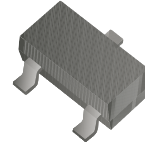


General Purpose Transistors PNP

RoHS Device
Halogen Free



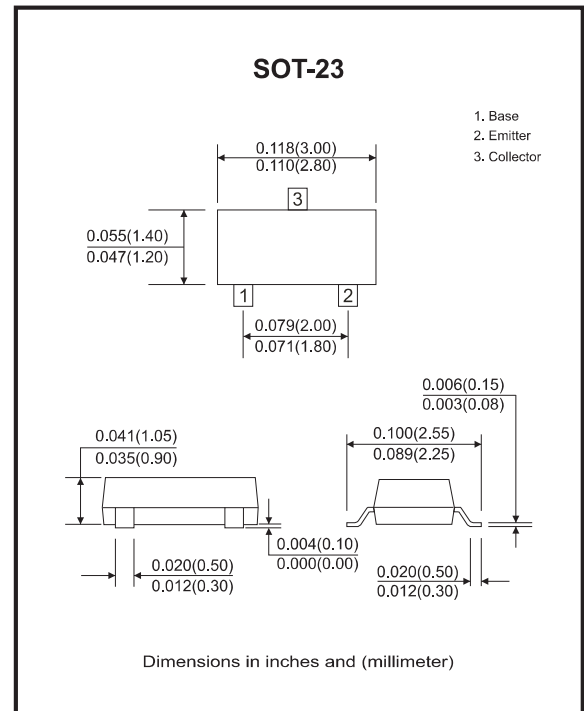
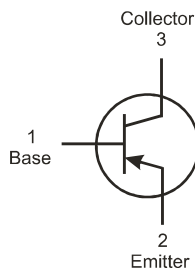
Features

- 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.).

Circuit Diagram



Maximum Ratings (at TA=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 dissipation	P _C	300	mW
Junction temperature	T _J	150	°C
Storage temperature range	T _{STG}	-55 to +150	°C
Thermal resistance from junction to ambient	R _{θJA}	417	°C/W

Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

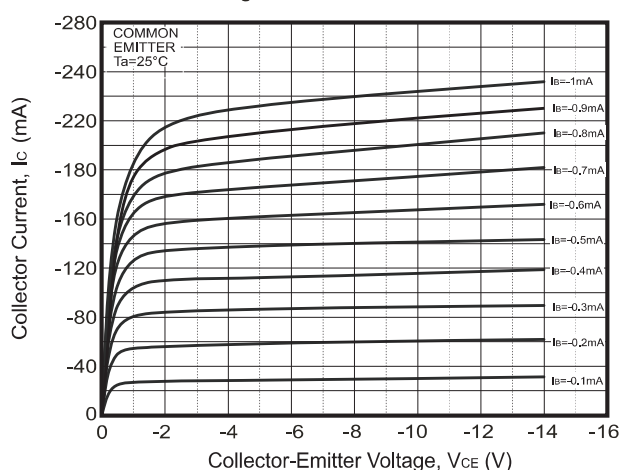
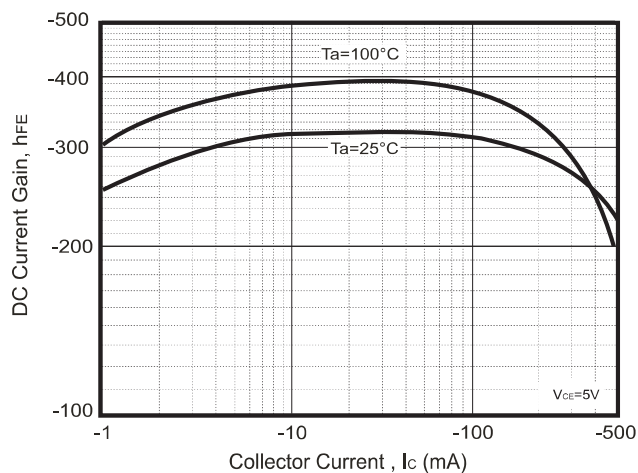
Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base breakdown voltage	V_{CBO}	$I_C=-10\mu\text{A}$, $I_E=0$	-50		V
Collector-Emitter breakdown voltage	V_{CEO}	$I_C=-10\text{mA}$, $I_B=0$	-45		V
Emitter-Base breakdown voltage	V_{EBO}	$I_E=-1\mu\text{A}$, $I_C=0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB}=-45\text{V}$, $I_E=0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-40\text{V}$, $I_B=0$		-0.2	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0$		-0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}$, $I_C=-100\text{mA}$	100	600	
	$h_{FE(2)}$	$V_{CE}=-1\text{V}$, $I_C=-500\text{mA}$	40		
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}$, $I_B=-50\text{mA}$		-0.7	V
Base-Emitter saturation voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}$, $I_B=-50\text{mA}$		-1.2	V
Transition frequency	f_T	$V_{CE}=-5\text{V}$, $I_C=-10\text{mA}$, $f=100\text{MHz}$	100		MHz

