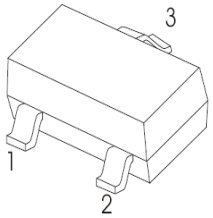
SOT-23 Plastic-Encapsulate Transistor

BC817- 16
BC817- 25
BC817- 40

TRANSISTOR (NPN)

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

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

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOT-23	7'	330	3000	203×203×195	45000	438×438×220	180000

MAXIMUM RATINGS (T_a=25℃ 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	I_C	0.5	A
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

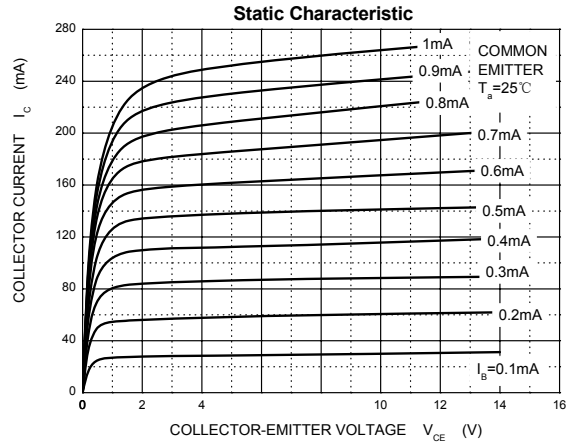
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

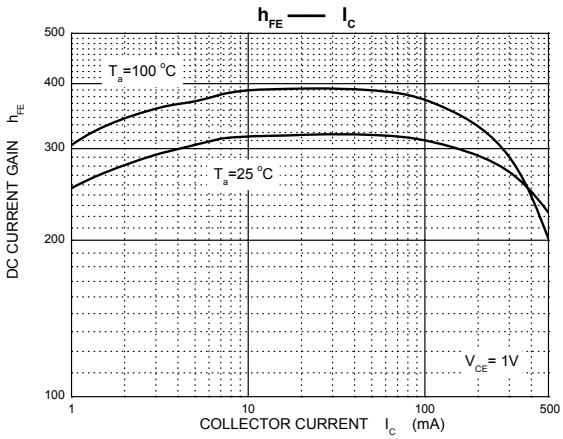
Parameter	Symbol	Test conditions	MIN		MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	I_C= 10μA, I_E=0	50			V
Collector-emitter breakdown voltage	V_{CEO}	I_C= 10mA, I_B=0	45			V
Emitter-base breakdown voltage	V_{EBO}	I_E= 1μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 45 V , I_E=0			0.1	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)	$_C$= 500mA, I_B= 50mA			0.7	
Base-emitter saturation voltage	V_{BE}(sat)	$_C$= 500mA, I_B= 50mA			1.2	
Base-emitter voltage	V_{BE}	V_{CE}= 1 V, I_C= 500mA			1.2	
Collecter capactiance	C_{ob}	V_{CB}=10V ,f=1MHz		10		pF
Transition frequency	f_T	V_{CE}= 5 V, I_C= 10mA f=100MHz	100			MHz

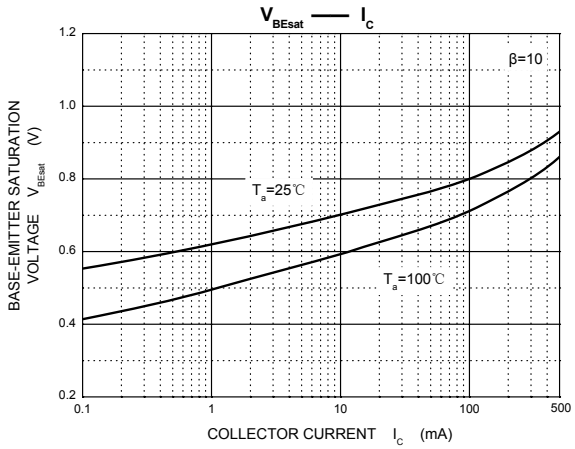
CLASSIFICATION OF $h_{FE\ (1)}$

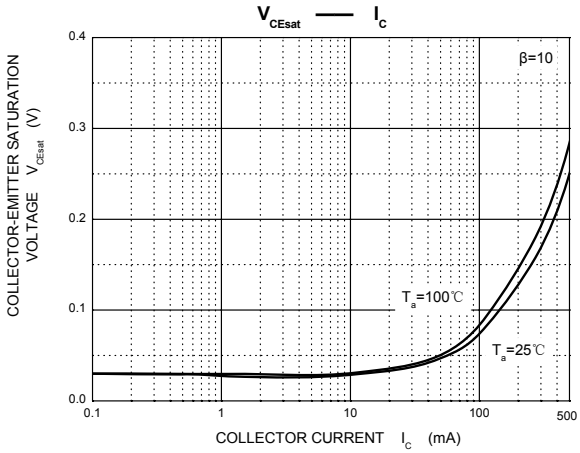
Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

