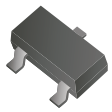
BC807-16-G/25-G/40-G (PNP)

RoHS Device

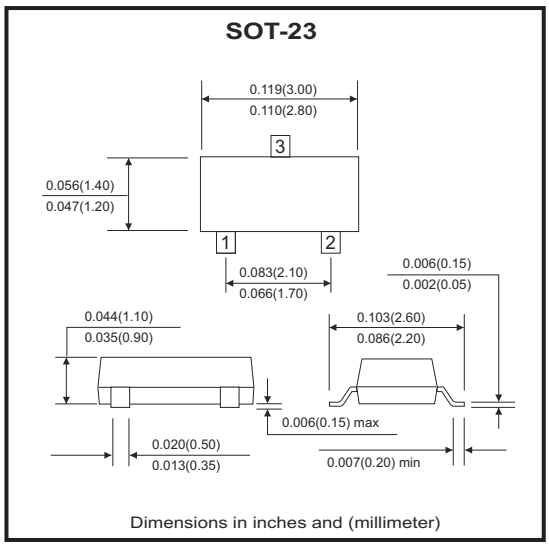


Features

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

Mechanical data

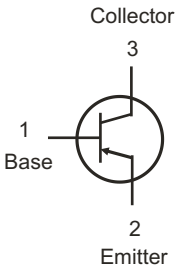
- Case: SOT-23 Standard package, molded plastic.
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- Mounting position: Any.
- Weight: 0.008 grams(approx.).



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

Parameter	Symbol	Value	Unit
Collector-Base voltage	V_{CBO}	-50	V
Collector-Emitter voltage	V_{CEO}	-45	V
Emitter-Base voltage	V_{EBO}	-5	V
Collector current-continuous	I_C	-500	mA
Collector power dissipation	P_C	300	mW
Thermal resistance form junction to ambient	$R_{\theta JA}$	417	°C/W
Junction temperature range	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Diagram:



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

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base breakdown voltage	V_{CBO}	I_C=-10μA, I_E = 0	-50		V
Collector-Emitter breakdown voltage	V_{CEO}	I_C=-10mA, I_B=0	-45		V
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	$h_{FE(1)}$	V_{CE}=-1V, I_C=-100mA	100	600	
	$h_{FE(2)}$	V_{CE}=-1V, I_C=-500mA	40		
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

