

# 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)



## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>c</sub>	Collector Current -Continuous	0.5	A
P <sub>C</sub>	Collector Power Dissipation	0.3	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

## ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)

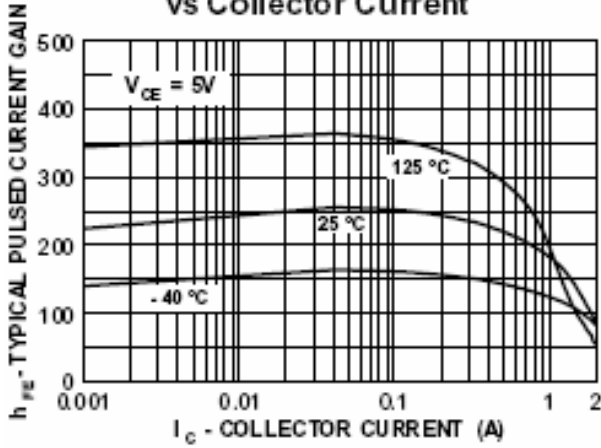
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V <sub>CB0</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> =0	50		V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> =0	45		V
Emitter-base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = 1μA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = 45 V, I <sub>E</sub> =0		0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V, I <sub>C</sub> =0		0.1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 100mA	100	600	
	h <sub>FE(2)</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 500mA	40		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA		0.7	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA		1.2	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 1 V, I <sub>C</sub> = 500mA		1.2	V
Collector capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		10	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 10mA f=100MHz	100		MHz

## CLASSIFICATION OF h<sub>FE</sub> (1)

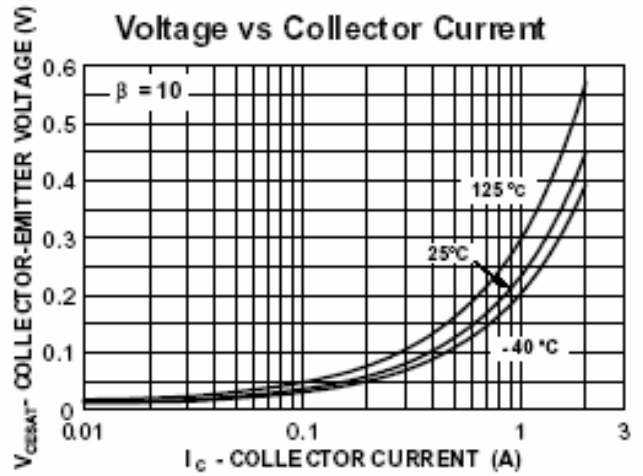
Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

# Typical Characteristics

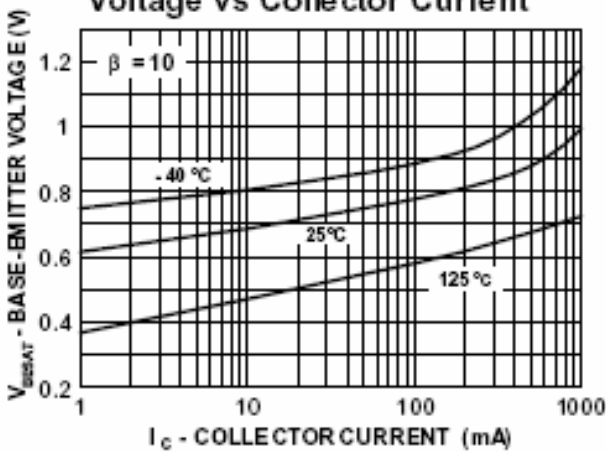
**Typical Pulsed Current Gain vs Collector Current**



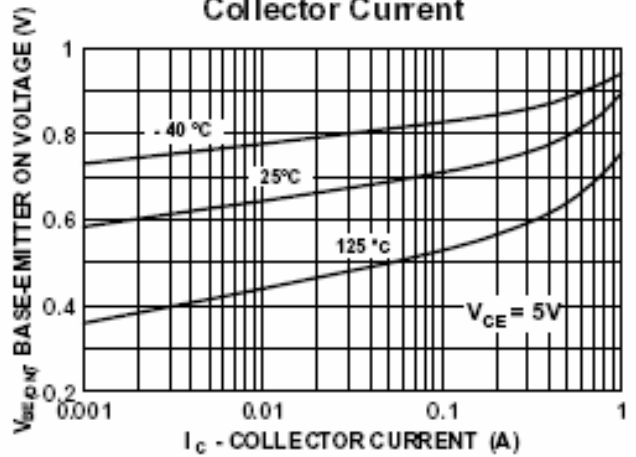
**Collector-Emitter Saturation Voltage vs Collector Current**



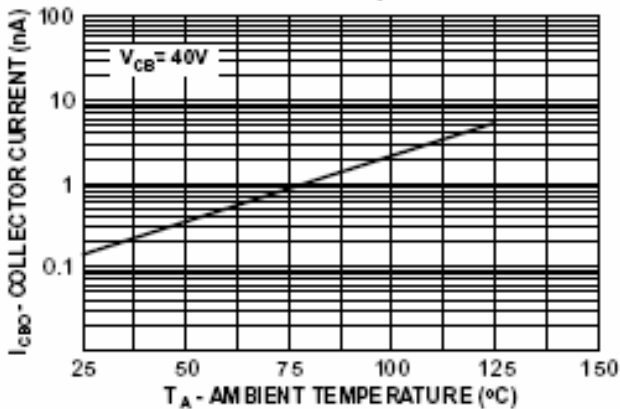
**Base-Emitter Saturation Voltage vs Collector Current**



**Base-Emitter ON Voltage vs Collector Current**



**Collector-Cutoff Current vs Ambient Temperature**



**Collector-Base Capacitance vs Collector-Base Voltage**

