SOT-23 Plastic-Encapsulate Transistors

BC 817-16LT1 BC817-25LT1

BC817-40LT1 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

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	0.5	A
P_C	Collector Dissipation	0.3	W
T_J, T_{stg}	Junction and Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

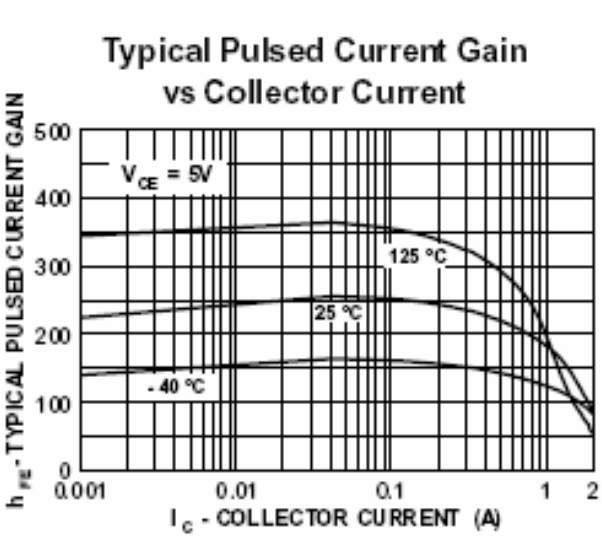
Parameter	Symbol	Test conditions	MIN		MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	I_C= 10μA, I_E=0	50			V
Collector-emitter breakdown voltage	V_{CEO}	I_C= 10 mA, I_B=0	45			V
Emitter-base breakdown voltage	V_{EBO}	I_E= 1μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 45 V , I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}= 1 V, I_C= 100mA	100		600	
	$h_{FE(2)}$	V_{CE}= 1 V, I_C= 500mA	40			
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= 500mA, I_B= 50 mA			0.7	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C= 500mA, I_B= 50 mA			1.2	V
Base-emitter voltage	$V_{BE(ON)}$	V_{CE}= 1 V, I_C= 500mA			1.2	V
Collecter capactiance	Cob	V_{CB}=10V ,f=1MHz		10		pF
Transition frequency	f_T	V_{CE}= 5 V, I_C= 10mA f=100MHz	100			MHz

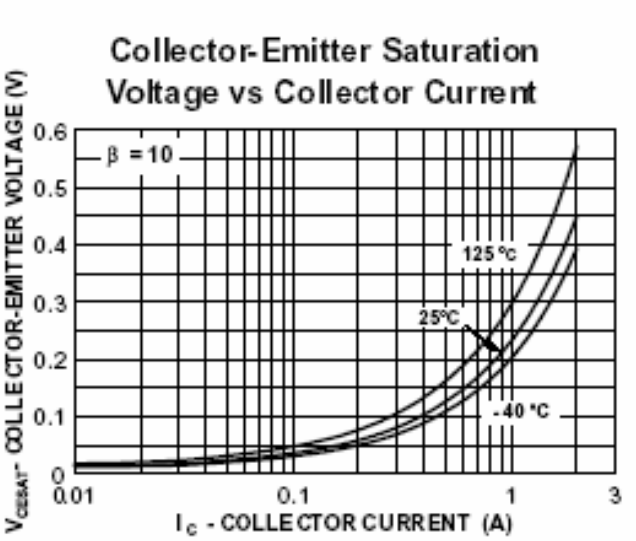
CLASSIFICATION OF h_{FE} **(1)**

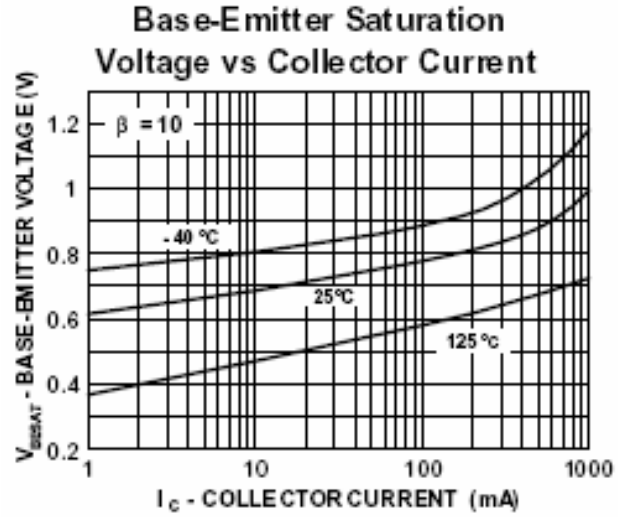
Rank	BC817-16LT1	BC817-25LT1	BC817-40LT1
Range	100-250	160-400	250-600
Marking	6A	6B	6C

