BC846
BC847
BC848

TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- Ideally suited for automatic insertion
- For switching and AF amplifier applications

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

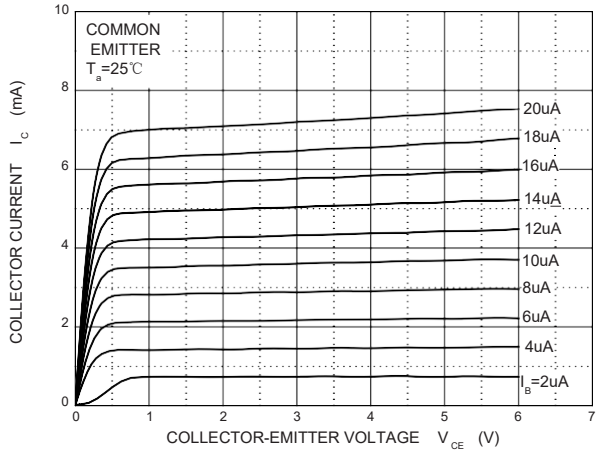
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		V
	BC846	80	
	BC847	50	
	BC848	30	
V_{CEO}	Collector-Emitter Voltage		V
	BC846	65	
	BC847	45	
	BC848	30	
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current –Continuous	0.1	A
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

DEVICE MARKING

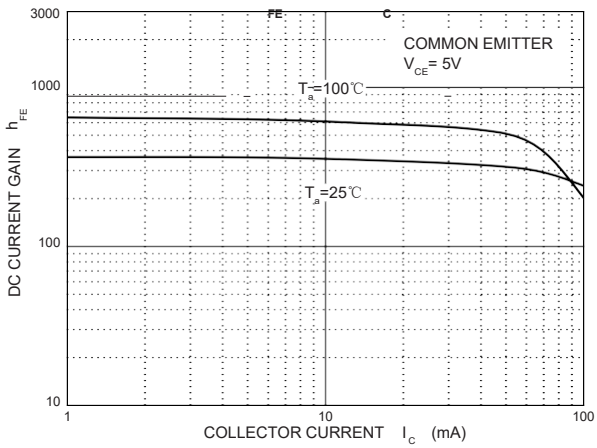
BC846A=1A; BC846B=1B;
BC847A=1E; BC847B=1F; BC847C=1G;
BC848A=1J; BC848B=1K: BC848C=1L

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846	V_{CBO}	I_C= 10μA, I_E=0	80			V
	BC847			50			
	BC848			30			
Collector-emitter breakdown voltage	BC846	V_{CEO}	I_C= 10mA, I_B=0	65			V
	BC847			45			
	BC848			30			
Emitter-base breakdown voltage		V_{EBO}	I_E= 10μA, I_C=0	6			V
Collector cut-off current	BC846	I_{CBO}	V_{CB}=70 V , I_E=0			0.1	μA
	BC847		V_{CB}=50 V , I_E=0				
	BC848		V_{CB}=30 V , I_E=0				
Emitter cut-off current		I_{EBO}	V_{EB}=5 V , I_C=0			0.1	μA
DC current gain	BC846A,847A,848A	h_{FE}	V_{CE}= 5V, I_C= 2mA	110		220	
	BC846B,847B,848B			200		450	
	BC847C,BC848C			420		800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=100mA, I_B= 5mA			0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=100mA, I_B= 5mA			1.1	V
Transition frequency		f_T	V_{CE}= 5 V, I_C= 10mA f=100MHz	100			MHz
Collector output capacitance		C_{ob}	V_{CB}=10V,f=1MHz			4.5	pF

