

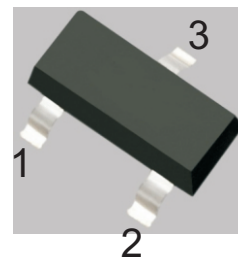
BC817

NPN TRANSISTOR

FEATURES

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BC807 (PNP)

SOT-23



1.BASE
2.EMITTER
3.COLLECTOR

MAXIMUM RATINGS (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	0.5	A
Collector Power Dissipation	P_C	0.3	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

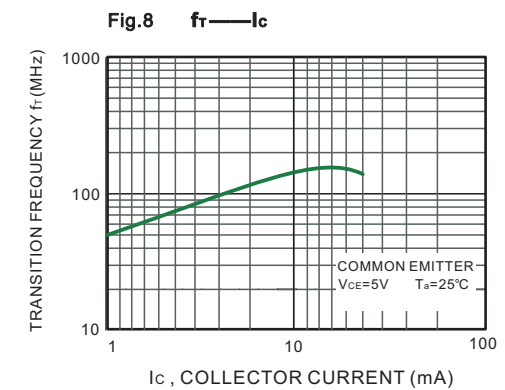
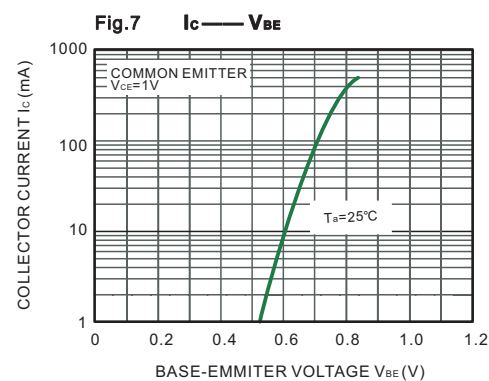
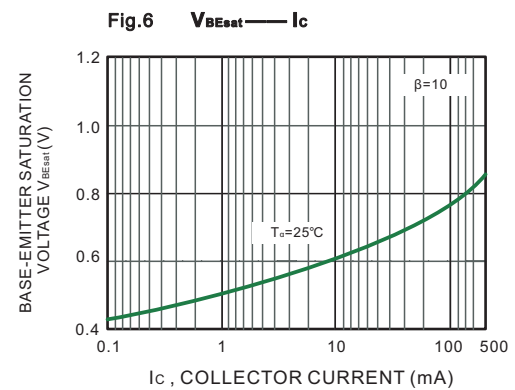
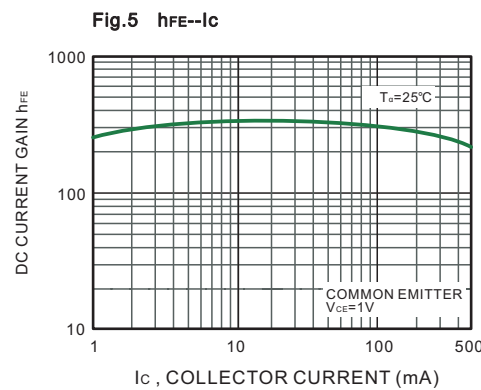
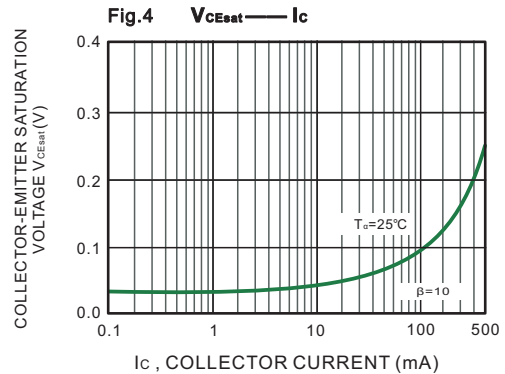
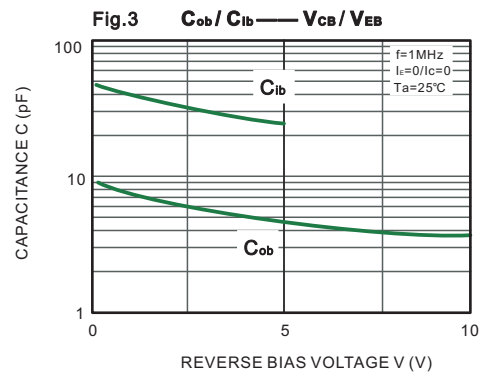
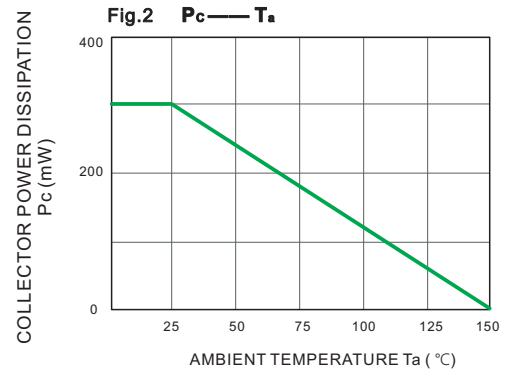
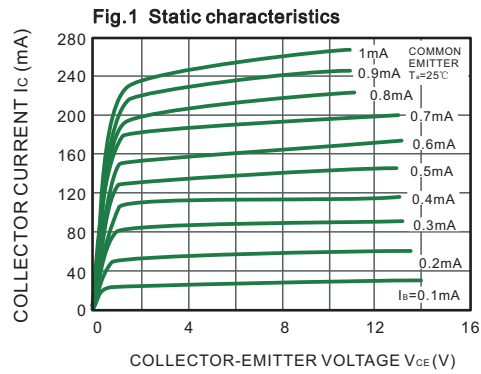
ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	50			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	45			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 1\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 45V, I_E = 0$			0.1	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
Base-emitter voltage	V_{BE}	$V_{CE} = 1V, I_C = 500mA$			1.2	V
Collector capacitance	C_{ob}	$V_{CB} = 10V, f=1MHz$		10		pF
Transition frequency	f_T	$V_{CE} = 5V, I_C = 10mA, f=100MHz$	100			MHz

