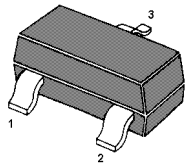
BC846…BC850

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

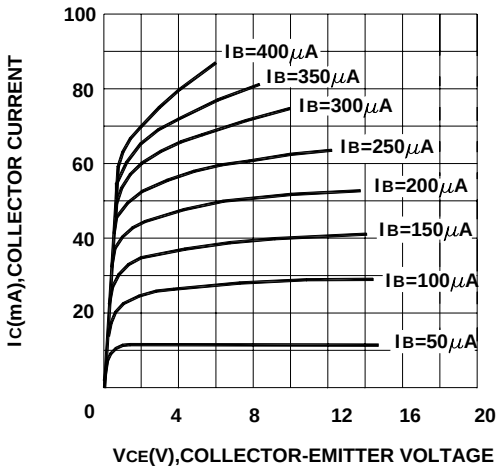
Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
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	°C
Storage Temperature Range		T_{stg}	- 65 to + 150	°C

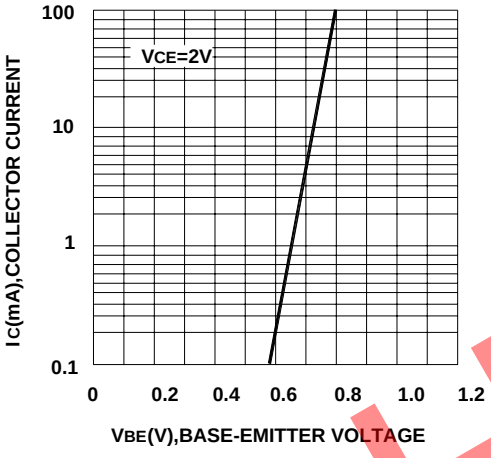
Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE} = 5 V, I_C = 2 mA	Current Gain Group A	h_{FE}	110	-	220	-
	B	h_{FE}	200	-	450	-
	C	h_{FE}	420	-	800	-
Collector Base Cutoff Current at V_{CB} = 30 V		I_{CBO}	-	-	15	nA
Collector Emitter Saturation Voltage						
at I_C = 10 mA, I_B = 0.5 mA		V_{CEsat}	-	-	250	mV
at I_C = 100 mA, I_B = 5 mA		V_{CEsat}	-	-	600	mV
Base Emitter On Voltage						
at V_{CE} = 5 V, I_C = 2 mA		$V_{BE(on)}$	580	-	700	mV
at V_{CE} = 5 V, I_C = 10 mA		$V_{BE(on)}$	-	-	720	mV
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz		f_T	-	300	-	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz		C_{ob}	-	-	6	pF
Input Capacitance at V_{EB} = 0.5 V, f = 1 MHz		C_{ib}	-	9	-	pF

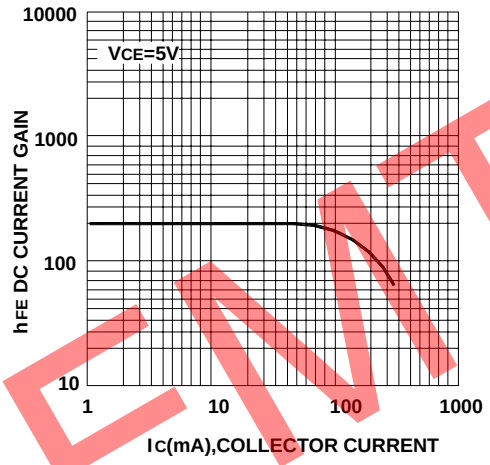
STATIC CHARACTERISTIC



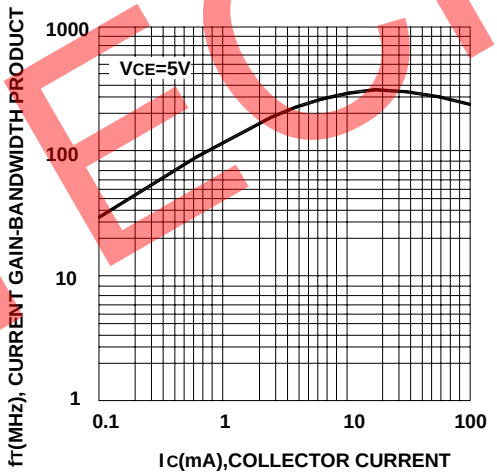
BASE-EMITTER ON VOLTAGE



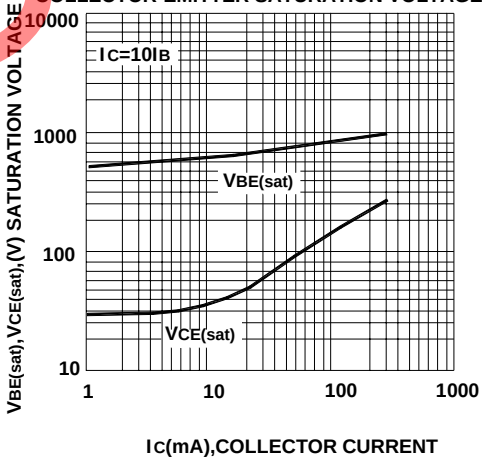
DC CURRENT GAIN



CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE