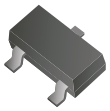
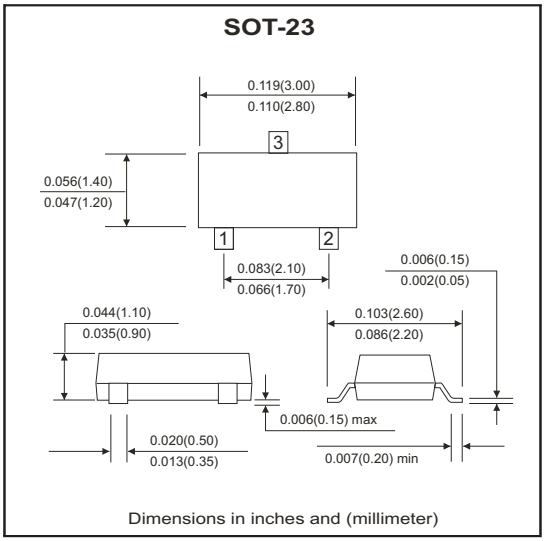
BC817-16-G/25-G/40-G (NPN)

RoHS Device

Features

-For general AF applications.
-High collector current.
-High current gain.
-Low collector-emitter saturation voltage.

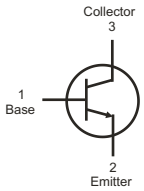




Marking:

BC817-16-G: 6A
BC817-25-G: 6B
BC817-40-G: 6C

Diagram:



Maximum Ratings (at T_A=25°C 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-continuous	I_C	0.5	A
Collector power dissipation	P_C	300	mW
Junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
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			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	$V_{BE(ON)}$	V_{CE}=1V, I_C=500mA			1.2	V
Collector capacitance	C_{ob}	V_{CB}=10V, f=100MHz		10		pF
Transition frequency	f_T	V_{CE}=-5V, I_C=-10mA, f=100MHz	100			MHz

Classification of hFE(1)

Rank	BC817-16-G	BC817-25-G	BC817-40-G
Range	100-250	160-400	250-600

RATING AND CHARACTERISTIC CURVES (BC817-16-G/25-G/40-G)

