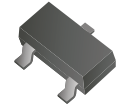


## BC807-16-G/25-G/40-G (PNP) RoHS Device



### Features

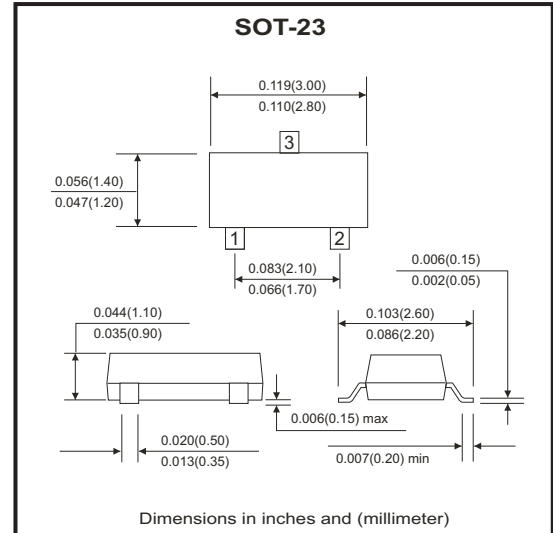
- Ideally suited for automatic insertion.
- Epitaxial planar die construction.
- Complementary NPN type available (BC817).

### Mechanical data

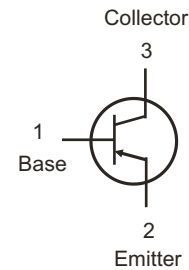
- Case: SOT-23 Standard package, molded plastic.
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- Mounting position: Any.
- Weight: 0.008 grams(approx.).

### Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base voltage	V <sub>CB0</sub>	-50	V
Collector-Emitter voltage	V <sub>CE0</sub>	-45	V
Emitter-Base voltage	V <sub>EB0</sub>	-5	V
Collector current-continuous	I <sub>c</sub>	-500	mA
Collector power dissipation	P <sub>c</sub>	300	mW
Thermal resistance form junction to ambient	R <sub>θJA</sub>	417	°C/W
Junction temperature range	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C



### Diagram:



### Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> =-10μA, I <sub>E</sub> =0	-50		V
Collector-Emitter breakdown voltage	V <sub>CE0</sub>	I <sub>c</sub> =-10mA, I <sub>B</sub> =0	-45		V
Emitter-Base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> =-1μA, I <sub>c</sub> =0	-5		V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =-45V, I <sub>E</sub> =0		-0.1	μA
Collector cut-off current	I <sub>CE0</sub>	V <sub>CE</sub> =-40V, I <sub>B</sub> =0		-0.2	μA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> =-4V, 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> =-50mA		-0.7	V
Base-Emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =-500mA, I <sub>B</sub> =-50mA		-1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>c</sub> =-10mA, f=100MHz	100		MHz

