



# UNISONIC TECHNOLOGIES CO., LTD

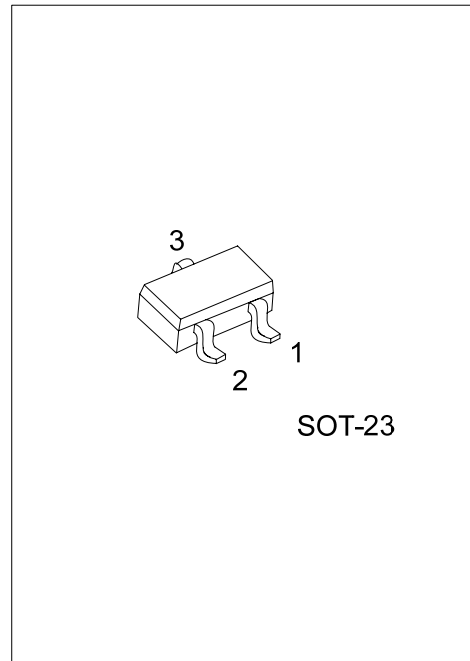
## BC856/BC857/BC858

## PNP SILICON TRANSISTOR

### SWITCHING AND AMPLIFIER APPLICATIONS

#### FEATURES

- \*Suitable for automatic insertion in thick and thin-film circuits
- \*Complement to BC846/BC847/BC848



\*Pb-free plating product number:  
BC856L/BC857L/BC858L

#### ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
BC856-x-AE3-R	BC856L-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC857-x-AE3-R	BC857L-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC858-x-AE3-R	BC858L-x-AE3-R	SOT-23	E	B	C	Tape Reel

Note: x: Rank

<p>BC856L-x-AE3-R</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of <math>h_{FE}</math> (4) L: Lead Free Plating, Blank: Pb/Sn</p>
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#### MARKING

BC856	BC857	BC858

□: Rank Code, refer to Classification of  $h_{FE}$

# BC856/BC857/BC858

## PNP SILICON TRANSISTOR

ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	BC856	-80	V
	BC857	-50	V
	BC858	-30	V
Collector-Emitter Voltage	BC856	-65	V
	BC857	-45	V
	BC858	-30	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Dissipation	P <sub>D</sub>	310	mW
Collector Current (DC)	I <sub>C</sub>	-100	mA
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	°C

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-30V, I <sub>E</sub> =0			-15	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-2mA	110		800	
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-0.5mA		-90	-300	mV
		I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-250	-650	mV
Base-Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-0.5mA		-700		mV
		I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-900		mV
Base-Emitter On Voltage	V <sub>BE(ON)</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-2mA	-600	-660	-750	mV
		V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA			-800	mV
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz		150		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz			6	pF
Noise Figure	NF	V <sub>CE</sub> =-5V, I <sub>C</sub> =-200μA, f=1KHz, R <sub>e</sub> =2KΩ		2	10	dB

