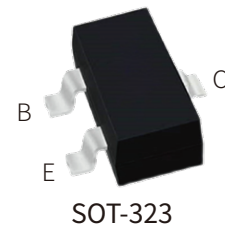


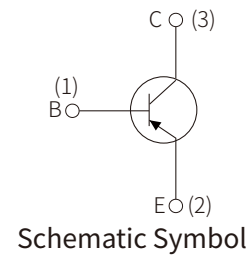
## FEATURES

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



## MECHANICAL DATA

- | SOT-323 small outline plastic package
- | Epoxy UL: 94V-0
- | Mounting position: Any



## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-45	
Emitter-Base Voltage	$V_{EBO}$	-5	
Collector Current-Continuous	$I_C$	-500	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

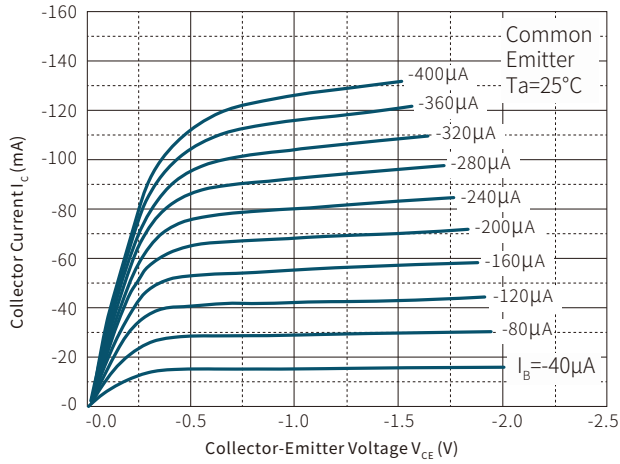
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-50			V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-45			
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-1μA, I <sub>C</sub> =0	-5			
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-20V, I <sub>E</sub> =0			-100	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-100	
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			-0.70	V
Base -Emitter Voltage	V <sub>BE(on)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-500mA			-1.20	
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz	80			MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz			10	pF

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

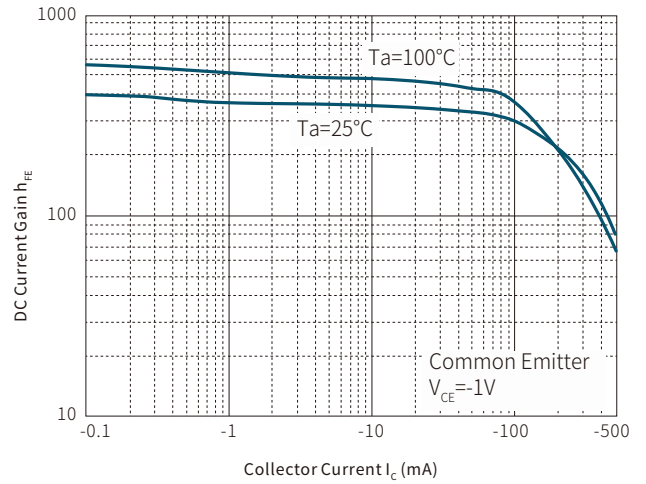
RANK	BC807-16W	BC807-25W	BC807-40W
RANGE	100-250	160-400	250-600
Marking	5A	5B	5C