Classification of $h_{FE(1)}$

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

Rating and Characteristic Curves

Fig.1 - Static Characteristic

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

Rating and Characteristic Curves

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

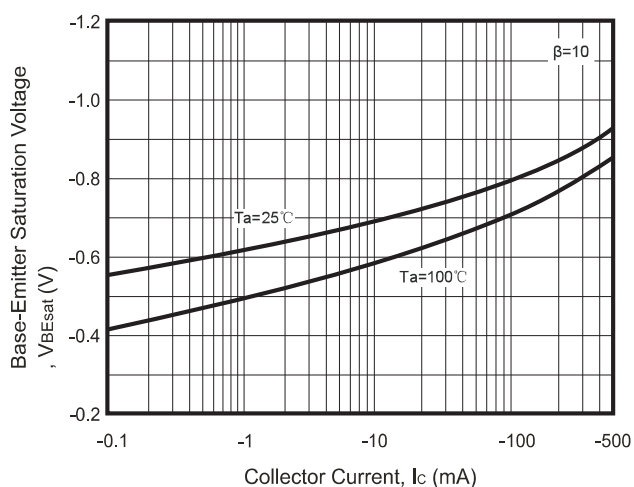


Fig.4 - $V_{CEsat} - I_c$

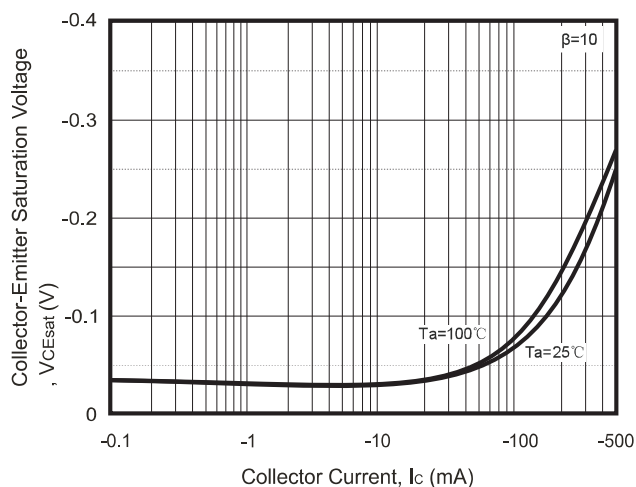


Fig.5 - $I_c - V_{BE}$

