

Features

- ◇ Ideally suited for automatic insertion
- ◇ Epitaxial planar die construction
- ◇ For switching, AF driver and amplifier applications
- ◇ Complementary NPN type available (BC817)

Mechanical Data

- ◇ Case : SOT- 23, Molded plastic
- ◇ Case material : Molded plastic, UL flammability classification rating 94V-0
- ◇ Moisture sensitivity : Level 1 per J-STD-020C
- ◇ Terminals : Solderable per MIL-STD-202, method 208
- ◇ Lead free plating
- ◇ Marking : -16: 5A, -25: 5B, -40: 5C
- ◇ Weight : 0.008grams (approximately)

SOT-23



Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
BC807-16	SOT-23	3K / 7 " Reel	RF	RFG	B0

Note : Detail please see "Ordering Information(detail, example)" below.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter			Symbol	BC807-16	BC807-25	BC807-40	Units
Collector-Base Breakdown Voltage	$I_C = -10 \mu A$	$I_E = 0$	V_{CBO}	-50			V
Collector-Emitter Breakdown Voltage	$I_C = -10 mA$	$I_B = 0$	V_{CEO}	-45			V
Collector Current - Continuous			I_C	-0.5			A
Power Dissipation			P_D	0.3			W
Emitter-Base Breakdown Voltage	$I_E = -1 \mu A$	$I_C = 0$	V_{EBO}	-5			V
Collector Cut-Off Current	$V_{CB} = -45 V$	$I_E = 0$	I_{CBO}	-0.1			μA
Collector Cut-Off Current	$V_{CB} = -40 V$	$I_B = 0$	I_{CEO}	-0.2			μA
Emitter Cut-Off Current	$V_{EB} = -4 V$	$I_C = 0$	I_{EBO}	-0.1			μA
Collector-Emitter Saturation Voltage	$I_C = -500 mA$	$I_B = 50 mA$	$V_{CE(sat)}$	-0.7			V
Base-Emitter Saturation Voltage	$I_C = -500 mA$	$I_B = 50 mA$	$V_{BE(sat)}$	-1.2			V
Transition Frequency	$V_{CE} = -5 V$	$I_C = -10 mA$	f_T	100			MHz
Junction Temperature			T_J	150			°C
Storage Temperature Range			T_{STG}	-55 to +150			°C

Parameter				Symbol	Min	Max	Units
DC Current Gain	807-16	$V_{CE} = -1 V$	$I_C = -100 mA$	$h_{FE(1)}$	100	250	
	807-25				160	400	
	807-40				250	600	

