

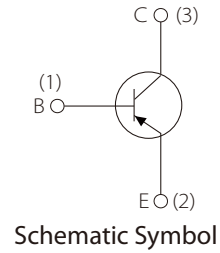
FEATURES

- | Ideally suited for automatic insertion
- | Epitaxial planar die construction
- | Complementary NPN type available(BC817)



MECHANICAL DATA

- | SOT-23 small outline plastic package
- | Epoxy UL: 94V-0
- | Mounting position: Any



APPROVALS

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

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

Parameter		Symbol	Value	Unit
Collector-Base Voltage	BC807	V_{CBO}	-50	V
	BC808		-30	
Collector-Emitter Voltage	BC807	V_{CEO}	-45	V
	BC808		-25	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-0.5	A
Collector Power Dissipation		P_C	0.3	W
Junction Temperature		T_J	150	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

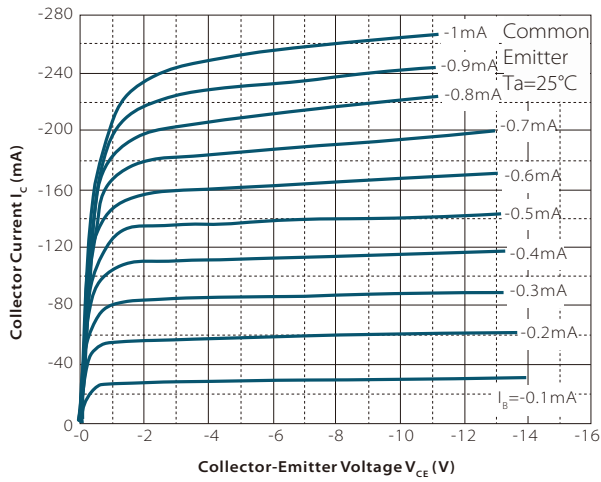
Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	BC807	V _{CBO}	I _C =-10μA, I _E =0	-50			V
	BC808			-30			
Collector-emitter breakdown voltage	BC807	V _{CEO}	I _C =-10mA, I _B =0	-45			V
	BC808			-25			
Emitter-base breakdown voltage		V _{EBO}	I _E =-1μA, I _C =0	-5			V
Collector cut-off current		I _{CBO}	V _{CB} =-45V, I _E =0			-0.1	μA
Collector cut-off current		I _{CEO}	V _{CE} =-40V, I _B =0			-0.2	μA
Emitter cut-off current		I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	μA
DC current gain	BC807-16,BC808-16	h _{FE(1)}	V _{CE} =-1V, I _C =-100mA	100		250	
	BC808-25,BC808-25			160		400	
	BC807-40,BC808-40			250		600	
Collector-emitter saturation voltage		V _{CE(sat)}	I _C =-500mA, I _B =-50mA			-0.7	V
Base-emitter saturation voltage		V _{BE(sat)}	I _C =-500mA, I _B =-50mA			-1.2	V
Transition frequency		f _T	V _{CE} =-5V, I _C =-10mA, f=100MHz	100			MHz

MARKING

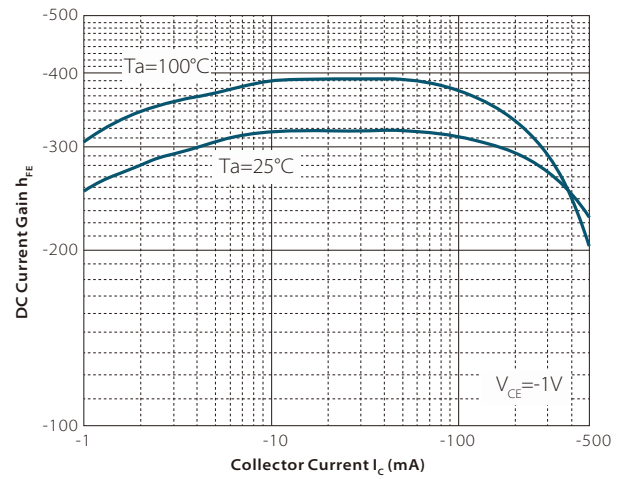
Part Number	BC807-16	BC807-25	BC807-40	BC808-16	BC808-25	BC808-40
Marking	5A	5B	5C	9GA	9GB	9GC

