DC COMPONENTS CO., LTD.

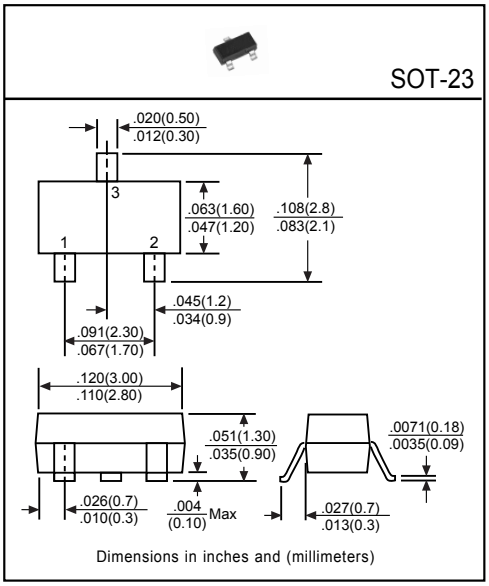
DISCRETE SEMICONDUCTORS

BC846

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

Designed for switching and AF amplifier amplification suitable for automatic insertion in thick and thin-film circuits.



Pinning

1 = Base
2 = Emitter
3 = Collector

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	65	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_D	225	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Volatge	BV_{CBO}	80	-	-	V	I_C=10μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	65	-	-	V	I_C=1mA
Emitter-Base Breakdown Volatge	BV_{EBO}	6	-	-	V	I_E=1μA
Collector Cutoff Current	I_{CBO}	-	-	15	nA	V_{CB}=30V
Collector-Emitter Saturation Voltage(1)	$V_{CE(sat)1}$	-	90	250	mV	I_C=10mA, I_B=0.5mA
	$V_{CE(sat)2}$	-	200	600	mV	I_C=100mA, I_B=5mA
Base-Emitter Saturation Voltage(1)	$V_{BE(sat)1}$	-	700	-	mV	I_C=10mA, I_B=0.5mA
	$V_{BE(sat)2}$	-	900	-	mV	I_C=100mA, I_B=5mA
Base-Emitter On Voltage	$V_{BE(on)1}$	580	-	700	mV	I_C=2mA, V_{CE}=5V
	$V_{BE(on)2}$	-	-	770	mV	I_C=10mA, V_{CE}=5V
DC Current Gain(1)	h_{FE}	110	-	800	-	I_C=2mA, V_{CE}=5V
Transition Frequency	f_T	-	300	-	MHz	I_C=10mA, V_{CE}=5V
Output Capacitance	C_{ob}	-	3.5	6	pF	V_{CB}=10V, f=1MHz, I_E=0

(1)Pulse Test: Pulse Width≦380μs, Duty Cycle≦2% Marking: 1B

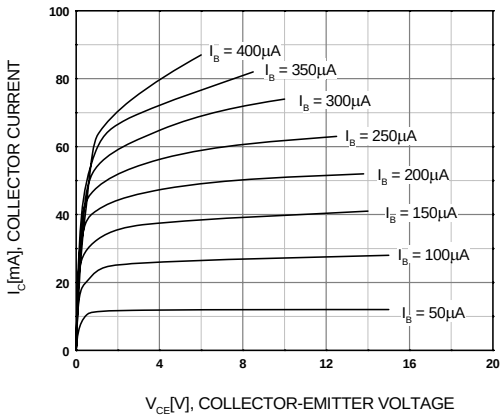
Classification of h_{FE}

Rank(Marking)	A	B	C
Range	110~220	200~450	420~800

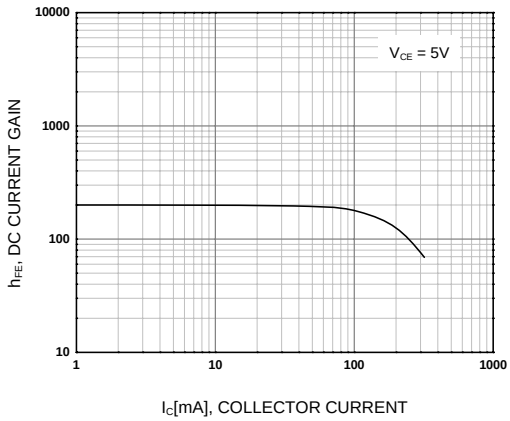
Diode, Bridge Rectifiers INDEX ① | Diode, Bridge Rectifiers INDEX ② | Transistors, SCR, IC INDEX ① | Transistors, SCR, IC INDEX ② | EXIT

Electrical Characteristic Curves

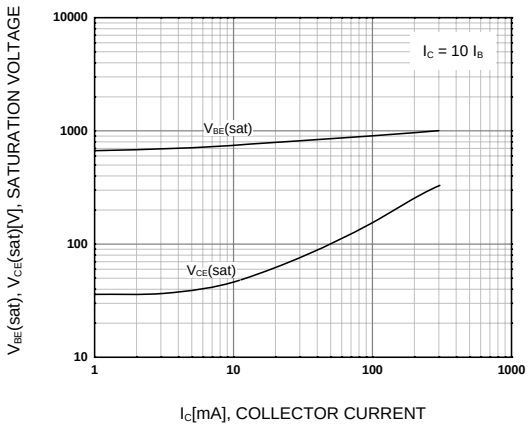
Typical Output Characteristics



DC Current Gain



Collector-Emitter Saturation Voltage & Base-Emitter Saturation Voltage



Current Gain-Bandwidth Product