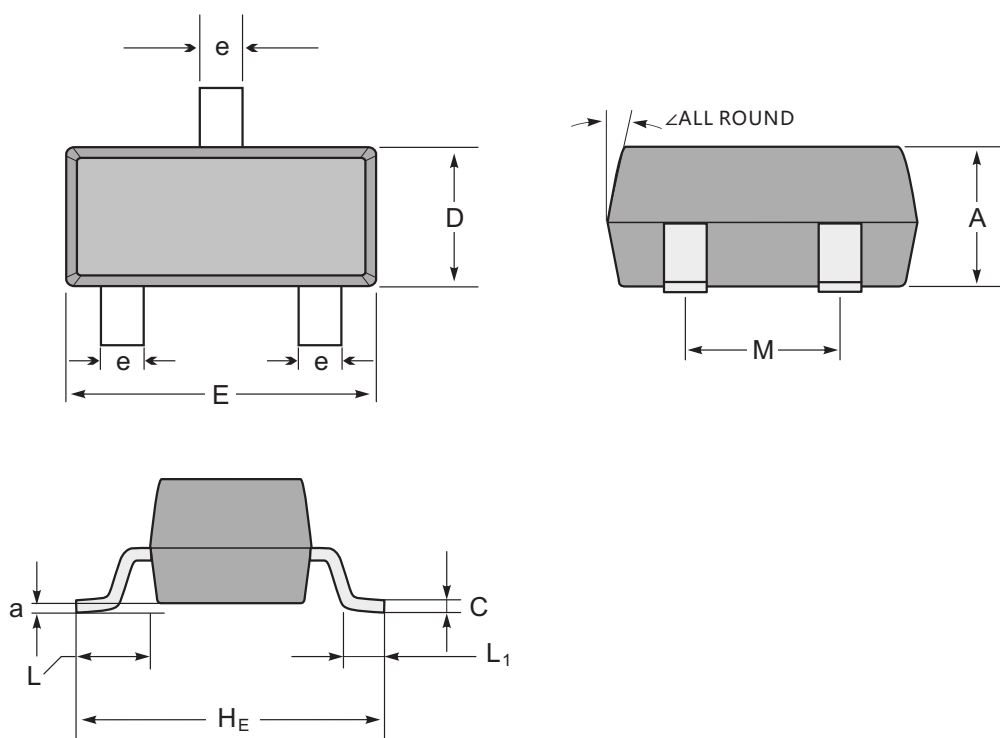
CLASSIFICATION OF h_{FE}

Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

TYPICAL CHARACTERISTICS



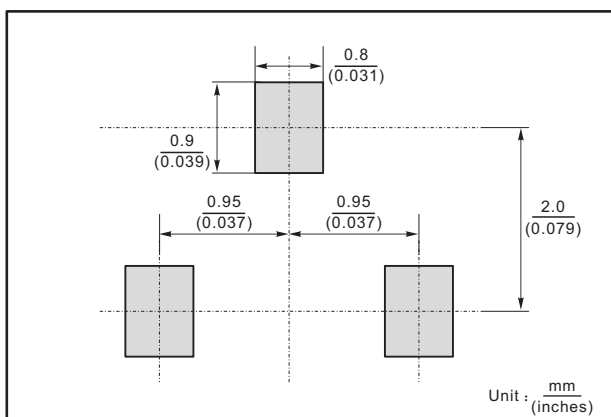
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a	∠
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0	12°
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15	
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0	
	min	35	3	47	110	87	12	67			6	