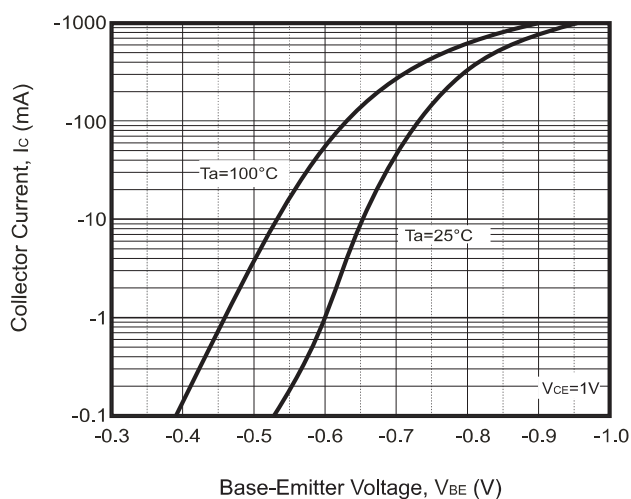


Fig.6 - $C_{ob} / C_{ib} - V_{CB} / V_{EB}$

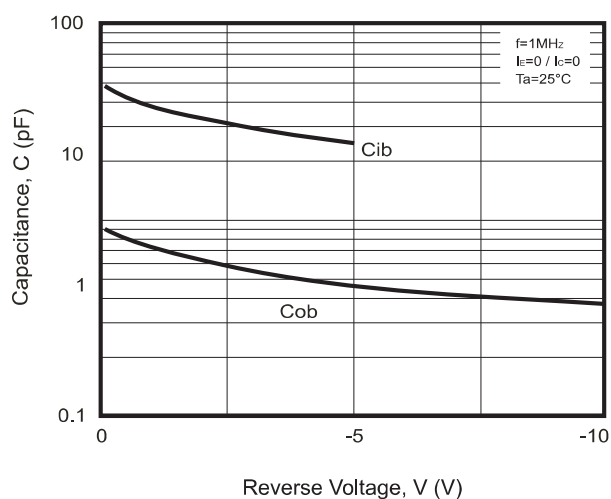


Fig.7 - $f_T - I_c$

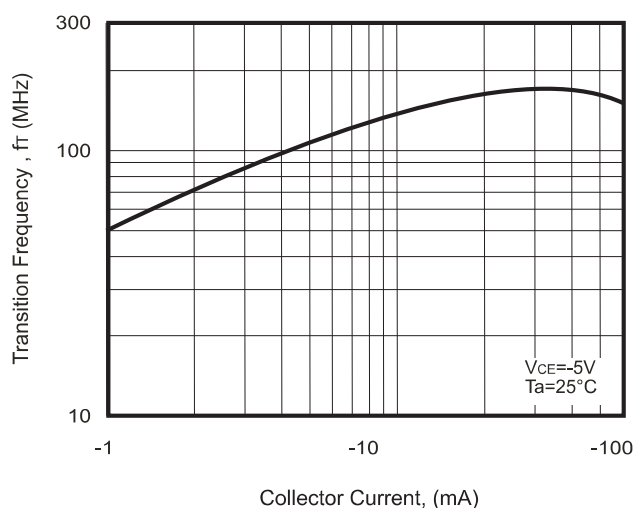
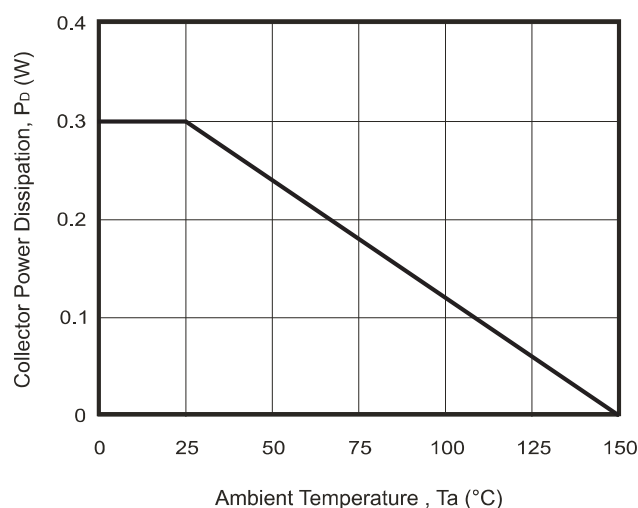
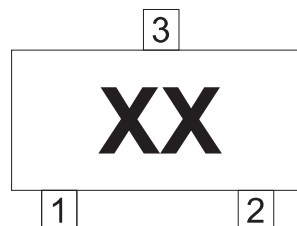


Fig.8 - $P_c - T_a$



Marking Code

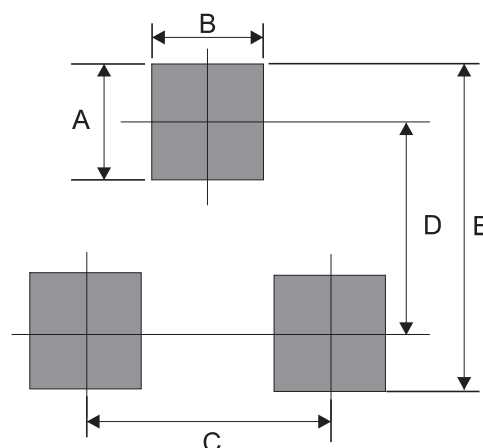
Part Number	Marking Code
BC807-16	5A
BC807-25	5B
BC807-40	5C