# TYPICAL CHARACTERISTICS

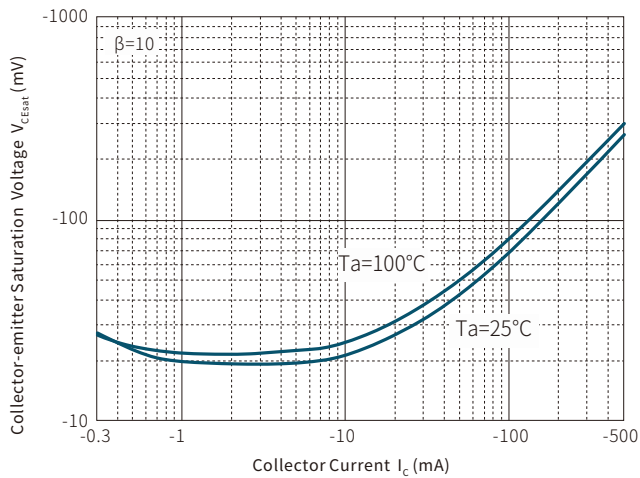
Static Characteristic



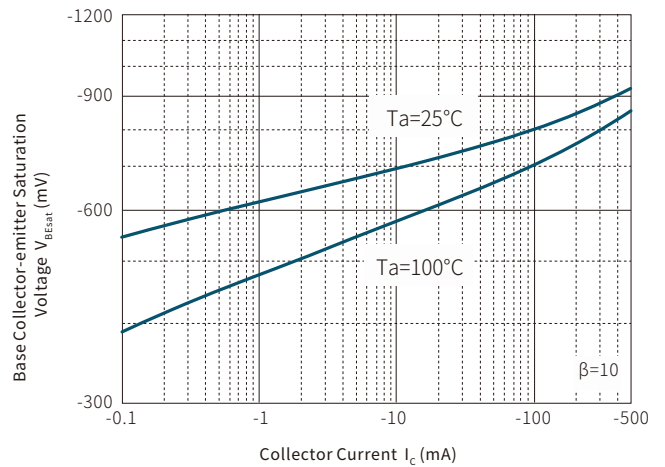
$h_{FE}$  —  $I_c$

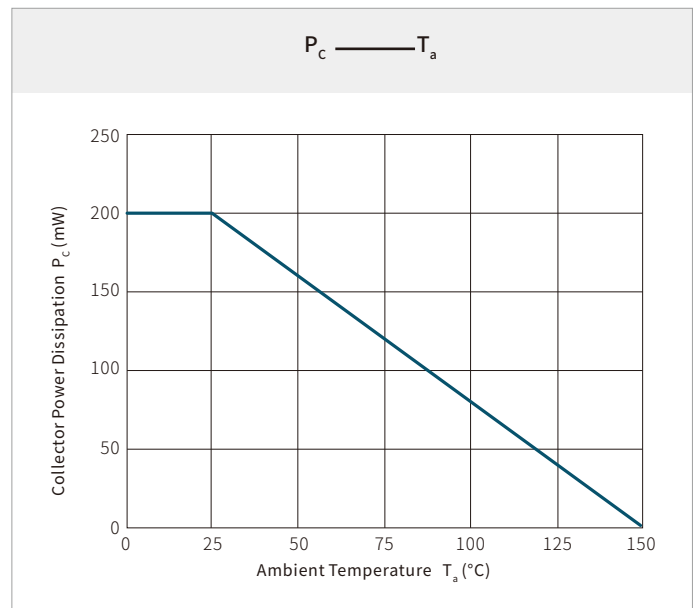
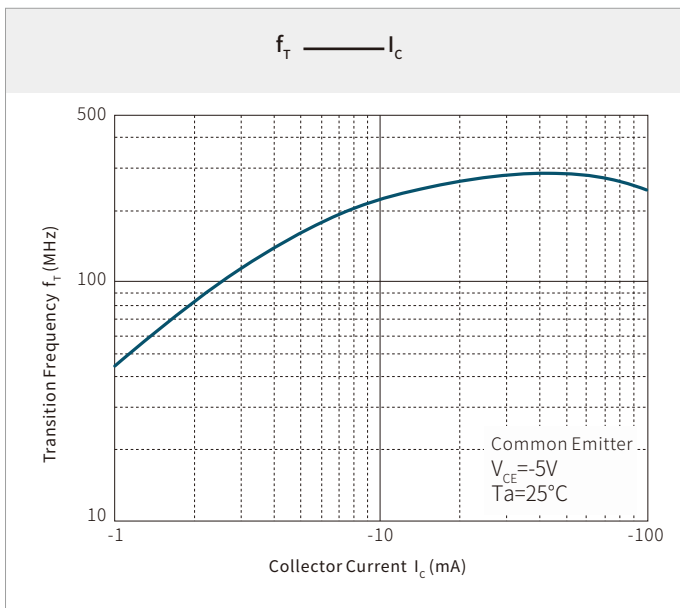
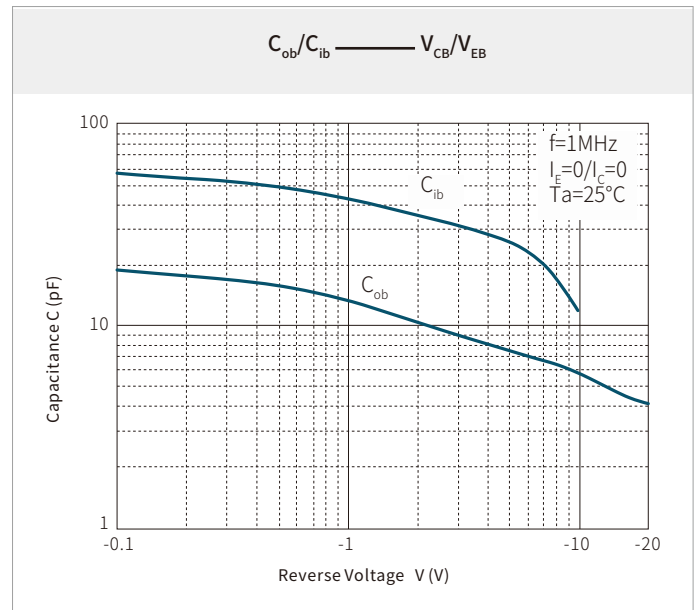
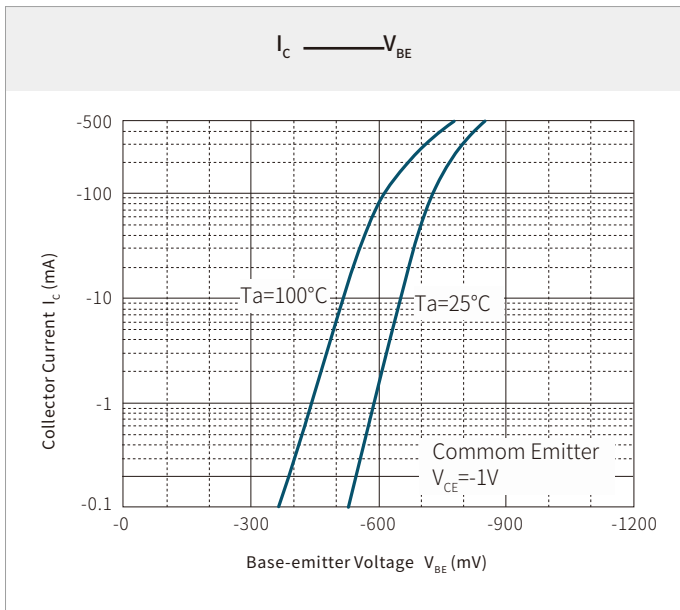