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

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

## RATING AND CHARACTERISTIC CURVES (BC807-16-G/25-G/40-G)

Fig.1 - Static Characteristic

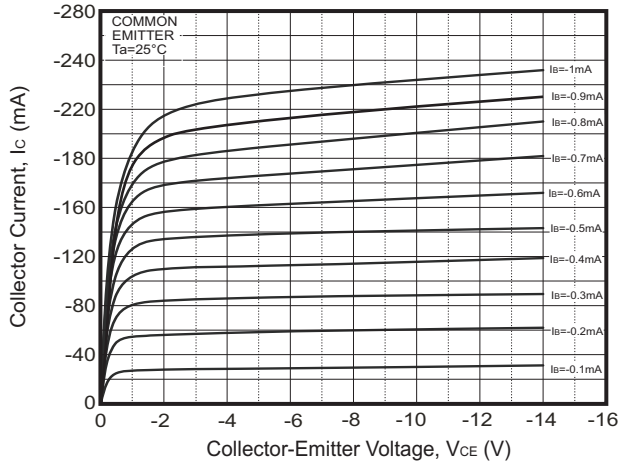


Fig.2 -  $h_{FE} - I_c$

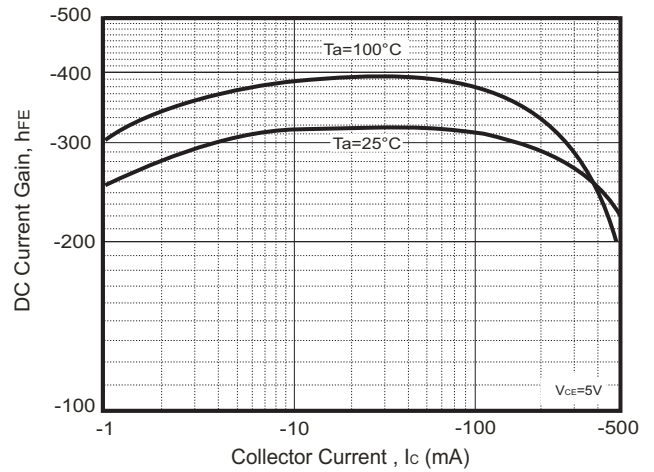


Fig.3 -  $V_{BEsat} - I_c$

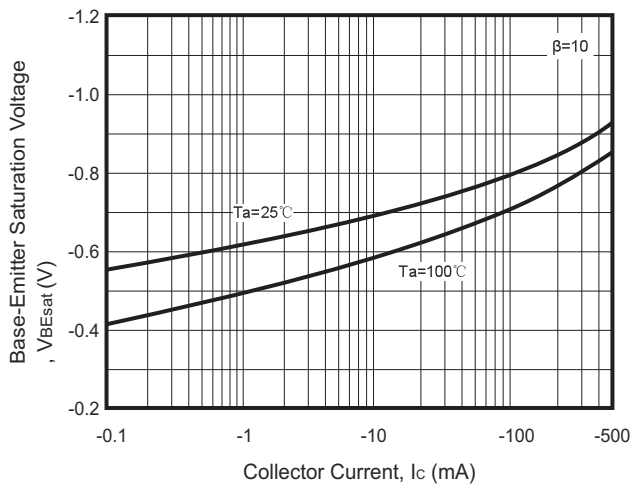


Fig.4 -  $V_{CEsat} - I_c$

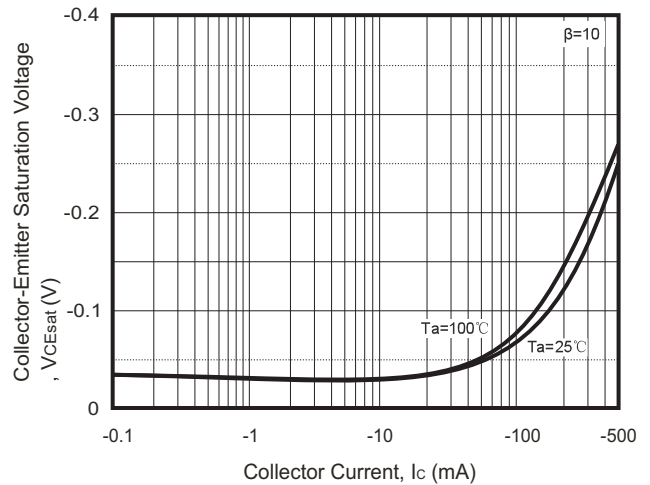


Fig.5 -  $I_c - V_{BE}$

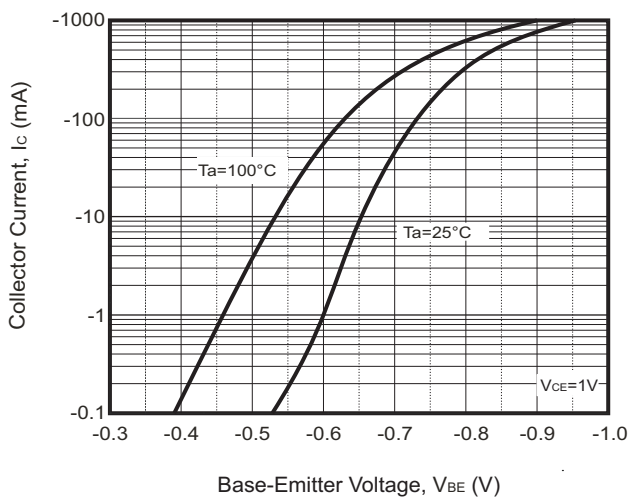
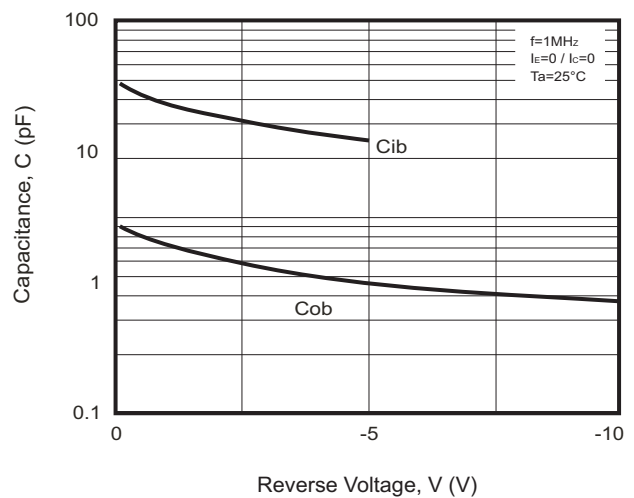