TYPICAL CHARACTERISTICS

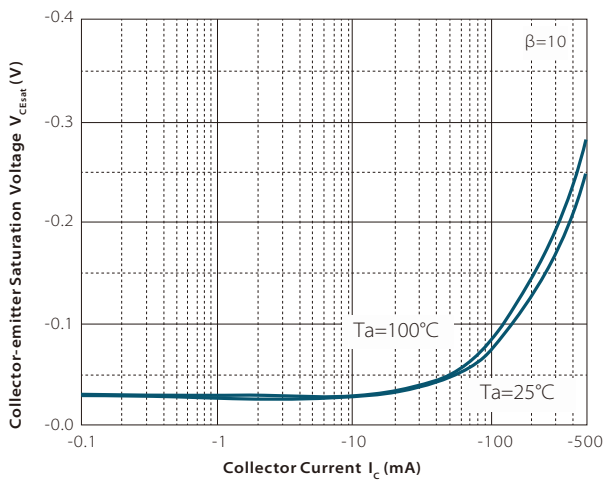
Static Characteristic



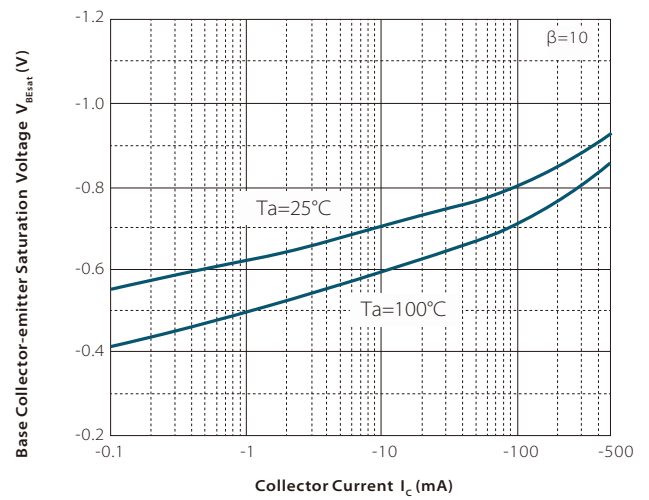
$h_{FE} \text{ — } I_C$