Classification of $h_{FE(1)}$

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

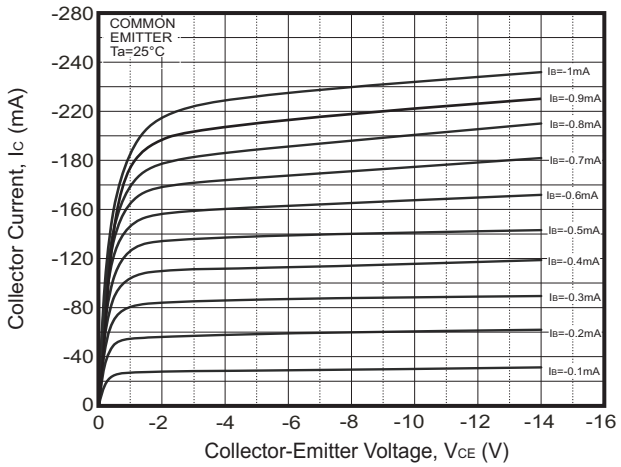


Fig.2 - h_{FE} — I_C

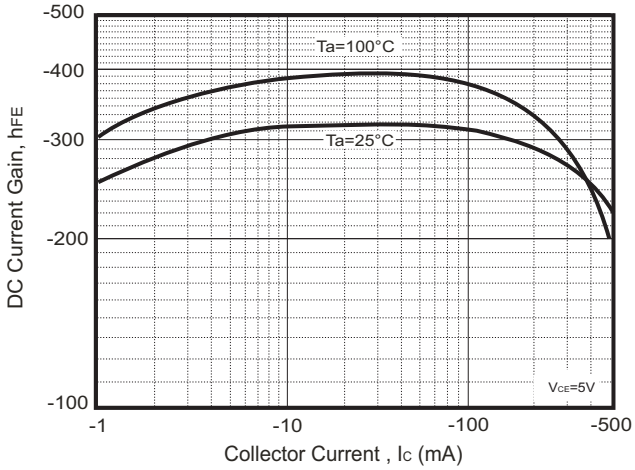


Fig.3 - V_{BEsat} — I_C

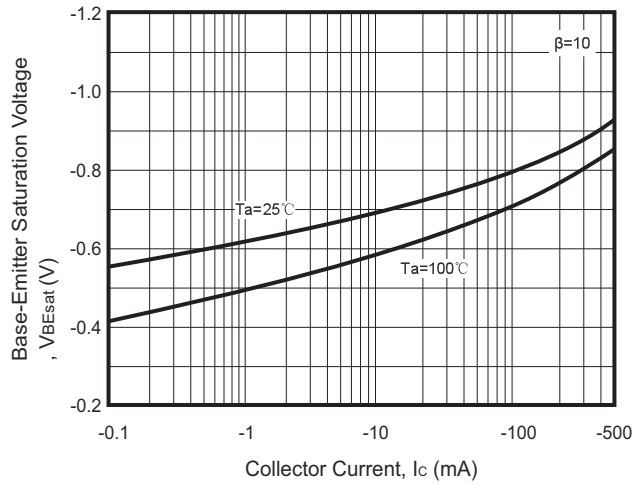


Fig.4 - V_{CEsat} — I_C

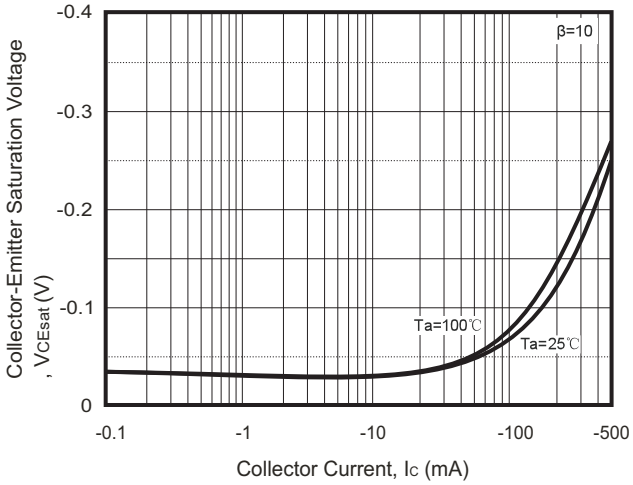


Fig.5 - I_C — V_{BE}

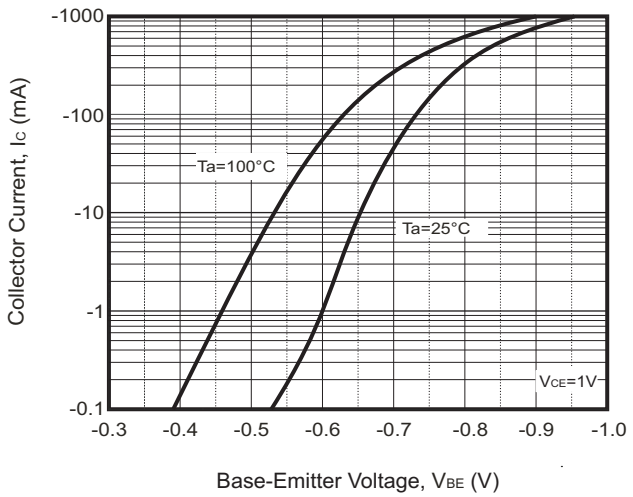
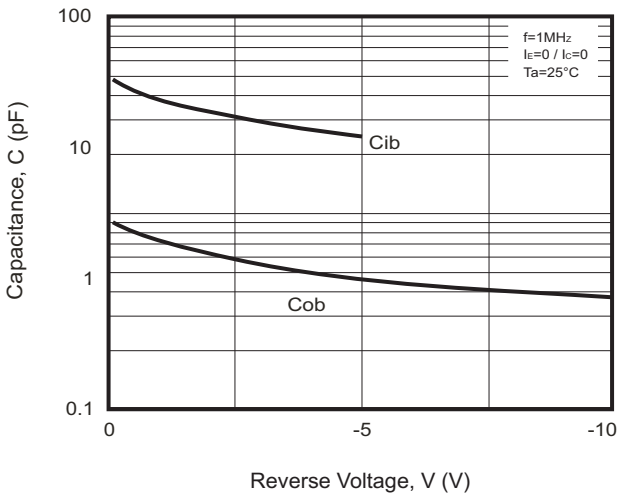