Fig.6 -  $C_{ob} / C_{ib} - V_{CB} / V_{EB}$



## RATING AND CHARACTERISTIC CURVES (BC807-16-G/25-G/40-G)

Fig.7 -  $f_T$  —  $I_C$

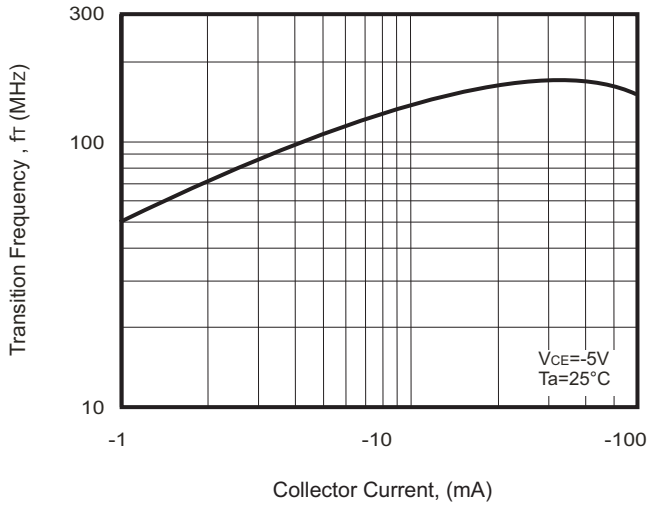
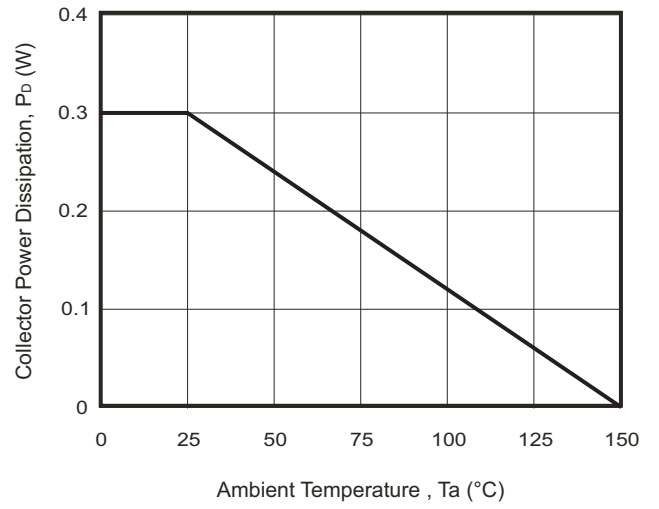
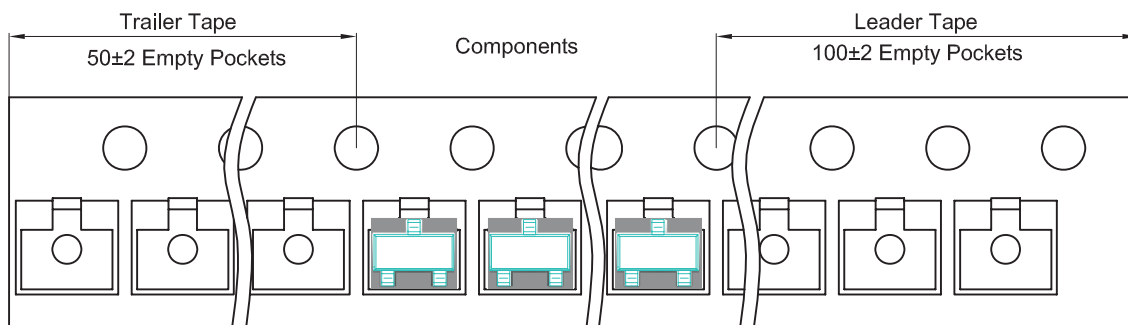
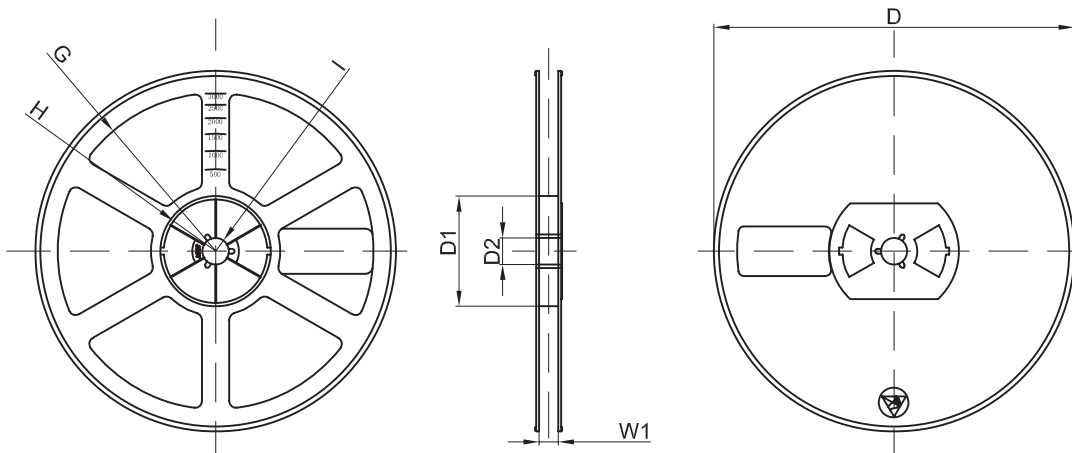
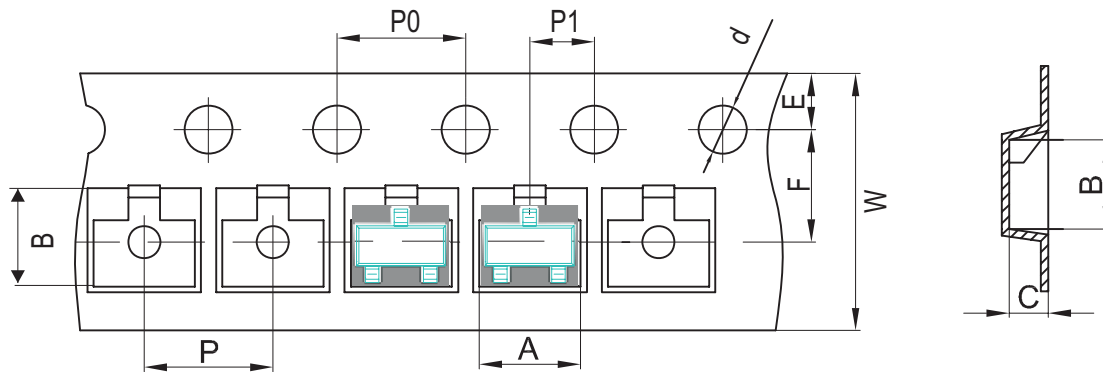


