

# SOT-323 Plastic-Encapsulate Transistors

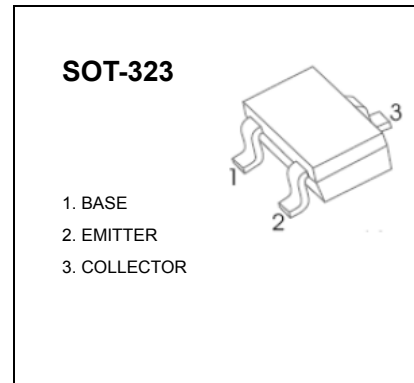
## BC807W TRANSISTOR (PNP)

### FEATURES

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

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-45	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-0.5	A
$P_C$	Collector Power Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	6G	$^\circ\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$



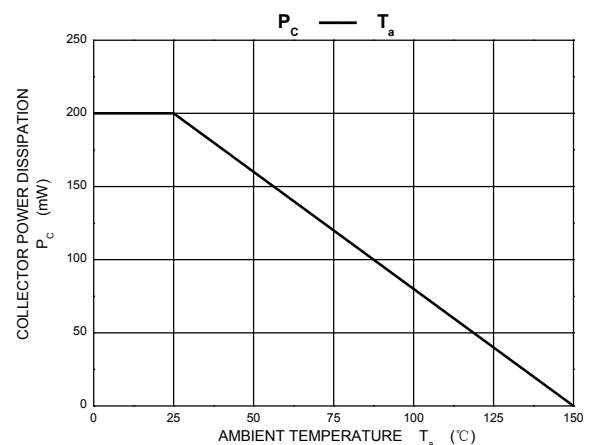
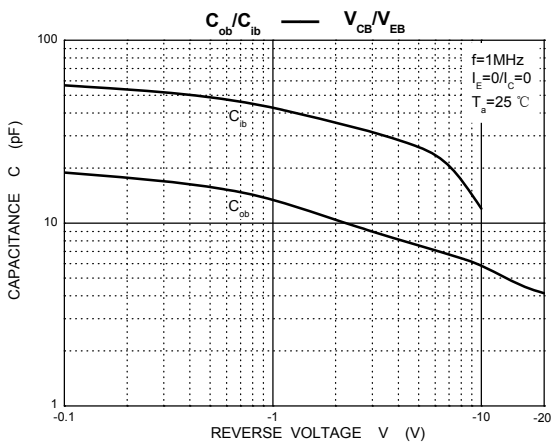
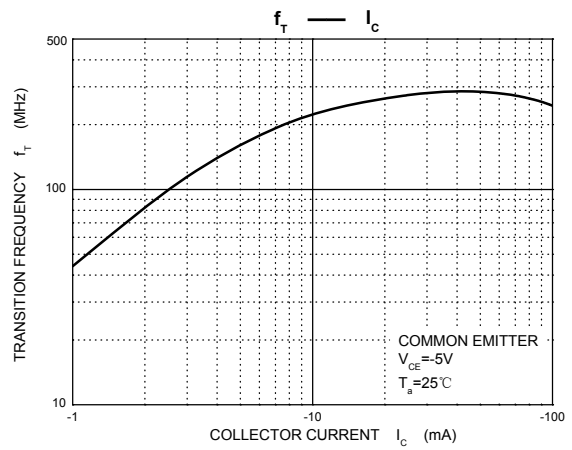
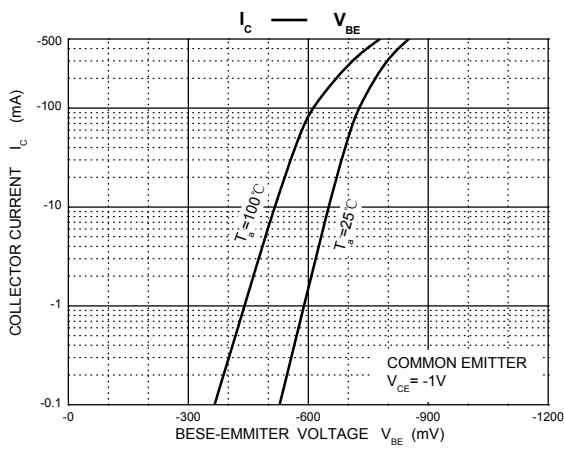
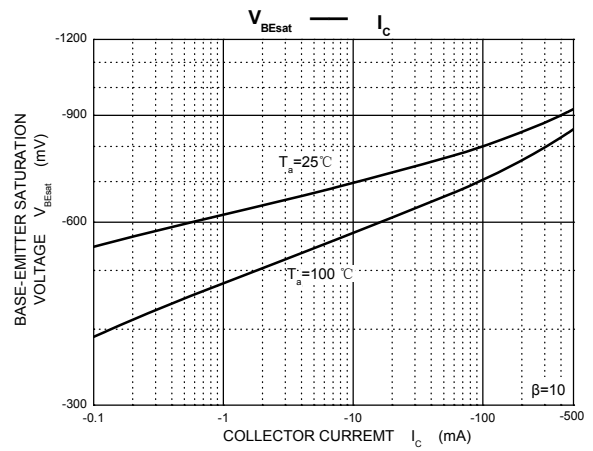
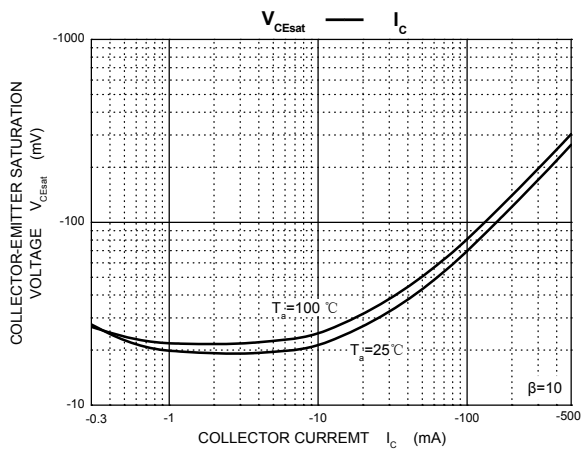
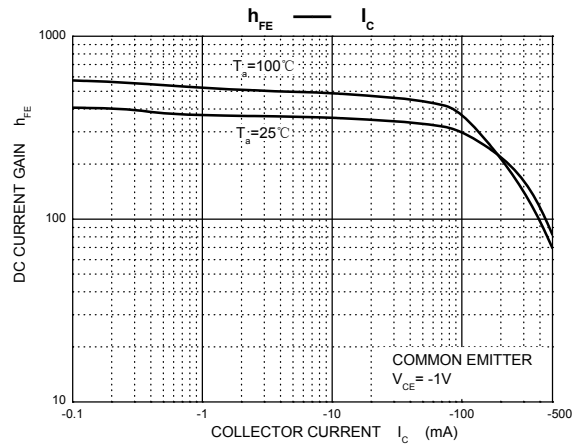
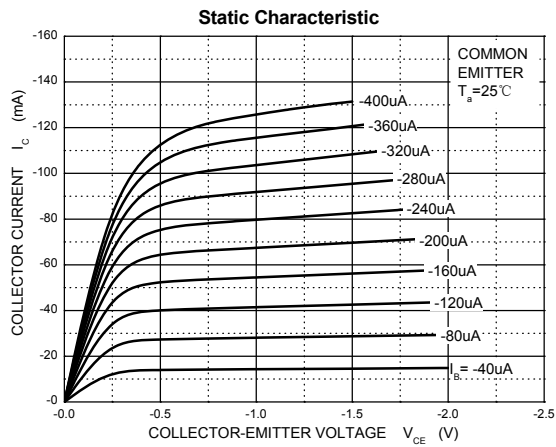
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-50		V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C=-10\text{mA}, I_B=0$	-45		V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=-1\mu\text{A}, I_C=0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-20\text{V}, I_E=0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=-20\text{V}, I_B=0$		-0.2	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$		-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$	100	600	
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.7	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$		-1.2	V
Transition frequency	$f_T$	$V_{CE}=-5\text{V}, I_C=-10\text{mA}$ $f=100\text{MHz}$	80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$		10	pF