RATINGS AND CHARACTERISTIC CURVES

Fig. 1 Power Derating Curve

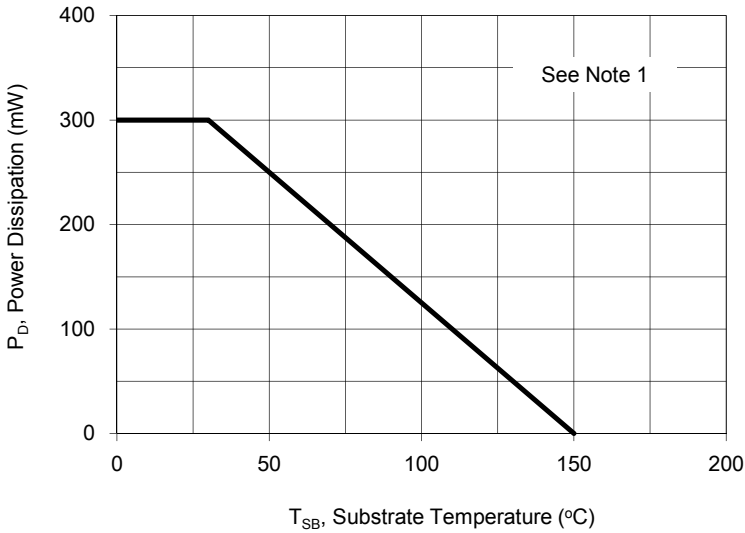


Fig. 2 Gain Bandwidth Product VS. Collector Current

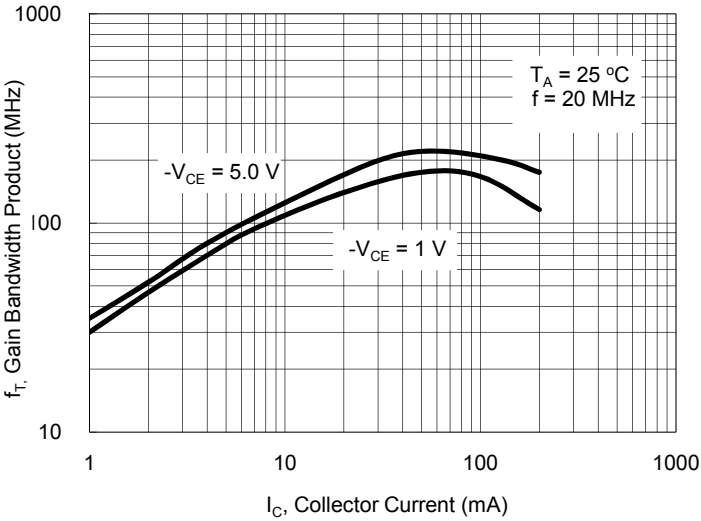


Fig.3 Collector Sat Voltage VS. Collector Current

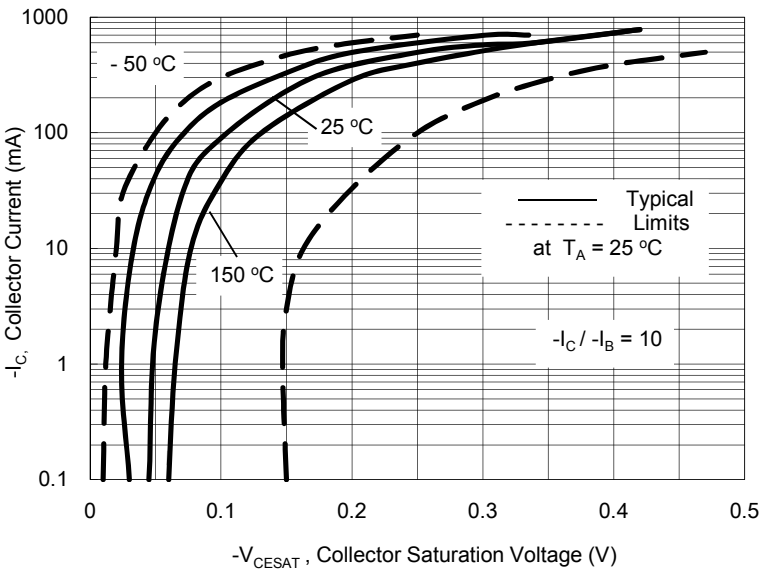


Fig. 4 DC Current Gain VS. Collector Current

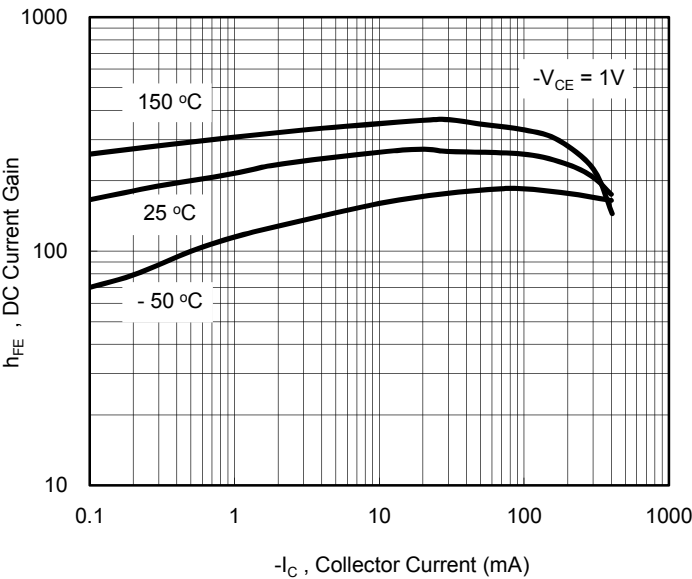


Fig.5 Typical Emitter-Collector Characteristics

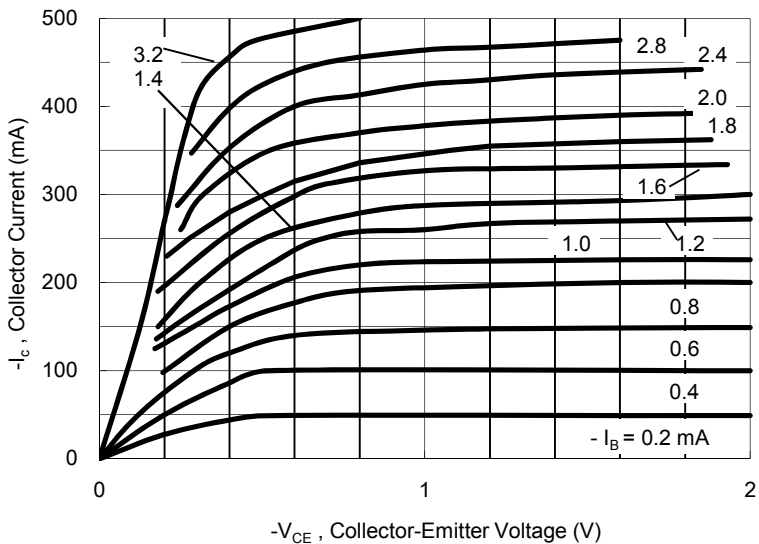
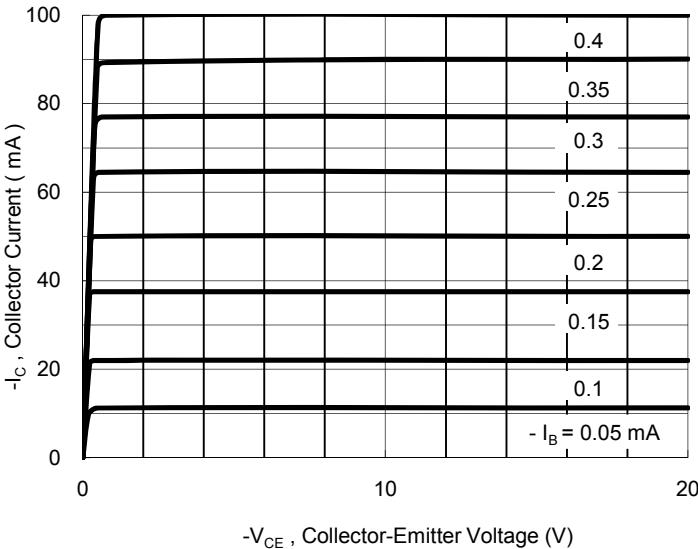


Fig. 6 Typical Emitter-Collector Characteristics



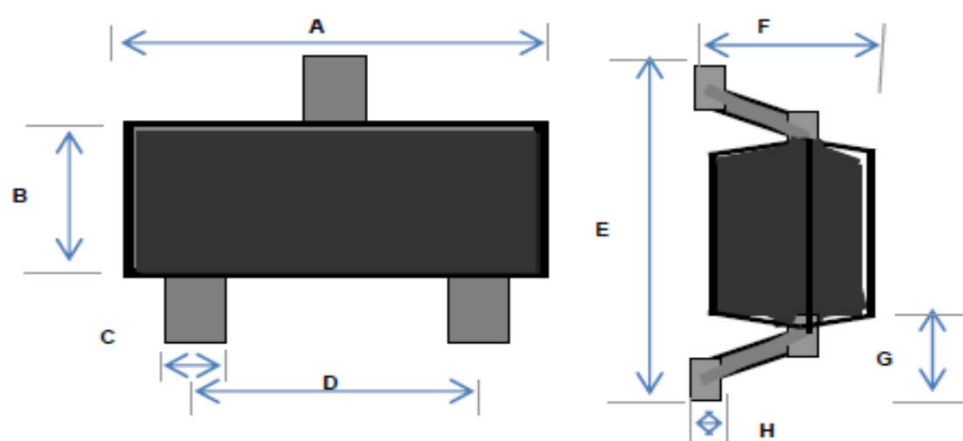
Ordering information (Detail, example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
BC807-xx (Note 1)	SOT-23	3K / 7 " Reel	RF	RFG	(Note 2)
BC807-16	SOT-23	3K / 7 " Reel	RF	RFG	
BC807-16	SOT-23	3K / 7 " Reel	RF	RFG	B0
BC807-16	SOT-23	3K / 7 " Reel	RF	RFG	D0

Note 1 : "xx" is Device Code from "16" thru "40".

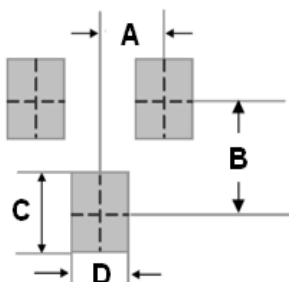
Note 2 : Manufacture special control, if empty means no special control requirement.

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

Suggested PAD Layout



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
A	0.95	0.037
B	2.0	0.079
C	0.9	0.035
D	0.8	0.031

Marking

Part No.	Marking
BC807-16	5A
BC807-25	5B
BC807-40	5C