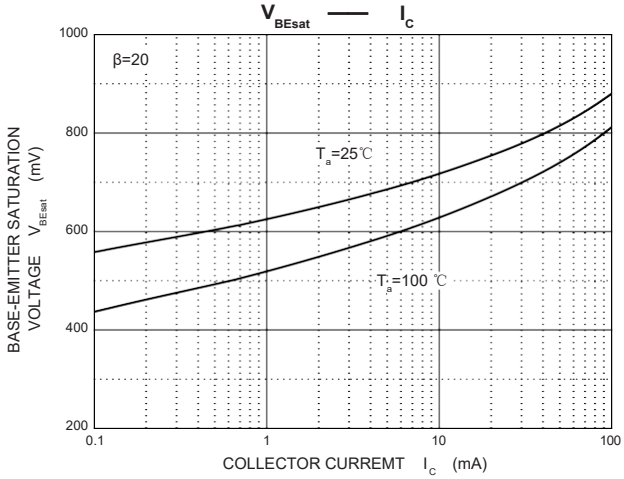
Static Characteristic



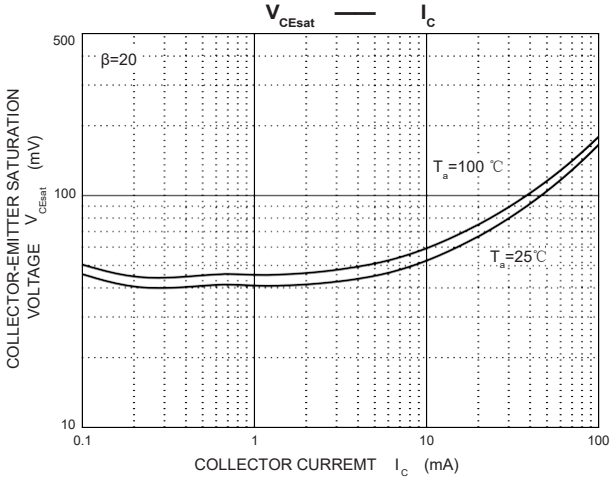
hFE — IC



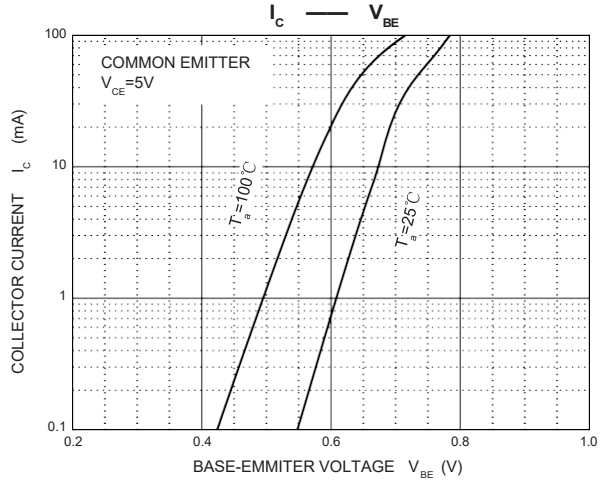
VBEsat — IC



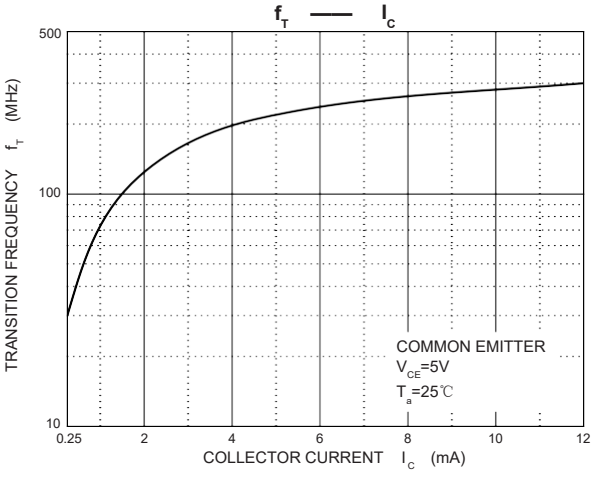
VCEsat — IC



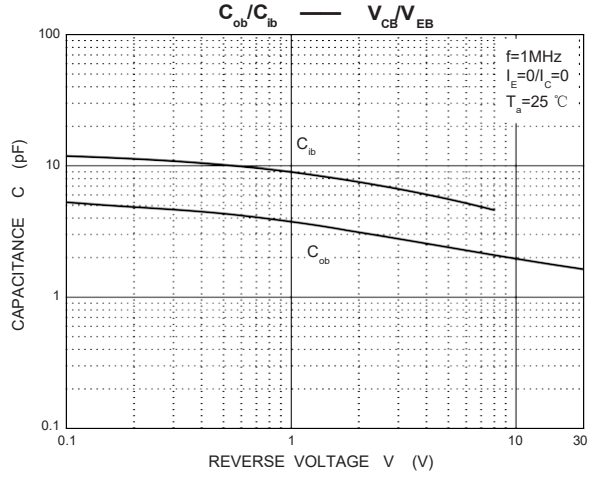
IC — VBE



fT — IC



Cob/Cib — VCB/VEB



PC — Ta