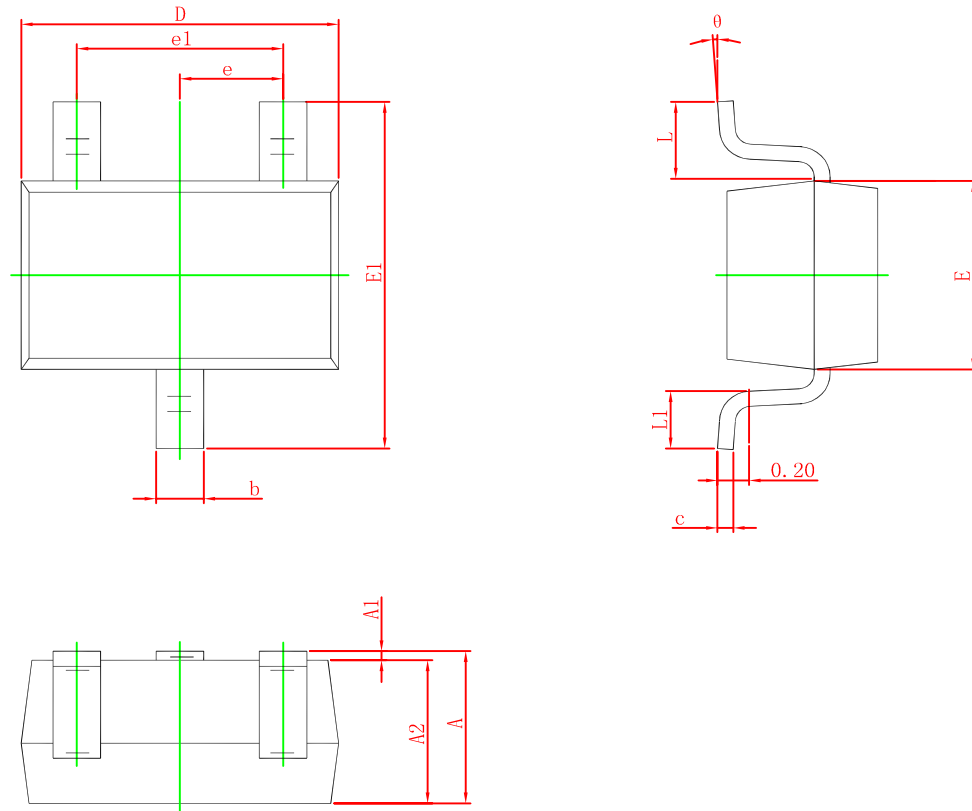
### CLASSIFICATION of $h_{FE(1)}$

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
θ	0°	8°	0°	8°