$V_{CEsat}$  —  $I_c$

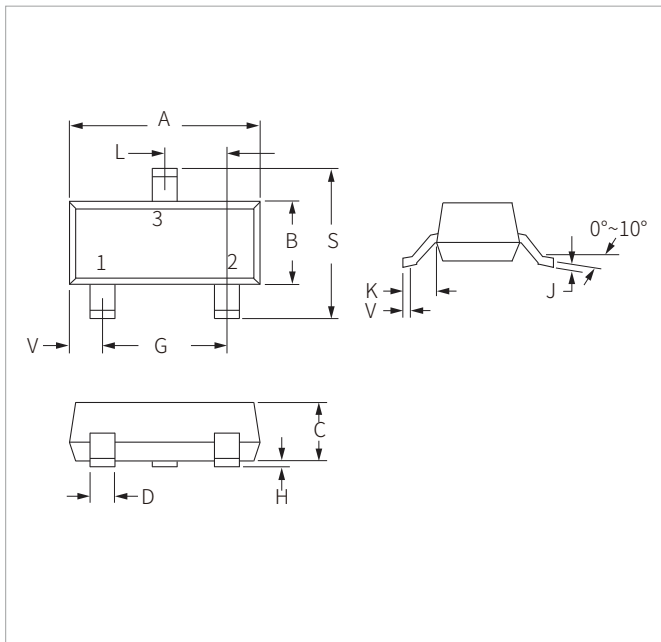


$V_{BEsat}$  —  $I_c$



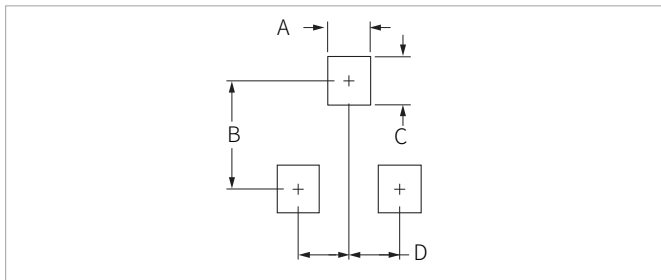


## SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	NOR	NOR
A	0.50	0.020
B	2.20	0.087
C	0.80	0.031
D	1.30	0.051

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BC807W	SOT-323	3000PCS	7"

To find your local partner within Semiwell' s website : [www.semiwell.com.cn](http://www.semiwell.com.cn)  
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