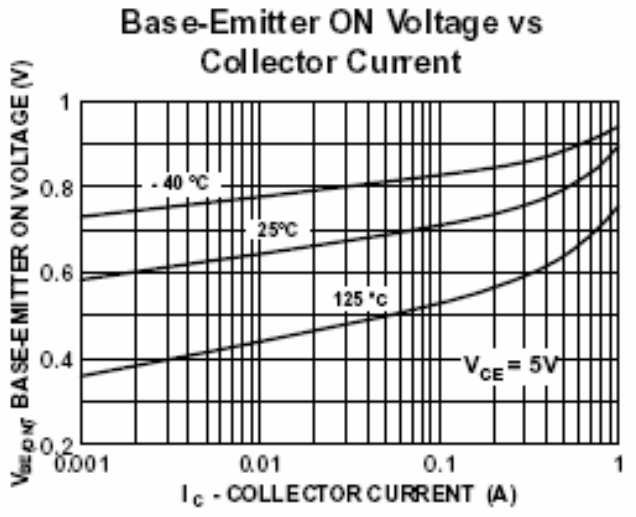
Typical Characteristics

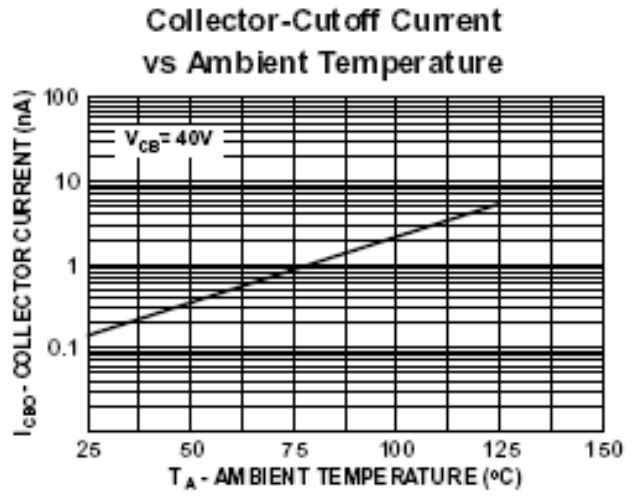
BC817

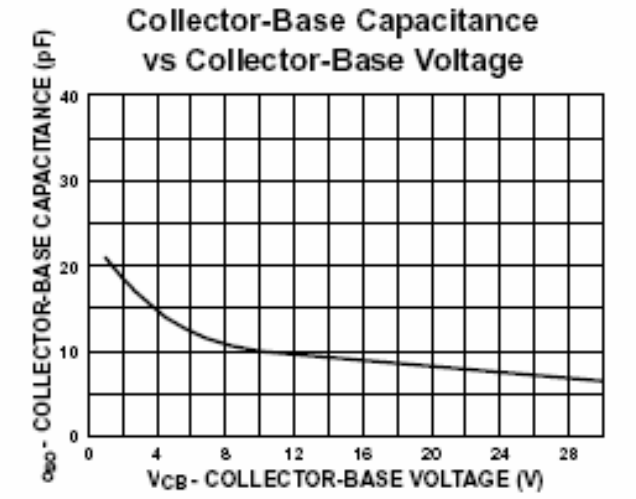


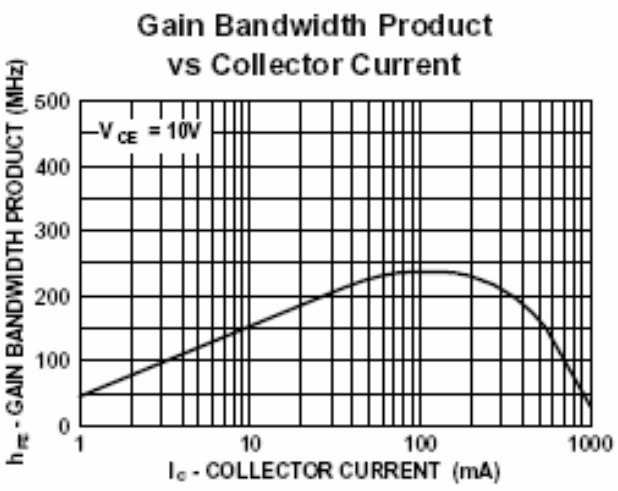


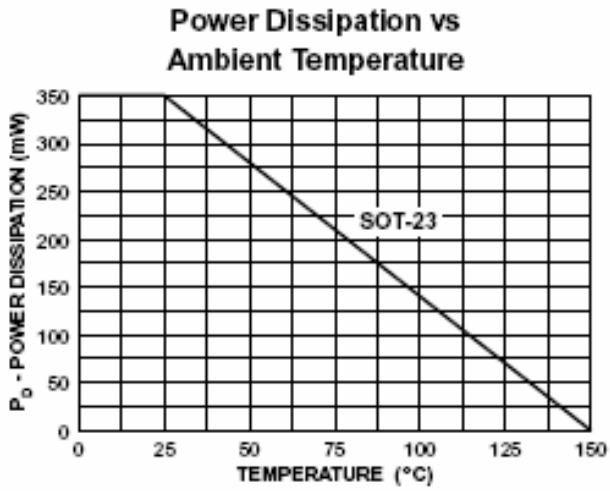









Gain Bandwidth Product
vs Collector Current
h_{fe} - GAIN BANDWIDTH PRODUCT (MHz)
$-V_{CE}$ = 10V
500
400
300
200
100
0
1
10
100
1000
I_C - COLLECTOR CURRENT (mA)


Power Dissipation vs
Ambient Temperature
P_D - POWER DISSIPATION (mW)
350
300
250
200
150
100
50
0
SOT-23
0
25
50
75
100
125
150
TEMPERATURE (°C)