Fig.8 -  $P_C$  —  $T_a$



## Reel Taping Specification



SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178 ± 2.0	54.40 ± 1.0	13.00 ± 1.0
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

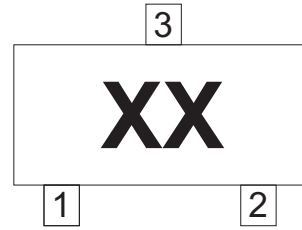
SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 ± 0.30 / - 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.158 ± 0.004	0.158 ± 0.004	0.079 ± 0.004	0.315 ± 0.012 / - 0.004	0.374 ± 0.039

Company reserves the right to improve product design, functions and reliability without notice.

REV:B

## Marking Code

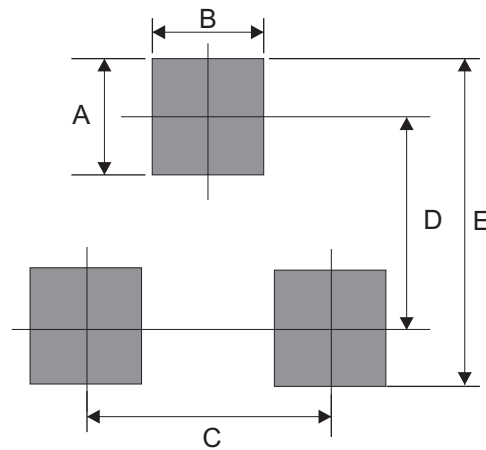
Part Number	Marking Code
BC807-16-G	5A
BC807-25-G	5B
BC807-40-G	5C



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.80	0.031
C	1.90	0.075
D	2.02	0.080
E	2.82	0.111



## Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SOT-23	3,000	7