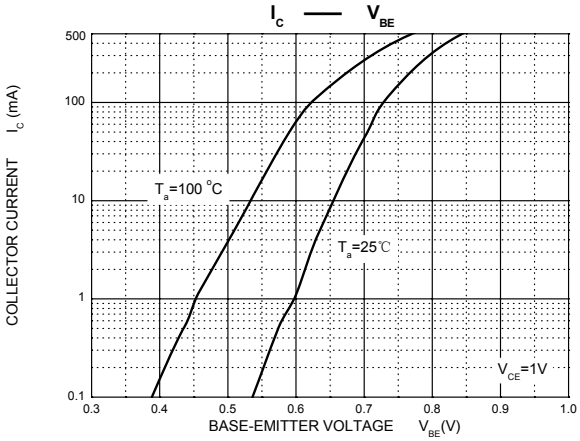
Typical Characteristics

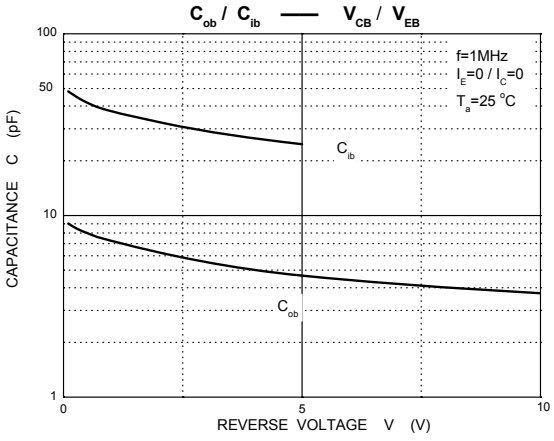


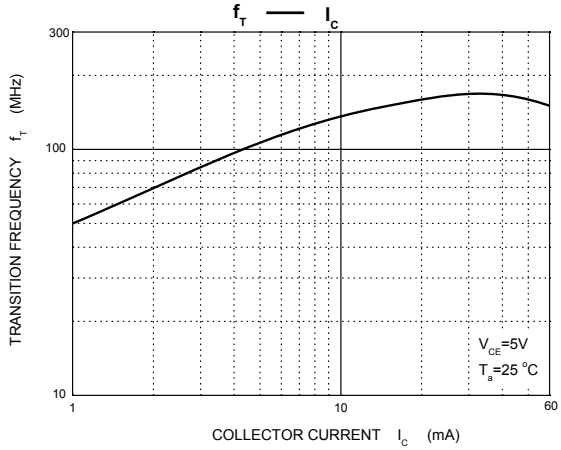


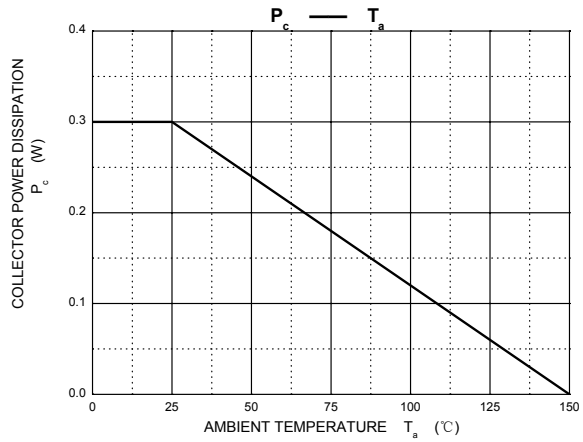








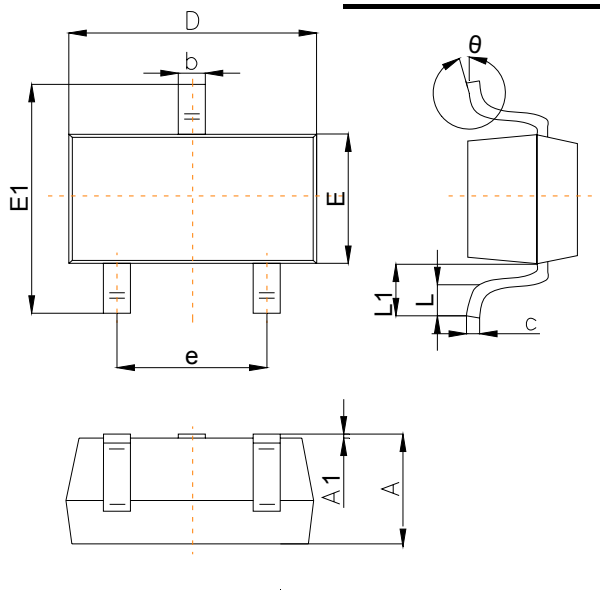




The curve above is for reference only.

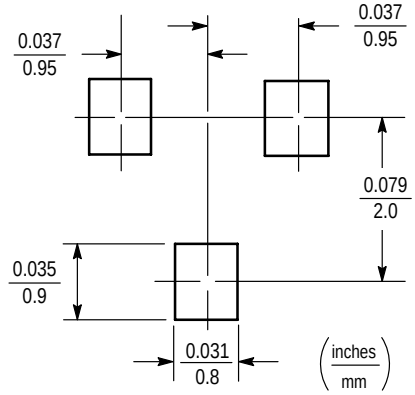
Outlitne Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.90		1.40
A1	0.00		0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.80	1.90	2.00
L	0.10		0.50
L1	0.4		0.55
θ	0°		10°

Suggested Pad Layout



Note:
1.Controlling dimension:in/millimeters.
2.General tolerance: ±0.05mm.
3.The pad layout is for reference purposes only.

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