Fig.1 Typical Pulsed Current Gain vs. Collector Current

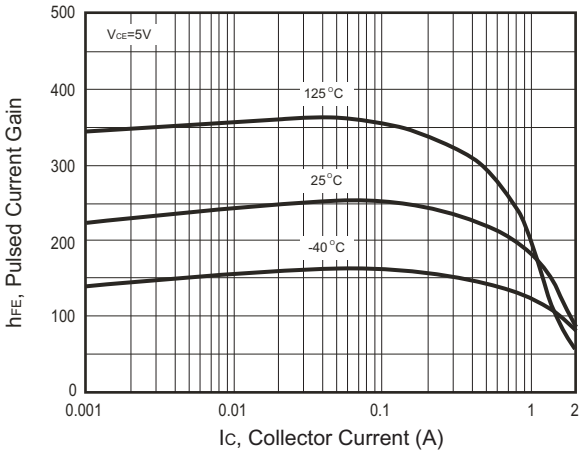


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

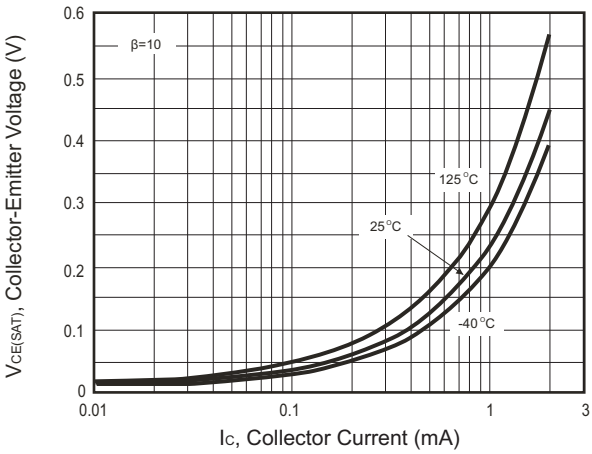


Fig.3 Base-Emitter Saturation Voltage vs. Collector Current

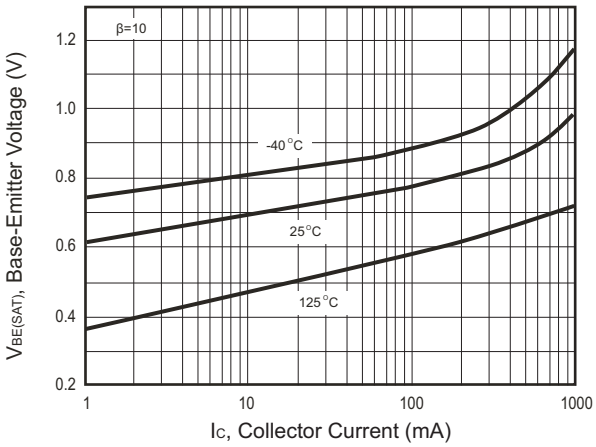


Fig.4 Base-Emitter ON Voltage vs. Collector Current

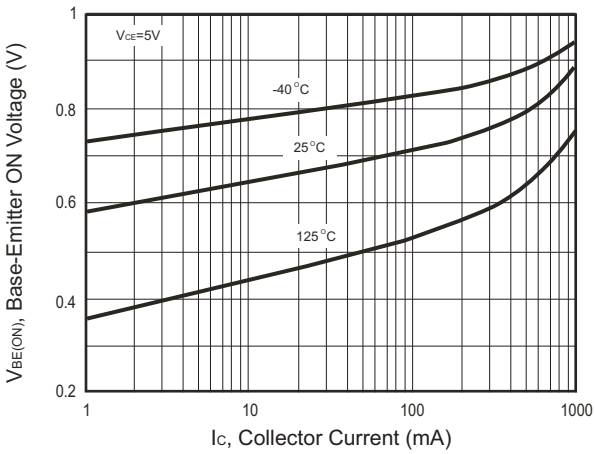


Fig.5 Collector Cut-off Current vs. Ambient Temperature

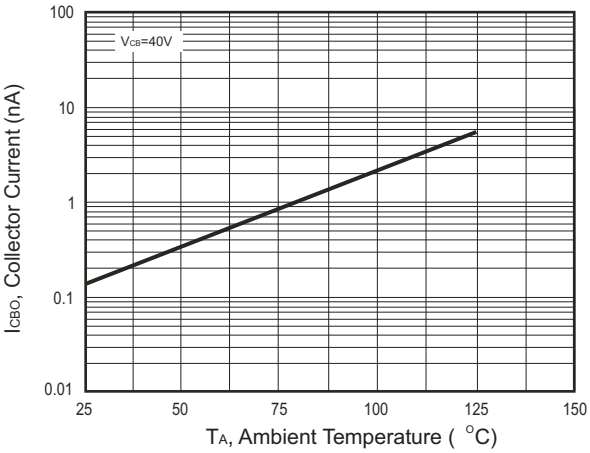
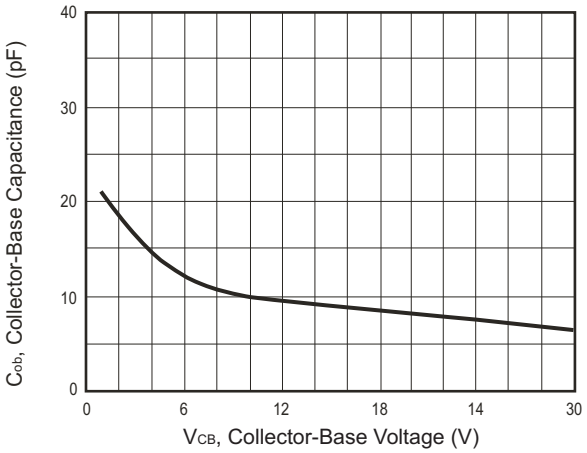


Fig.6 Collector-Base Capacitance vs. Collector-Base Voltage



RATING AND CHARACTERISTIC CURVES (BC817-16-G/25-G/40-G)

Fig.7 Gain Bandwidth Product vs. Collector Current

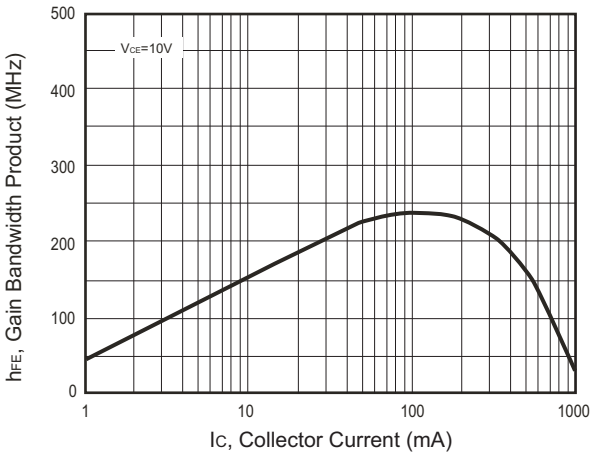


Fig.8 Power Dissipation vs. Ambient Temperature