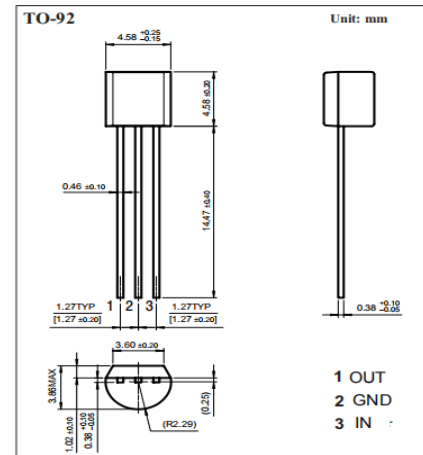


NPN Transistor

BC847A

■ Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V _{CBO}	80	V
		50	
		30	
Collector-Emitter Voltage	V _{CEO}	65	V
		45	
		30	
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current -Continuous	I _C	0.1	A
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-65 to +150	°C

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846	$I_c = 10\ \mu\text{A}$, $I_E = 0$	80			V
	BC847		50			
	BC848		30			
Collector-emitter breakdown voltage	BC846	$I_c = 10\text{mA}$, $I_B = 0$	65			V
	BC847		45			
	BC848		30			
Emitter-base Breakdown voltage	V_{EBO}	$I_E = 10\ \mu\text{A}$, $I_C = 0$	6			V
Collector-base cutoff current	BC846	$V_{CB} = 70\text{V}$, $I_E = 0$			0.1	μA
	BC847	$V_{CB} = 50\text{V}$, $I_E = 0$				
	BC848	$V_{CB} = 30\text{V}$, $I_E = 0$				
Collector-emitter cutoff current	BC846	$V_{CE} = 70\text{V}$, $I_B = 0$			0.1	μA
	BC847	$V_{CE} = 50\text{V}$, $I_B = 0$				
	BC848	$V_{CE} = 30\text{V}$, $I_B = 0$				
Emitter-base cutoff current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			0.1	μA
DC current gain	BC846A,847A,848A	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	110		220	
	BC846B,847B,848B		200		450	
	BC847C,848C		420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$			1.1	V
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$			4.5	pF
Transition frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	100			MHz

■ Marking

NO.	BC846A	BC846B
Marking	1A	1B

NO.	BC847A	BC847B	BC847C
Marking	1E	1F	1G

NO.	BC848A	BC848B	BC848C
Marking	1J	1K	1L

■ Typical Characteristics

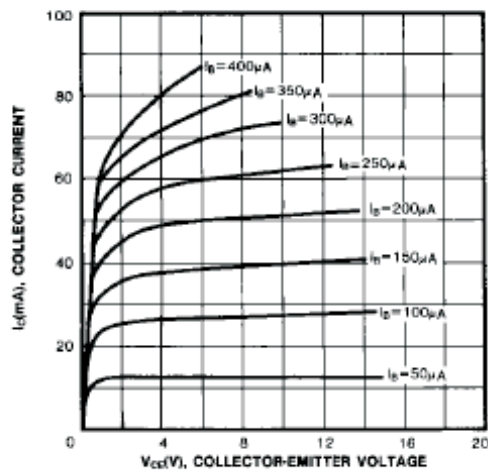


Fig.1 Static Characteristic

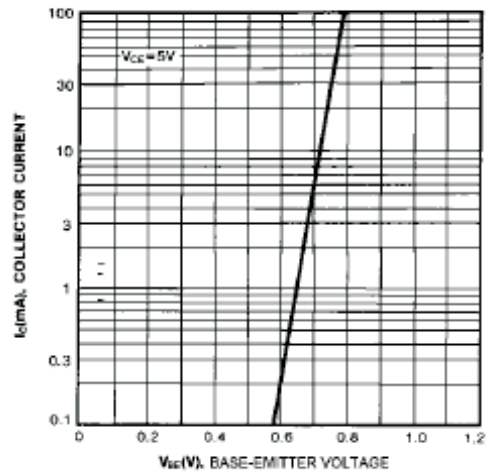


Fig.2 Transfer Characteristic

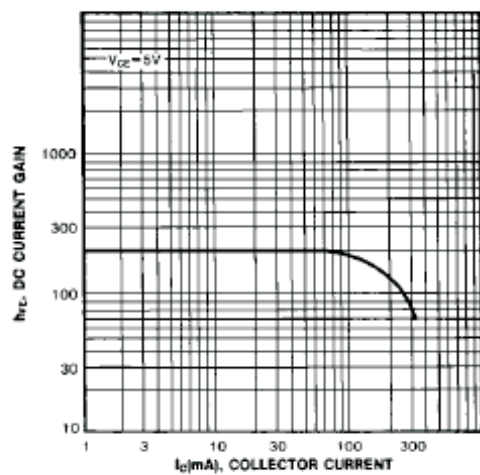


Fig.3 DC Current Gain

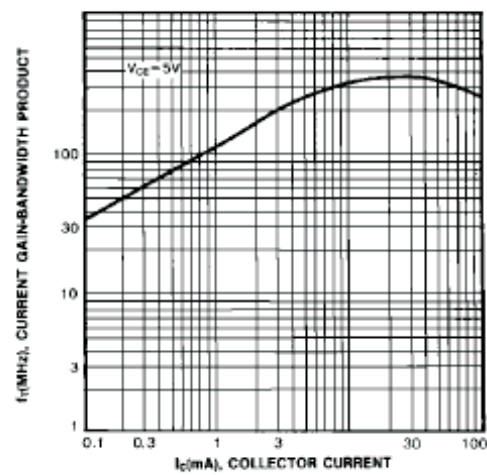


Fig.4 Current Gain Bandwidth Product

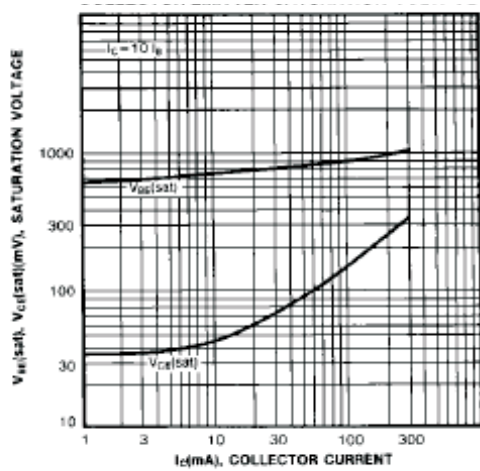


Fig.5 Base Emitter Saturation Voltage
Collector Emitter Saturation Voltage

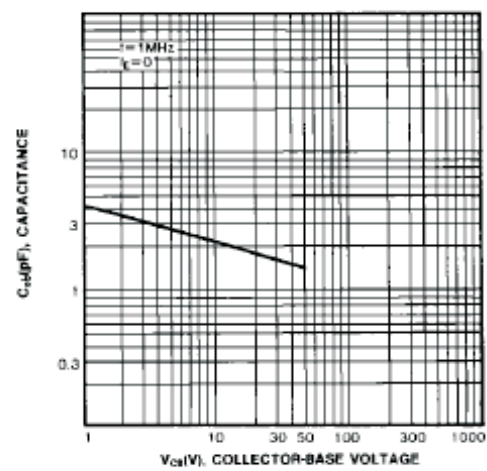


Fig.6 Output Capacitance