

BC817

BC817 SOT-23 Plastic-Encapsulate Transistors (NPN)

General description

SOT-23 Plastic-Encapsulate Transistors (NPN)

FEATURES

- Complementary to BC807
- Power Dissipation of 300mW
- High Stability and High Reliability
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



DEVICE MARKING CODE:

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbols	Value	Unit
Collector-Base Voltage	V _{CB0}	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
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	417	°C/W

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I _C =10μA, I _E =0	50		V
Collector-emitter breakdown voltage	V(BR)CEO	I _C =10mA, I _B =0	45		V
Emitter-base breakdown voltage	V(BR)EBO	I _E =1μA, I _C =0	5		V
Collector cut-off current	I _{CBO}	V _{CB} =45V, I _E =0		100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0		100	nA
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		0.70	V
Base -emitter saturation voltage	V _{BE(sat)}	I _C =500mA, I _B =50mA		1.20	V
Base-emitter voltage	V _{BE}	V _{CE} =1V, I _C =500mA		1.20	
Collector capacitance	C _{ob}	V _{CB} =10V, f=1MHz	10(Typ)		
Transition frequency	f _T	V _{CE} =5V, I _C =10mA, f=100MHz	100		MHz

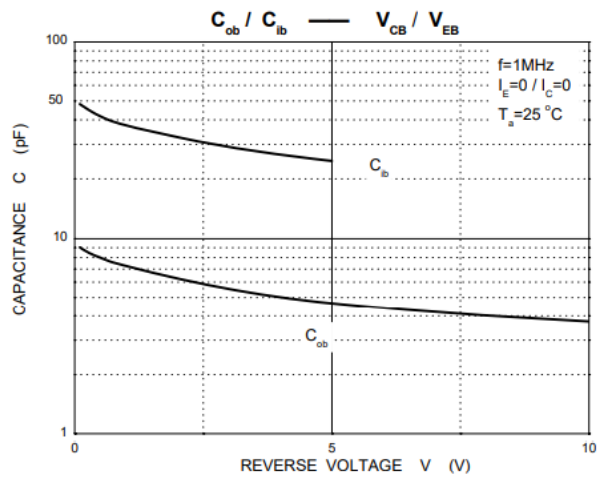
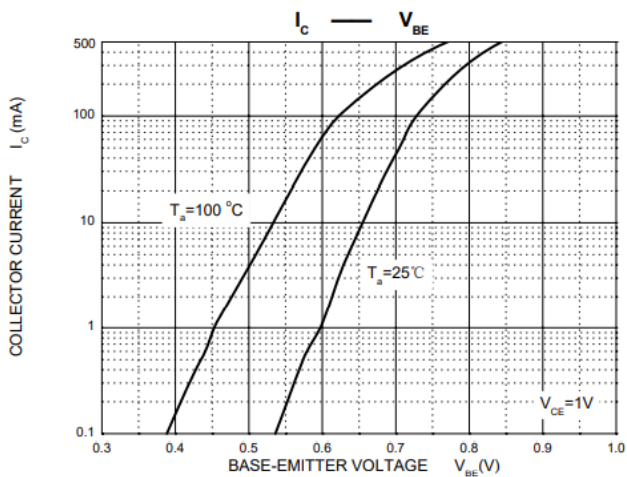
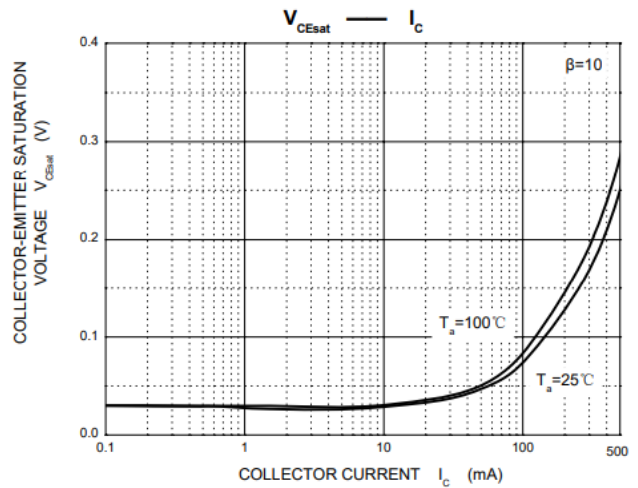
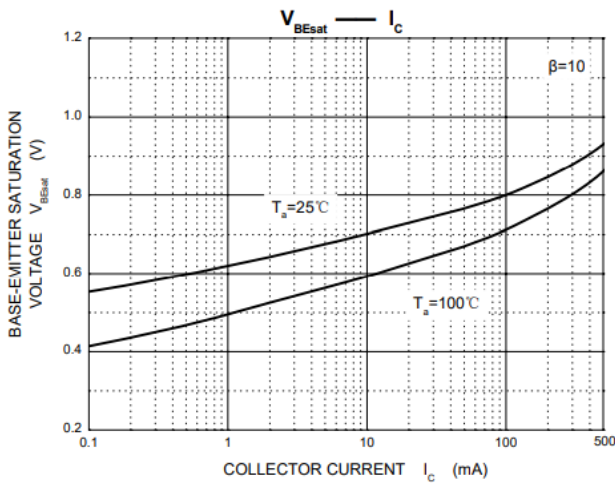
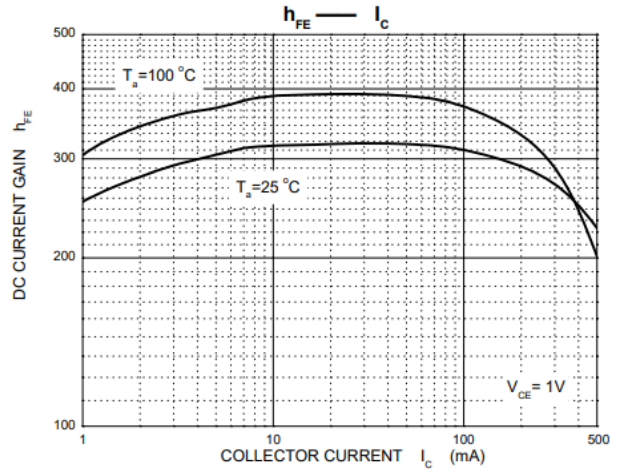
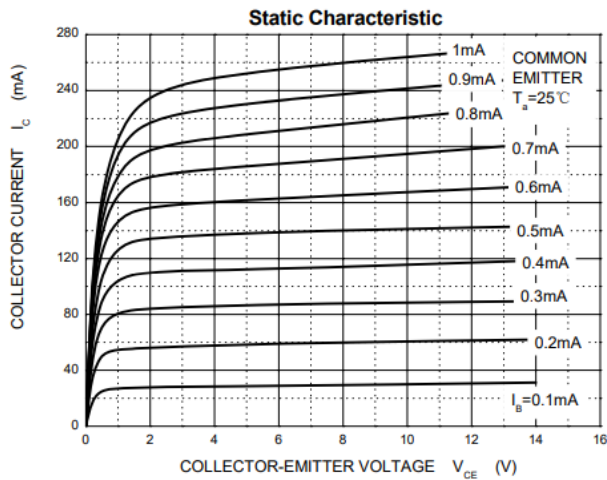
CLASSIFICATION OF h_{FE}(1)