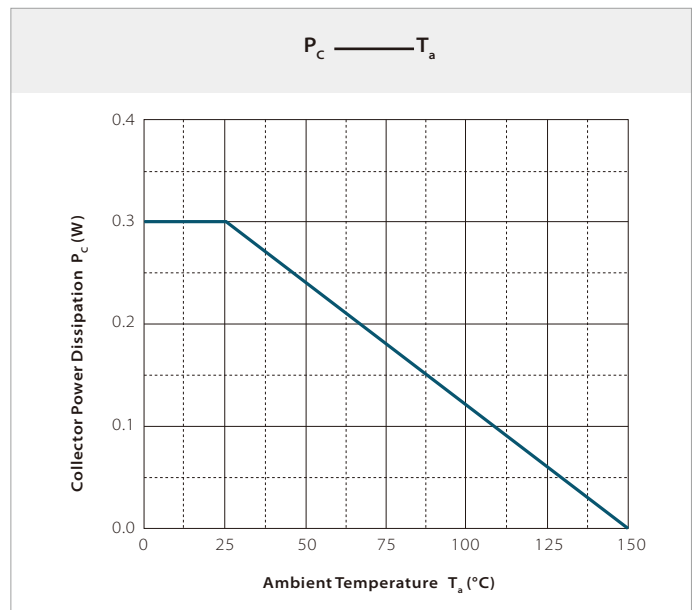
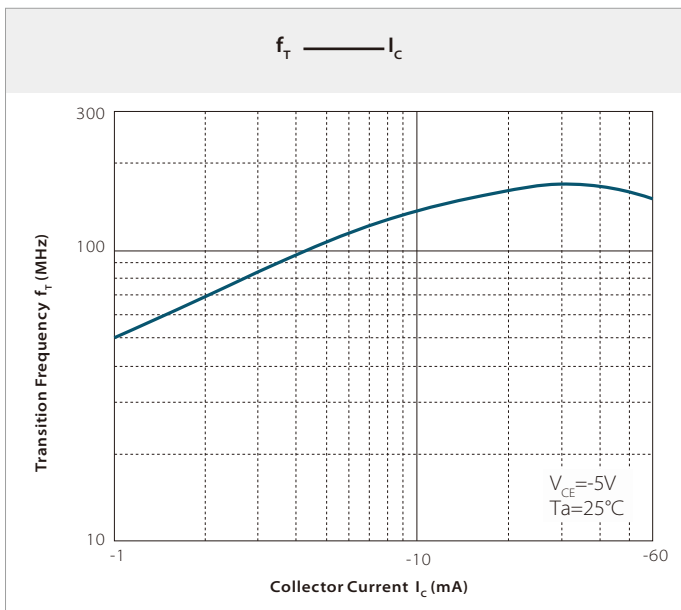
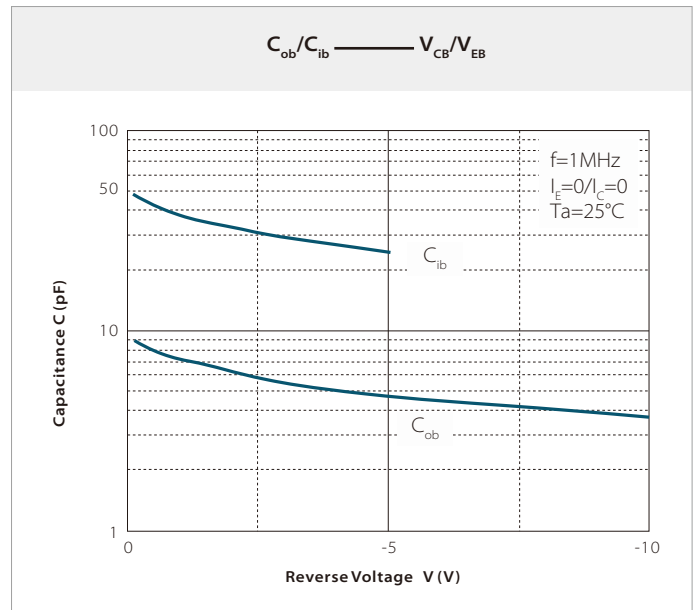
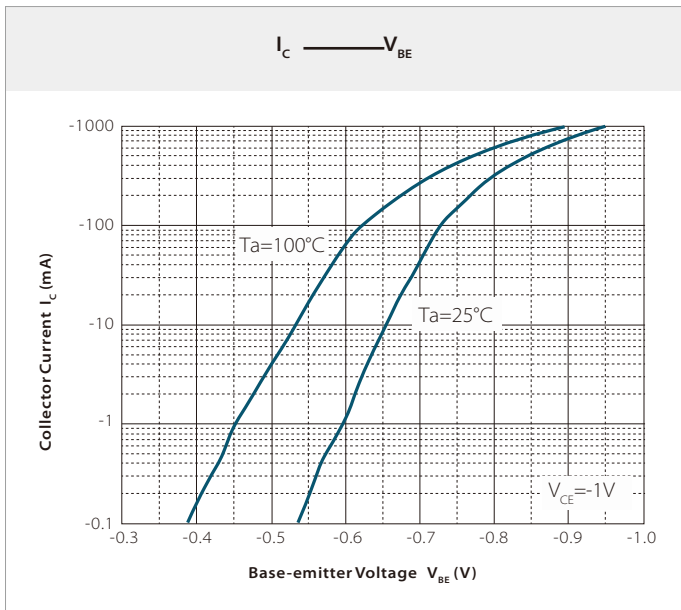


