



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

BC847

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

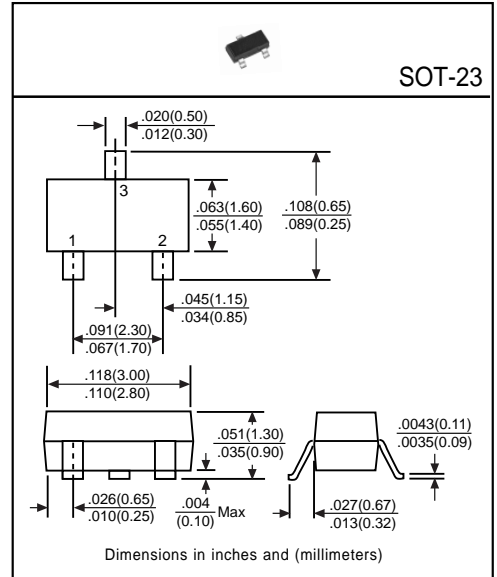
Designed for switching and AF amplifier amplification suitable for automatic insertion in thick and thin-film circuits.

Pinning

- 1 = Base
- 2 = Emitter
- 3 = Collector

Absolute Maximum Ratings (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	45	V
Emitter-Base Voltage	V _{EB0}	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 Voltage	BV _{CB0}	50	-	-	V	I _C =10μA
Collector-Emitter Breakdown Voltage	BV _{CEO}	45	-	-	V	I _C =1mA
Emitter-Base Breakdown Voltage	BV _{EB0}	6	-	-	V	I _E =1μA
Collector Cutoff Current	I _{CB0}	-	-	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

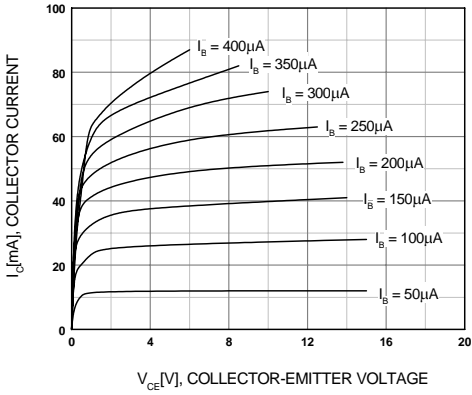
(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of h_{FE}

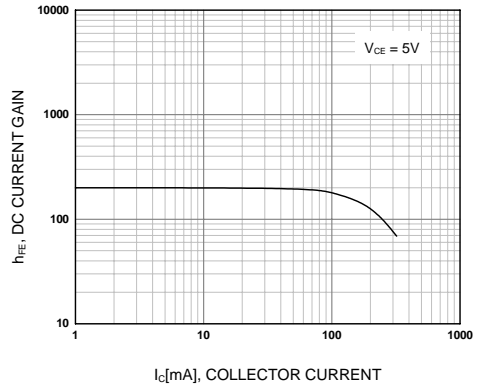
Rank	A	B	C
Range	110~220	200~450	420~800

Electrical Characteristic Curves

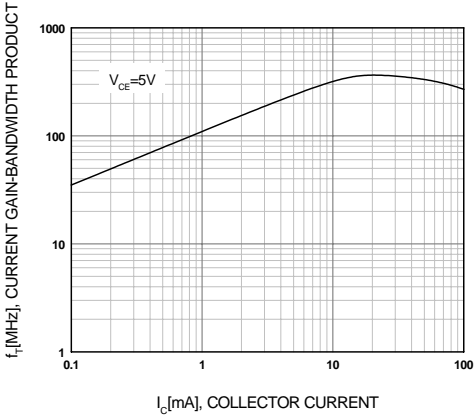
Typical Output Characteristics



DC current Gain



Current Gain Bandwidth Product



Collector-Emitter Saturation Voltage

