



**DC COMPONENTS CO., LTD.**  
DISCRETE SEMICONDUCTORS

**BC856**

**TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR**

**Description**

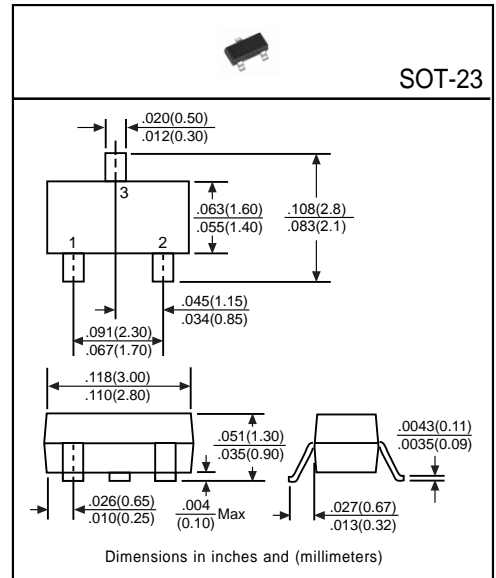
Designed for switching and AF amplifier amplification suitable for automatic insertion in thick and thin-film circuits.

**Pinning**

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	-80	V
Collector-Emitter Voltage	$V_{CE0}$	-65	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	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$



**Electrical Characteristics**

(Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	$BV_{CB0}$	-80	-	-	V	$I_C=-100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	-65	-	-	V	$I_C=-1\text{mA}$
Emitter-Base Breakdown Voltage	$BV_{EB0}$	-6	-	-	V	$I_E=-1\mu\text{A}$
Collector Cutoff Current	$I_{CBO}$	-	-	-15	nA	$V_{CB}=-30\text{V}$
Collector-Emitter Saturation Voltage <sup>(1)</sup>	$V_{CE(sat)1}$	-	-75	-300	mV	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$
	$V_{CE(sat)2}$	-	-250	-650	mV	$I_C=-100\text{mA}, I_B=-5\text{mA}$
Base-Emitter Saturation Voltage <sup>(1)</sup>	$V_{BE(sat)1}$	-	-700	-	mV	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$
	$V_{BE(sat)2}$	-	-850	-	mV	$I_C=-100\text{mA}, I_B=-5\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)1}$	-600	-	-750	mV	$I_C=-2\text{mA}, V_{CE}=-5\text{V}$
	$V_{BE(on)2}$	-	-	-820	mV	$I_C=-10\text{mA}, V_{CE}=-5\text{V}$
DC Current Gain <sup>(1)</sup>	$h_{FE}$	75	-	800	-	$I_C=-2\text{mA}, V_{CE}=-5\text{V}$
Transition Frequency	$f_T$	-	150	-	MHz	$I_C=-10\text{mA}, V_{CE}=-5\text{V}$
Output Capacitance	$C_{ob}$	-	4.5	-	pF	$V_{CB}=-10\text{V}, f=1\text{MHz}$

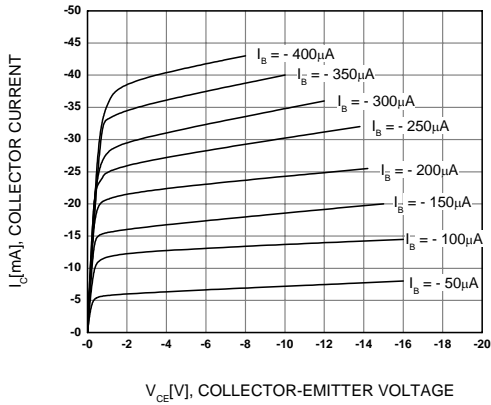
(1)Pulse Test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$  Marking: 3B

**Classification of  $h_{FE}$**

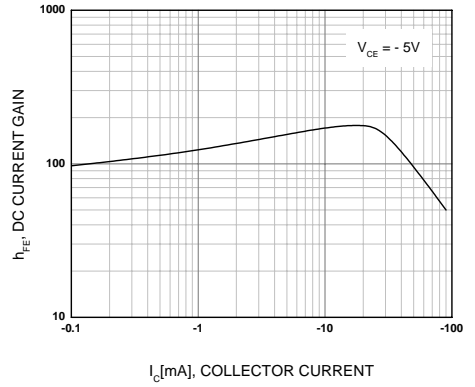
Rank	A	B	C
Range	125~250	220~450	420~800

Electrical Characteristic Curves

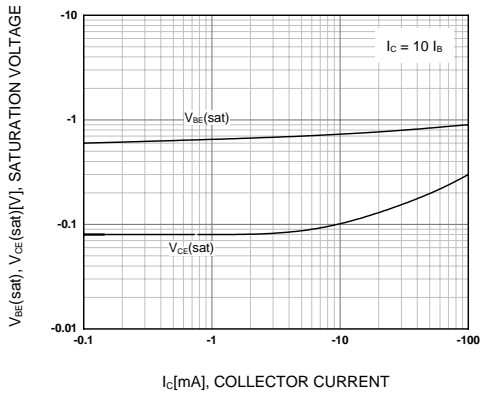
Typical Output Characteristics



DC Current Gain



Collector-Emitter Saturation Voltage & Base-Emitter Saturation Voltage



Current Gain-Bandwidth Product