$V_{CE\ sat} \text{ — } I_C$



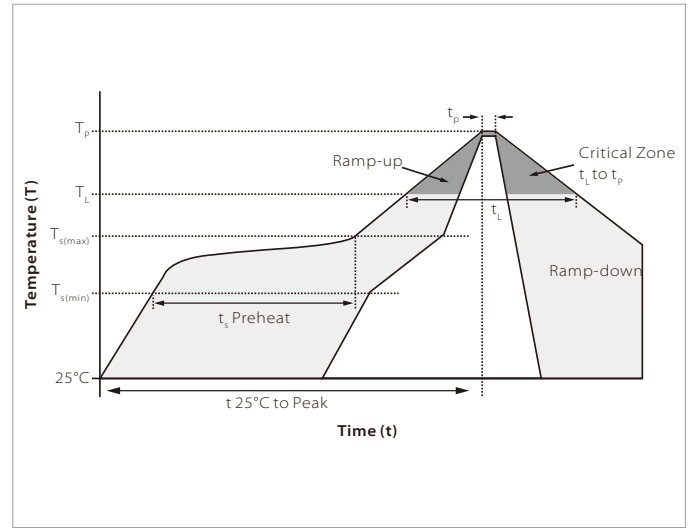
$V_{BE\ sat} \text{ — } I_C$



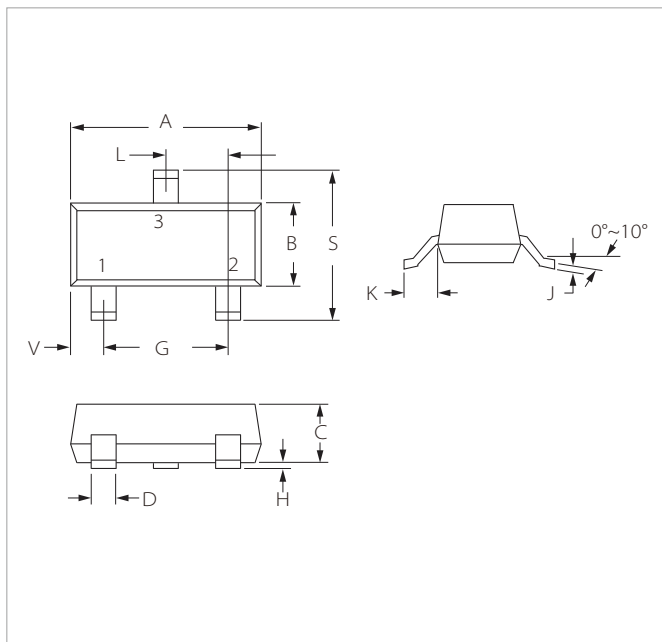


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

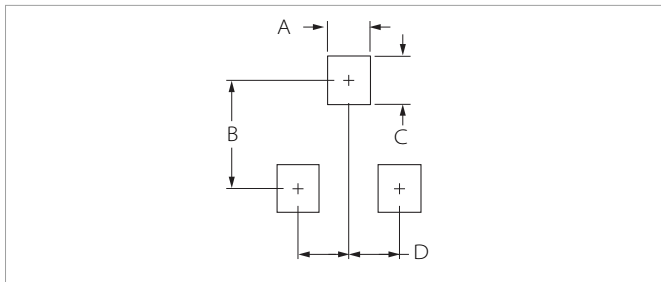


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BC817	SOT-23	3000PCS	7"

To find your local partner within Semiwell's website : www.semiwell.com.cn

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