xx = Product type marking code

Suggested PAD Layout

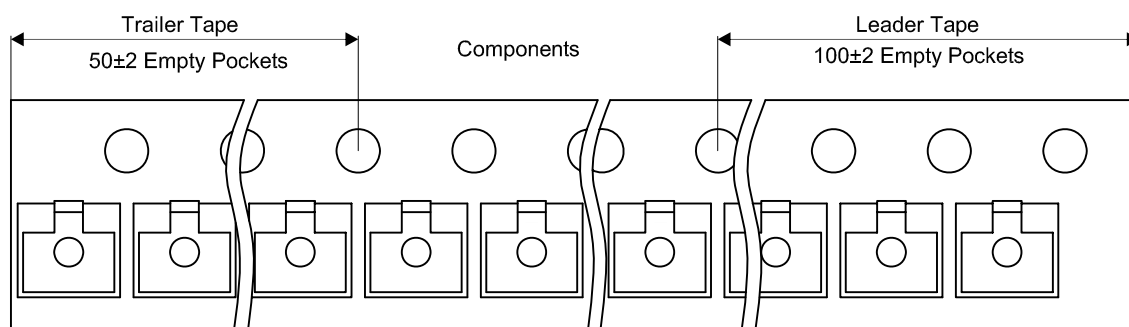
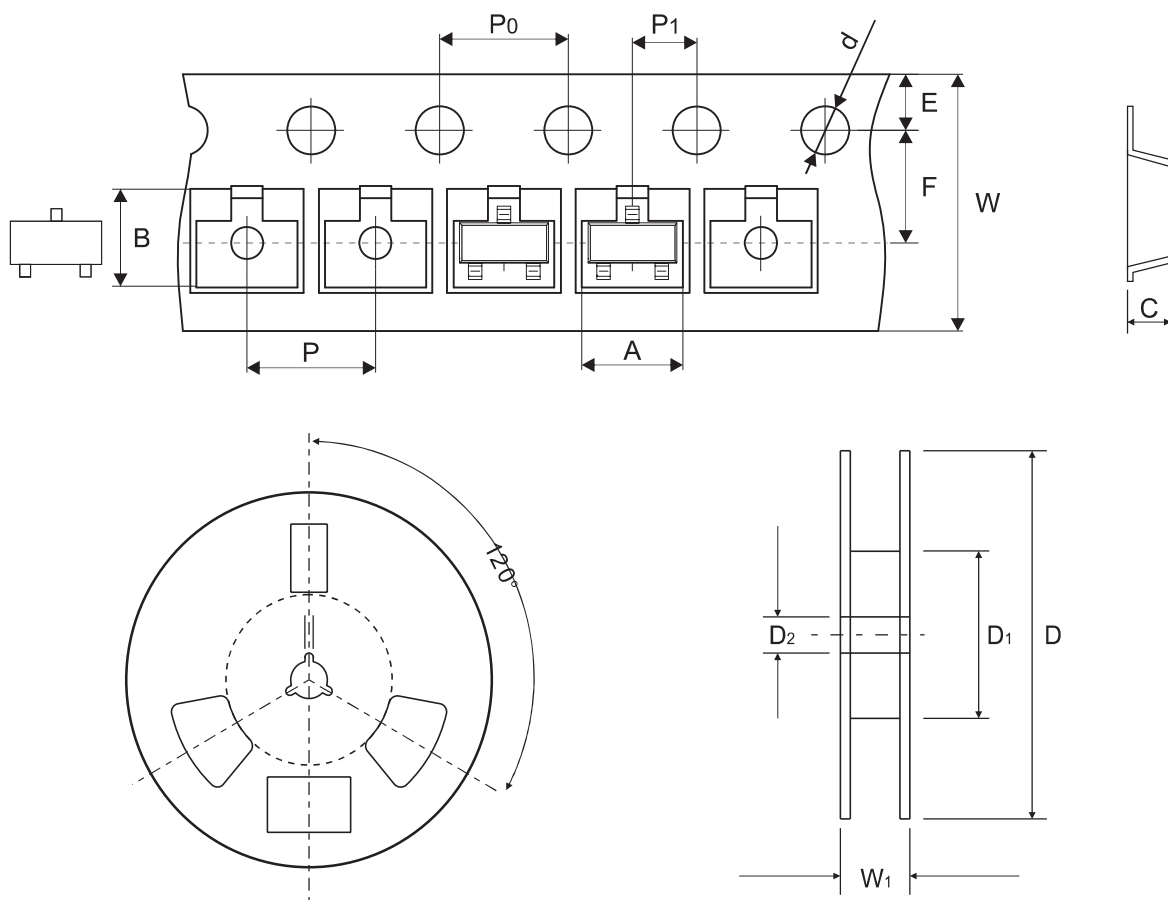
SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.80	0.031
C	1.90	0.075
D	2.02	0.080
E	2.82	0.111



Standard Packaging

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

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 - 0.00	178.00 ± 1.00	54.60 ± 1.00	13.30 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.150 ± 0.039	0.524 ± 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 ± 0.05	8.00 + 0.30 - 0.10	11.10 ± 0.20
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.437 ± 0.008

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

Rev:1.0