The recommended mounting pad size

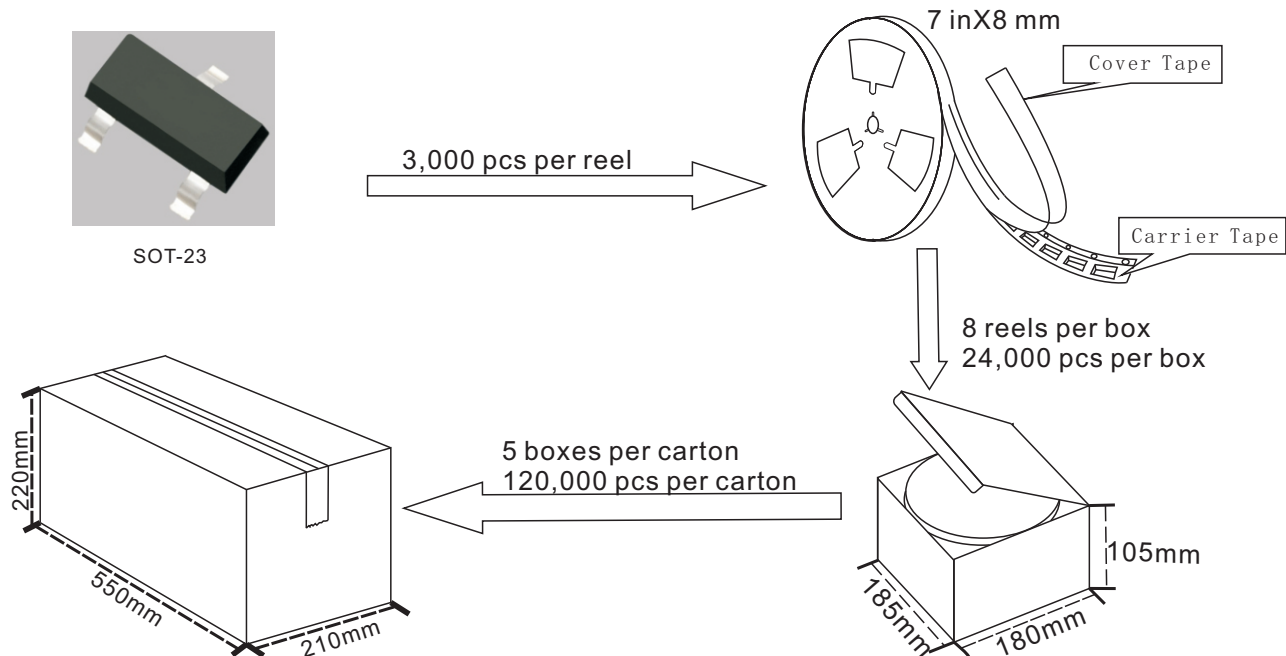


Marking

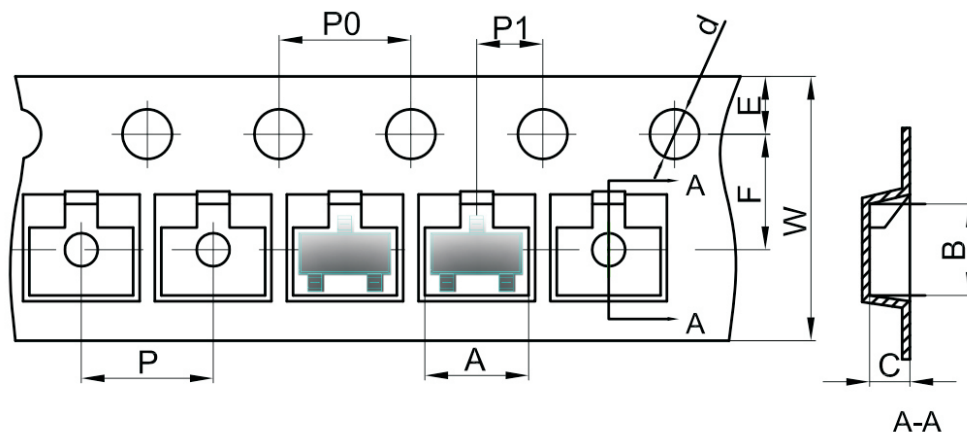
Type number	Marking code
BC817-16	6A
BC817-25	6B
BC817-40	6C

SOT-23 Packing

1. The method of packaging and dimension are shown as below figure. (Dimension in mm)



SOT-23 Embossed Carrier Tape



Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