Fig.6 - C_{ob} / C_{ib} — V_{CB} / V_{EB}



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

Fig.7 - f_T — I_C

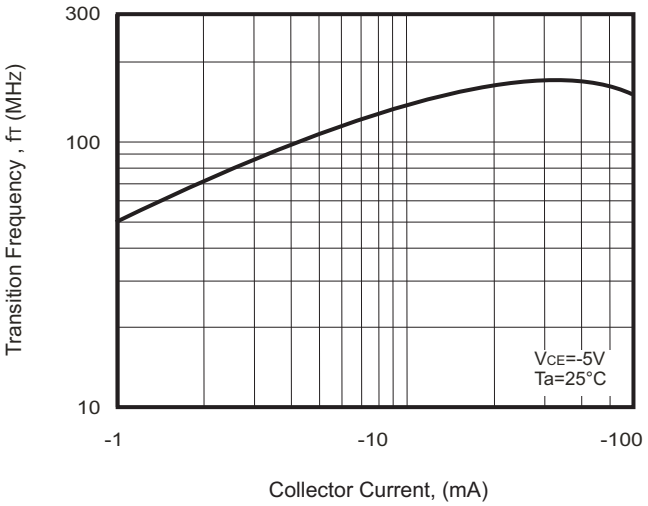
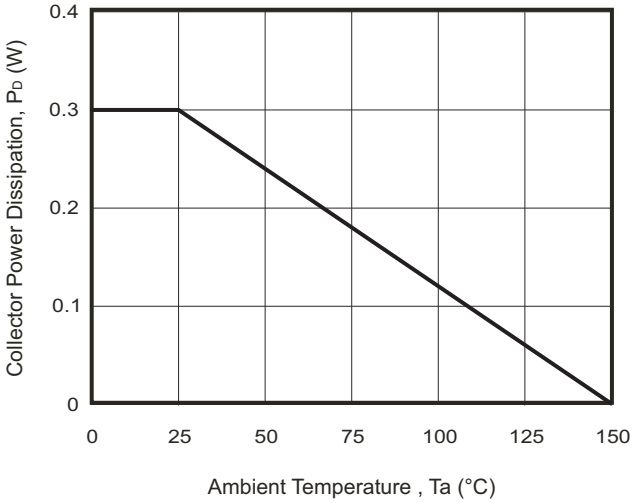
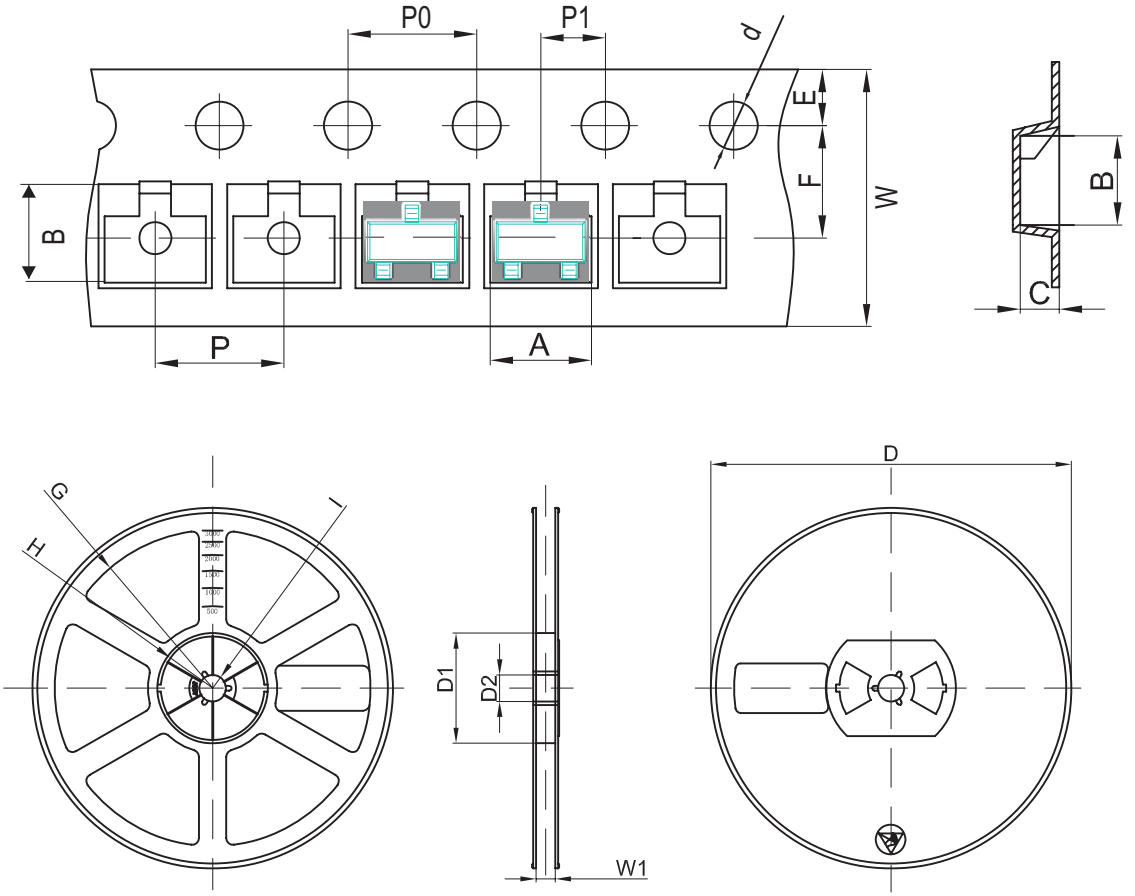
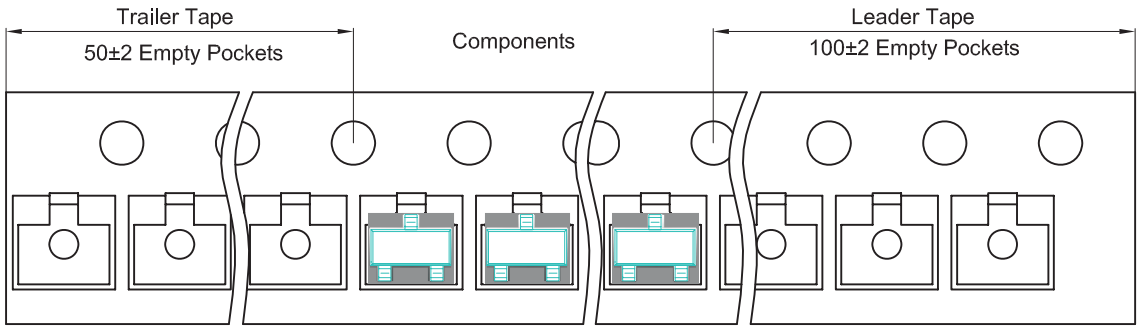


