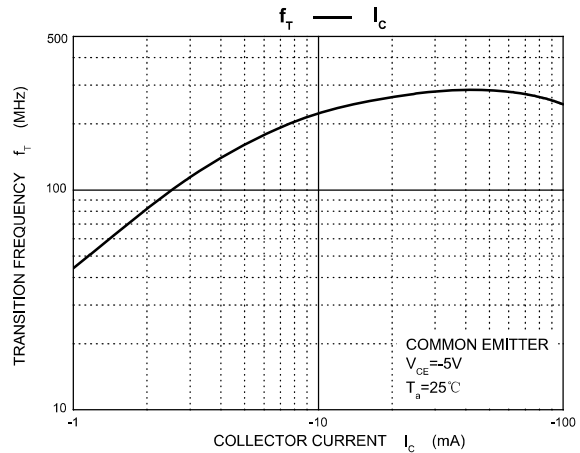
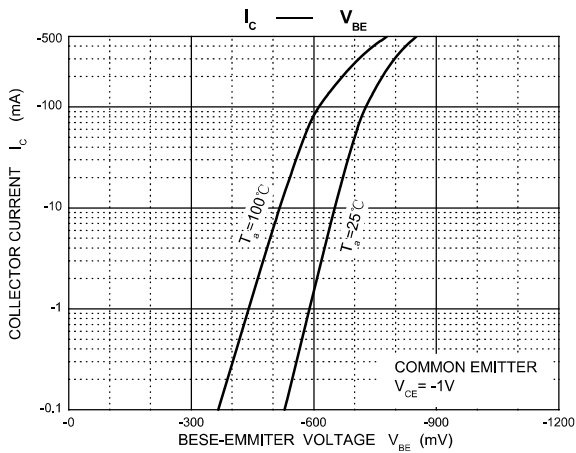
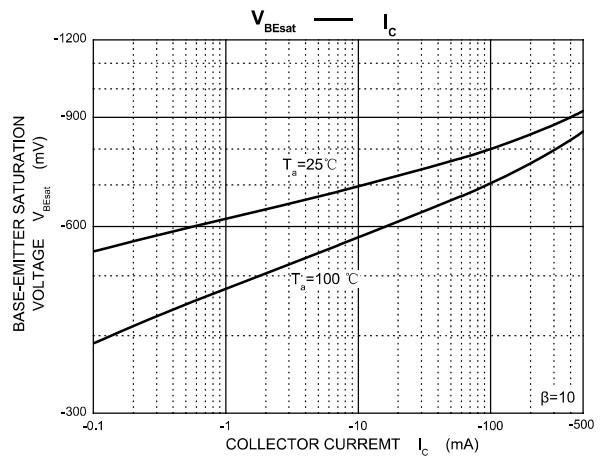
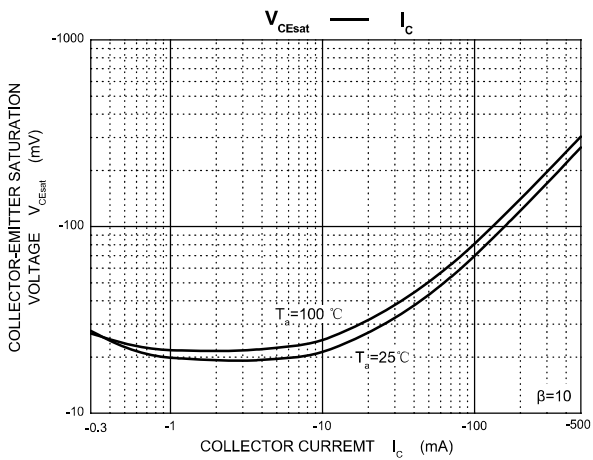
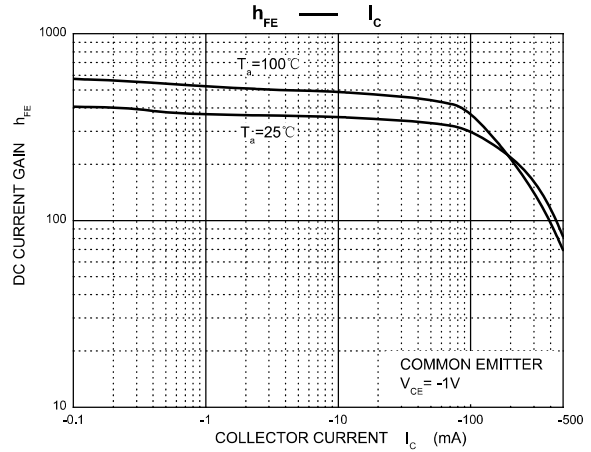
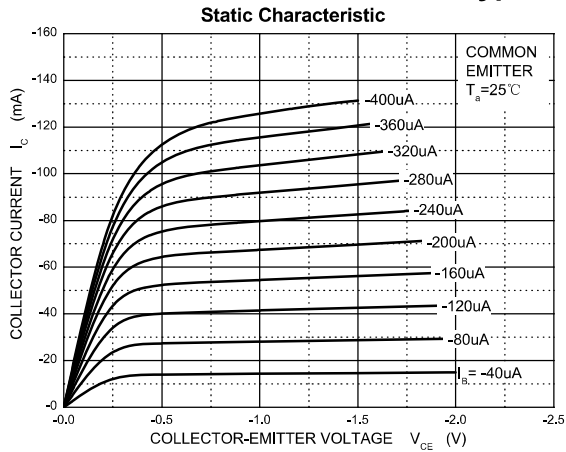
## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V <sub>CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-50		V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-45		V
Emitter-base breakdown voltage	V <sub>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> =-20 V, I <sub>E</sub> =0		-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5 V, 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> =-50 mA		-0.7	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> =-5 V, I <sub>C</sub> = -10mA f=100MHz	80		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		10	pF

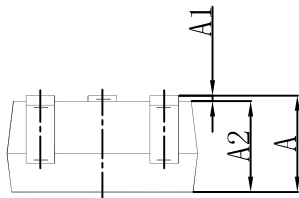
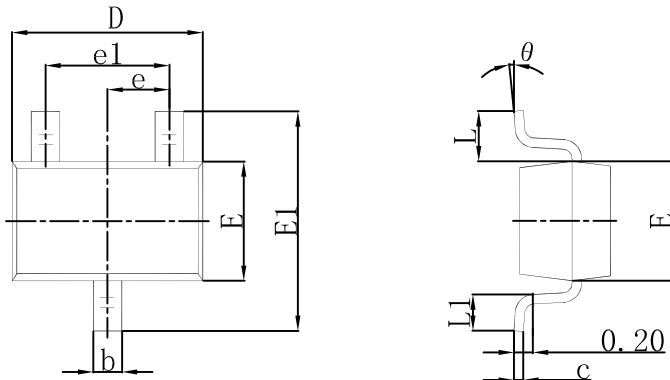
## CLASSIFICATION of h<sub>FE(1)</sub>

Rank	BC807-16W	BC807-25W	BC807-40W
Range	100-250	160-400	250-600
Marking	5A	5B	5C

**Typical Characteristics**

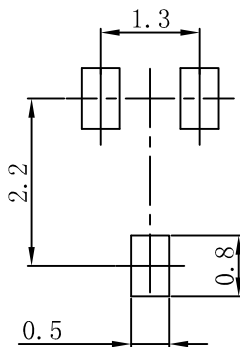


**SOT-323 Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

**SOT-323 Suggested Pad Layout**



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ±0.05mm.  
 3. The pad layout is for reference purposes only.

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