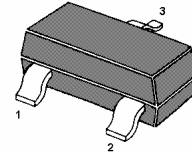


BC846 ... BC850

NPN Silicon Epitaxial Transistor

for switching and amplifier applications

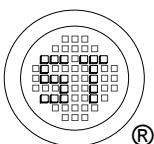
As complementary types the PNP transistors BC856...BC860 is recommended.



1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Units	
Collector Base Voltage	BC846	V_{CBO}	80	V
	BC847, BC850	V_{CBO}	50	V
	BC848, BC849	V_{CBO}	30	V
Collector Emitter Voltage	BC846	V_{CEO}	65	V
	BC847, BC850	V_{CEO}	45	V
	BC848, BC849	V_{CEO}	30	V
Emitter Base Voltage	BC846, BC847	V_{EBO}	6	V
	BC848, BC849, BC850	V_{EBO}	5	V
Collector Current	I_C	100	mA	
Peak Collector Current	I_{CM}	200	mA	
Power Dissipation	P_{tot}	200	mW	
Junction Temperature	T_J	150	$^\circ\text{C}$	
Storage Temperature Range	T_S	- 65 to + 150	$^\circ\text{C}$	



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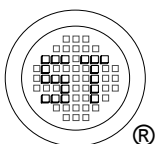


Dated : 21/06/2006

BC846 ... BC850

Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Units	
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	A	h_{FE}	110	-	220	-
	B	h_{FE}	200	-	450	-
	C	h_{FE}	420	-	800	-
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	V_{CEsat}	-	-	250	mV	
	V_{CEsat}	-	-	600	mV	
Base Emitter On Voltage at $I_C = 2\text{ mA}$, $V_{CE} = 5\text{ V}$ at $I_C = 10\text{ mA}$, $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	580	-	700	mV	
	$V_{BE(on)}$	-	-	720	mV	
Collector Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	15	nA	
Current Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	300	-	MHz	
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	6	pF	
Input Capacitance at $V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{ib}	-	9	-	pF	
Noise Figure at $I_C = 200\text{ }\mu\text{A}$, $V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 1\text{ KHz}$ at $I_C = 200\text{ }\mu\text{A}$, $V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 30 \sim 15\text{ KHz}$	BC846, BC847, BC848	NF	-	-	10	dB
	BC849, BC850	NF	-	-	4	dB
	BC849	NF	-	-	4	dB
	BC850	NF	-	-	3	dB



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ISO/TS 16949 : 2002
Certificate No. 05103



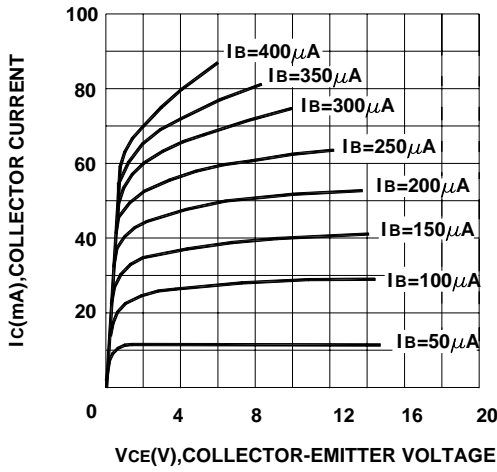
ISO 14001:2004
Certificate No. 7116



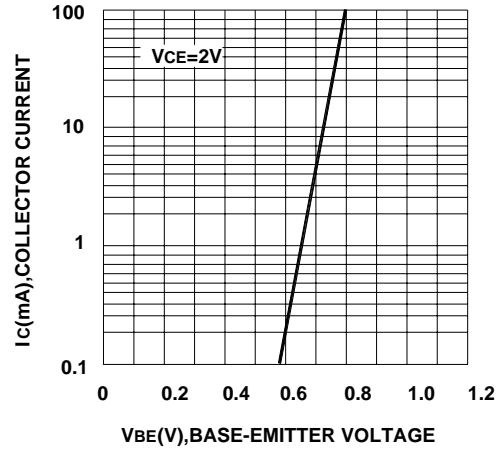
ISO 9001:2000
Certificate No. 0506098

Dated : 21/06/2006

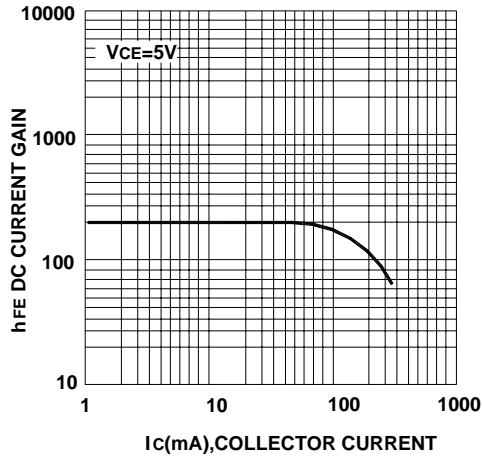
STATIC CHARACTERISTIC



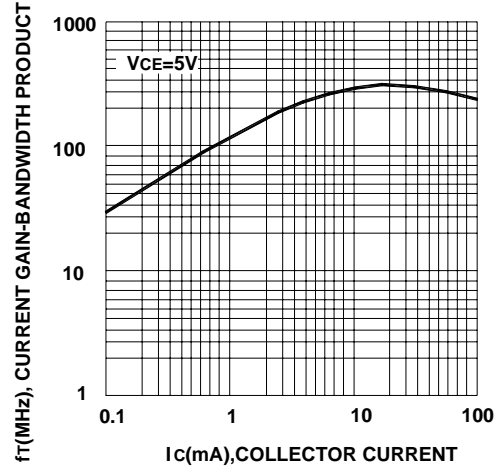
BASE-EMITTER ON VOLTAGE



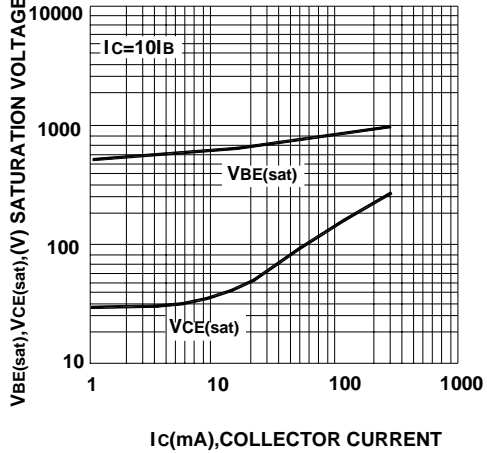
DC CURRENT GAIN



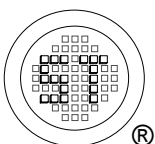
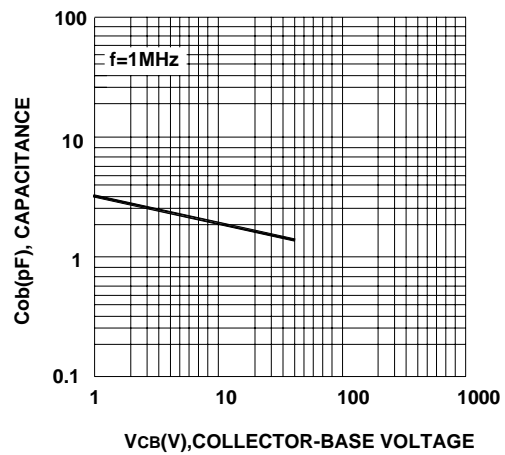
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



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Certificate No. 71116



ISO 9001:2000
Certificate No. 0506098