Fig.8 - P_C — Ta



Reel Taping Specification



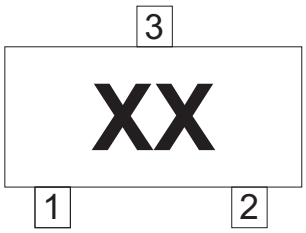


	SYMBOL	A	B	C	d	D	D_1	D_2
SOT-23	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10	178 ± 2.0	54.40 ± 1.0	13.00 ± 1.0
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P_0	P_1	W	W_1
SOT-23	(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

Marking Code

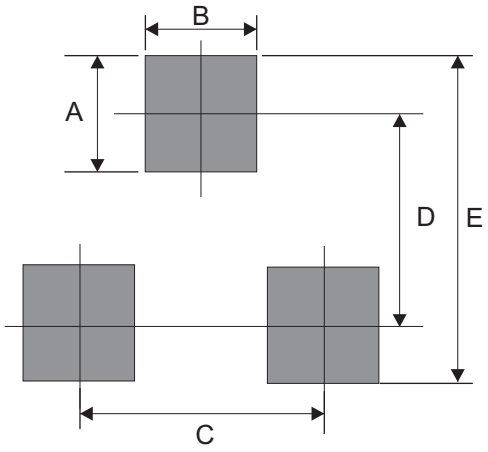
Part Number	Marking Code
BC807-16-G	5A
BC807-25-G	5B
BC807-40-G	5C



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