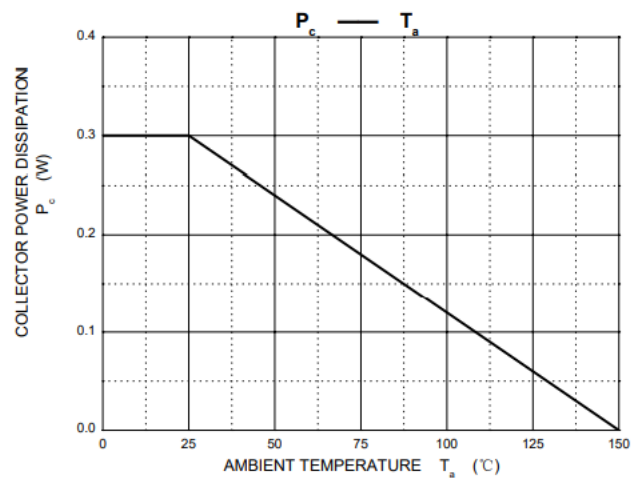
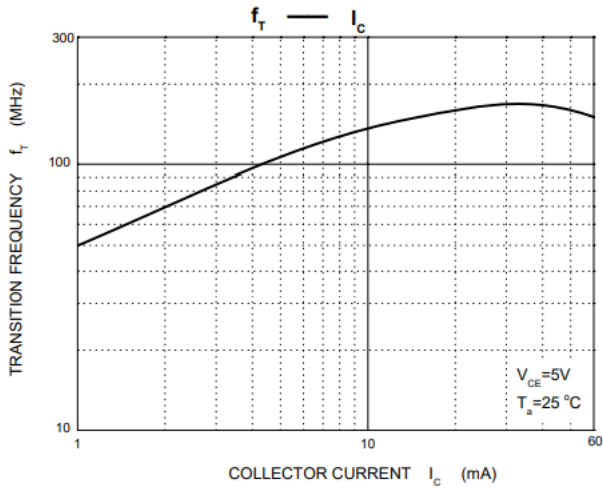
RANK	BC817-16	BC817-25	BC817-40
RANGE	100-250	160-400	250-600
Marking	6A	6B	6C



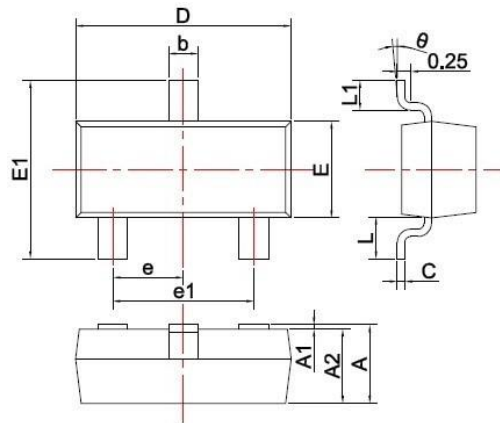
BC817

RATING AND CHARACTERISTIC CURVES





SOT-23 PACKAGE OUTLINE Plastic surface mounted package

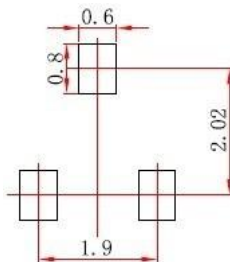


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0 $^\circ$	8 $^\circ$

Unit: mm

Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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