### ■ CLASSIFICATION OF h<sub>FE</sub>

RANK	A	B	C
RANGE	110-220	200-450	420-800

## TYPICAL CHARACTERISTICS

Figure 1. Static Characteristic

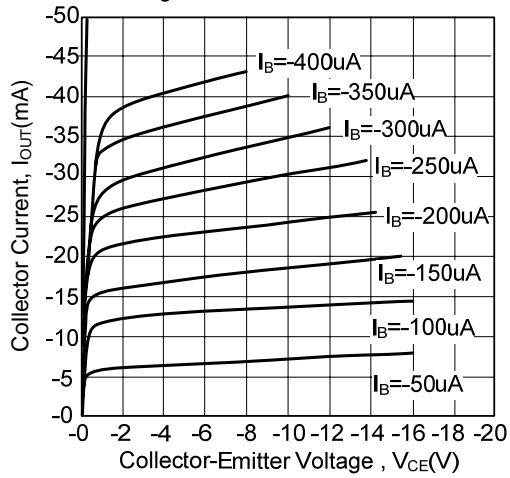


Figure 2. DC Current Gain

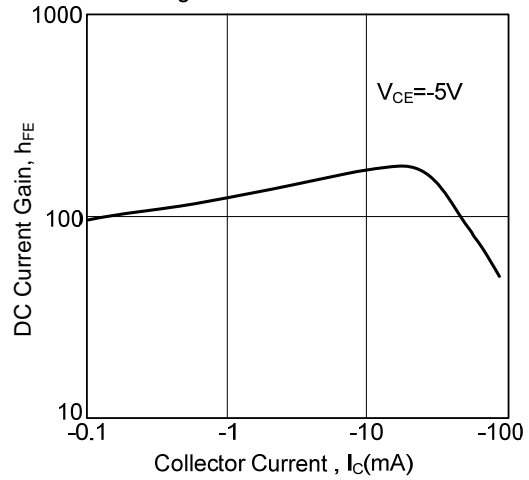


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

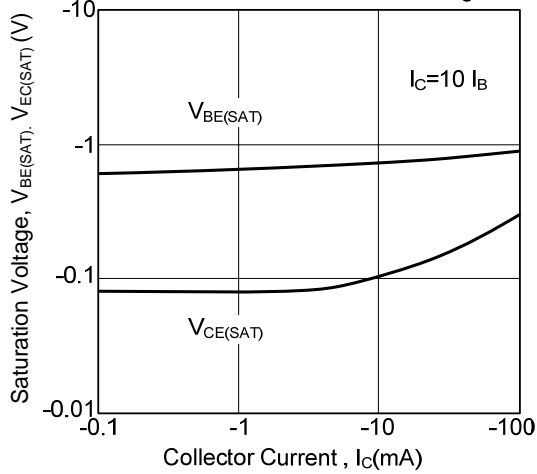


Figure 4. Base-Emitter on Voltage

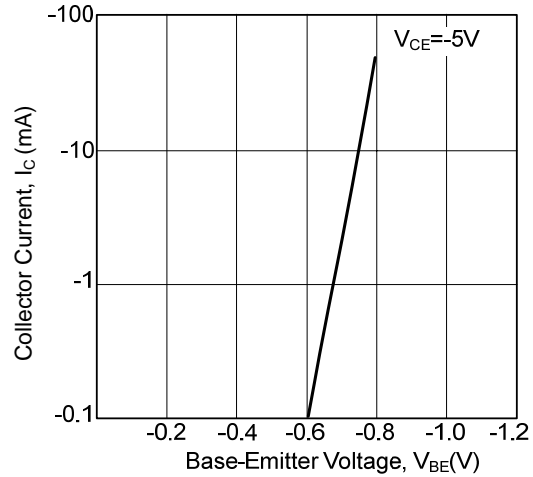


Figure 5. Collector Output Capacitance

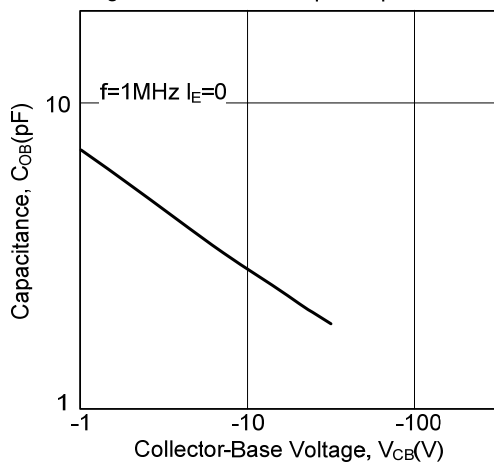
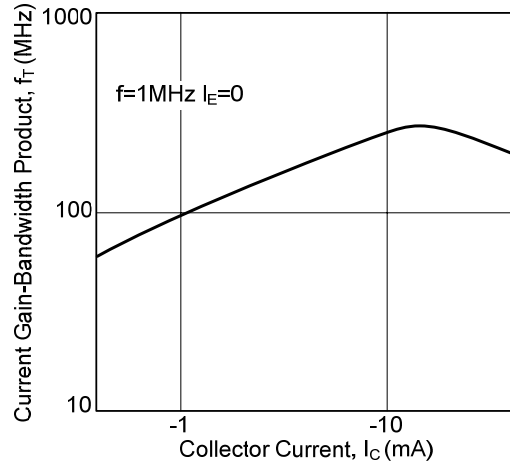


Figure 6. Current Gain Bandwidth Product



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