



DC COMPONENTS CO., LTD.  
DISCRETE SEMICONDUCTORS

BC857BW

TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR

Description

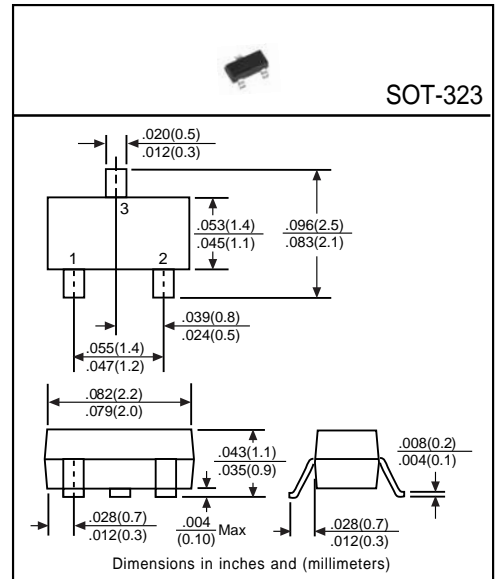
Designed for switching and AF amplifier amplification suitable for automatic insertion in thick and thin-film circuits.

Pinning

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

Absolute Maximum Ratings (TA=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-45	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-100	mA
Total Power Dissipation	P <sub>D</sub>	150	mW
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-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 <sub>CB0</sub>	-50	-	-	V	I <sub>C</sub> =-10μA
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	-45	-	-	V	I <sub>C</sub> =-1mA
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	-5	-	-	V	I <sub>E</sub> =-1μA
Collector Cutoff Current	I <sub>CBO</sub>	-	-	-15	nA	V <sub>CB</sub> =-30V
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)1</sub>	-	-90	-300	mV	I <sub>C</sub> =-10mA, I <sub>B</sub> =-0.5mA
	V <sub>CE(sat)2</sub>	-	-250	-650	mV	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)1</sub>	-	-700	-	mV	I <sub>C</sub> =-10mA, I <sub>B</sub> =-0.5mA
	V <sub>BE(sat)2</sub>	-	-900	-	mV	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA
Base-Emitter On Voltage	V <sub>BE(on)1</sub>	-600	-	-750	mV	I <sub>C</sub> =-2mA, V <sub>CE</sub> =-5V
	V <sub>BE(on)2</sub>	-	-	-820	mV	I <sub>C</sub> =-10mA, V <sub>CE</sub> =-5V
DC Current Gain <sup>(1)</sup>	h <sub>FE</sub>	110	-	800	-	I <sub>C</sub> =-2mA, V <sub>CE</sub> =-5V
Transition Frequency	f <sub>T</sub>	-	150	-	MHz	I <sub>C</sub> =-10mA, V <sub>CE</sub> =-5V
Output Capacitance	C <sub>ob</sub>	-	-	6	pF	V <sub>CB</sub> =-10V, f=1MHz, I <sub>E</sub> =0

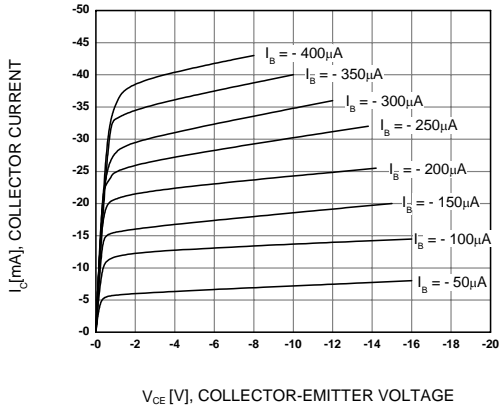
(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Classification of h<sub>FE</sub>

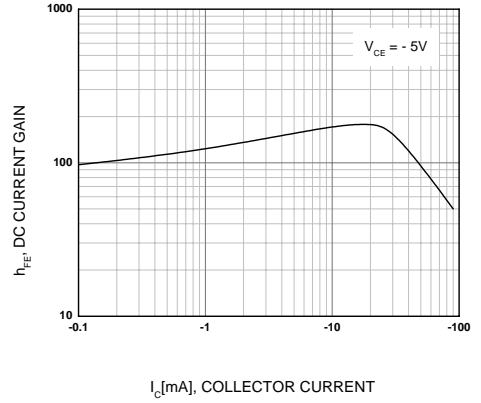
Rank	A	B	C
Range	110~220	200~450	420~800

## Electrical Characteristic Curves

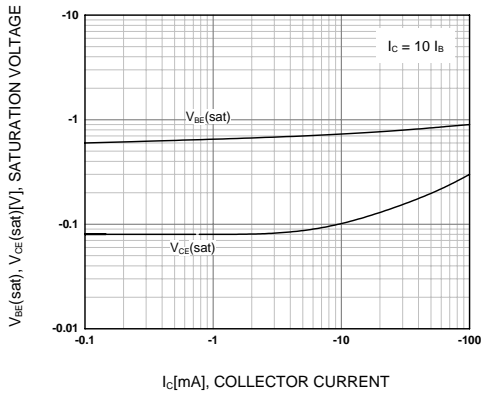
### Typical Output Characteristics



### DC Current Gain



### Collector-Emitter Saturation Voltage & Base-Emitter Saturation Voltage



### Current Gain-Bandwidth Product

