

TRANSISTOR (NPN)

BC817-16
BC817-25
BC817-40

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 (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	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 Power Dissipation	0.3	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

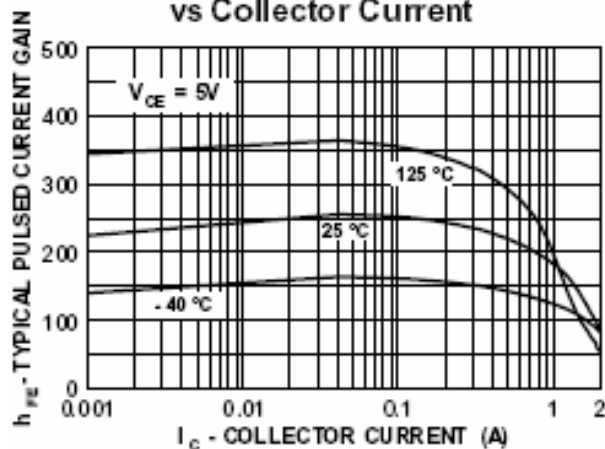
Parameter	Symbol	Test conditions	MIN		MAX	UNIT
Collector-base breakdown voltage	V _{CB0}	I _C = 10μA, I _E =0	50			V
Collector-emitter breakdown voltage	V _{CEO}	I _C = 10mA, I _B =0	45			V
Emitter-base breakdown voltage	V _{EBO}	I _E = 1μA, I _C =0	5			V
Collector cut-off current	I _{CB0}	V _{CB} = 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)}	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} = 1 V, I _C = 500mA			1.2	V
Collector capacitance	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)

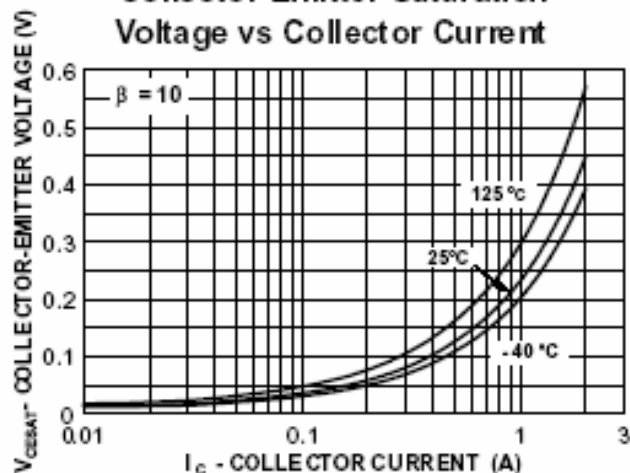
Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

Typical Characteristics

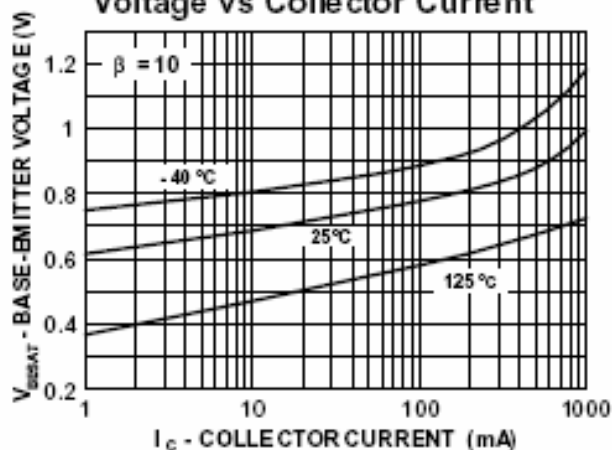
Typical Pulsed Current Gain
vs Collector Current



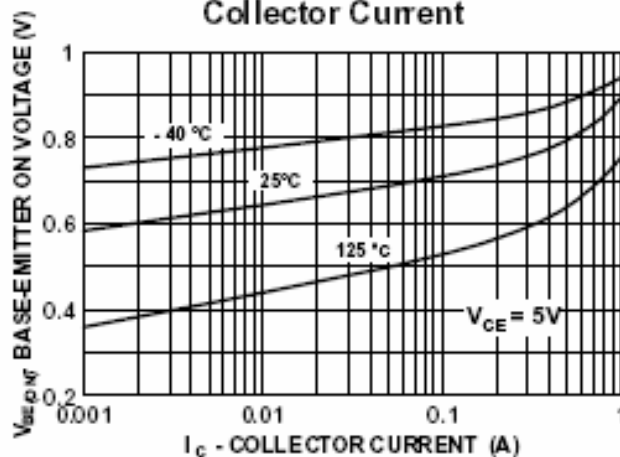
Collector-Emitter Saturation
Voltage vs Collector Current



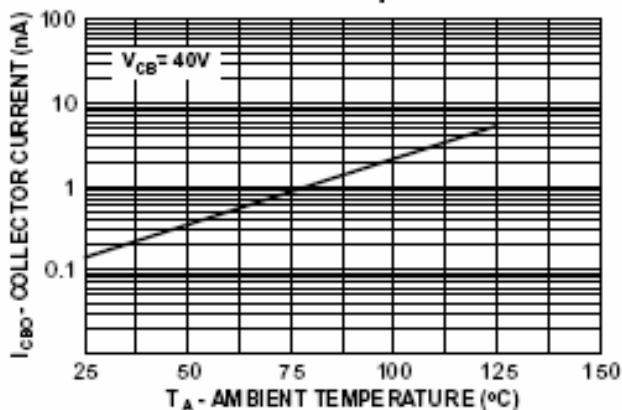
Base-Emitter Saturation
Voltage vs Collector Current



Base-Emitter ON Voltage vs
Collector Current



Collector-Cutoff Current
vs Ambient Temperature



Collector-Base Capacitance
vs Collector-Base Voltage

