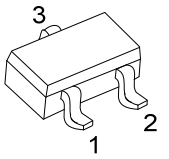
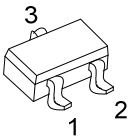
BC856/BC857/BC858

PNP SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATIONS



SOT-23
(JEDEC TO-236)



SOT-323

■ FEATURES

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

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BC856L-x-AE3-R	BC856G-x-AE3-R	SOT-23	B	E	C	Tape Reel
BC857L-x-AE3-R	BC857G-x-AE3-R	SOT-23	B	E	C	Tape Reel
BC858L-x-AE3-R	BC858G-x-AE3-R	SOT-23	B	E	C	Tape Reel
BC856L-x-AL3-R	BC856G-x-AL3-R	SOT-323	B	E	C	Tape Reel
BC857L-x-AL3-R	BC857G-x-AL3-R	SOT-323	B	E	C	Tape Reel
BC858L-x-AL3-R	BC858G-x-AL3-R	SOT-323	B	E	C	Tape Reel

Note: Pin Assignment: B: Base E: Emitter C: Collector

BC856G-x-AE3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AE3: SOT-23, AL3: SOT-323
	(3)Rank	(3) x: refer to Classification of h_{FE}
	(4)Green Package	(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

BC856	BC857	BC858
9Ax□	9Bx□	9Px□

Notes: 1. X: Rank Code, refer to Classification of h_{FE}.
2.□: L: Lead Free, G: Halogen Free.

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage	BC856	V_{CBO}	-80	V
	BC857		-50	V
	BC858		-30	V
Collector-Emitter Voltage	BC856	V_{CEO}	-65	V
	BC857		-45	V
	BC858		-30	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Dissipation		P_D	310	mW
Collector Current (DC)		I_C	-100	mA
Junction Temperature		T_J	+150	°C
Operating Temperature Range		T_{OPR}	-40 ~ +150	°C
Storage Temperature		T_{STG}	-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 (T_A=25°C, unless otherwise specified)

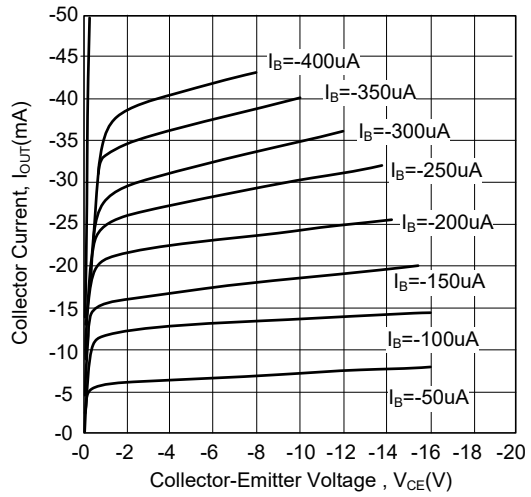
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	I_{CBO}	V_{CB}=-30V, I_E=0			-15	nA
DC Current Gain	h_{FE}	V_{CE}=-5V, I_C=-2mA	110		800	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=-10mA,I_B=-0.5mA		-90	-300	mV
		I_C=-100mA,I_B=-5mA		-250	-650	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=-10mA,I_B=-0.5mA		-700		mV
		I_C=-100mA,I_B=-5mA		-900		mV
Base-Emitter On Voltage	$V_{BE(ON)}$	V_{CE}=-5V,I_C=-2mA	-600	-660	-750	mV
		V_{CE}=-5V,I_C=-10mA			-800	mV
Current Gain Bandwidth Product	f_T	V_{CE}=-5V,I_C=-10mA, f=100MHz		150		MHz
Output Capacitance	Cob	V_{CB}=-10V,I_E=0,f=1MHz			6	pF
Noise Figure	NF	V_{CE}=-5V, I_C=-200μA, f=1KHz, R_G=2KΩ		2	10	dB

■ CLASSIFICATION OF h_{FE}

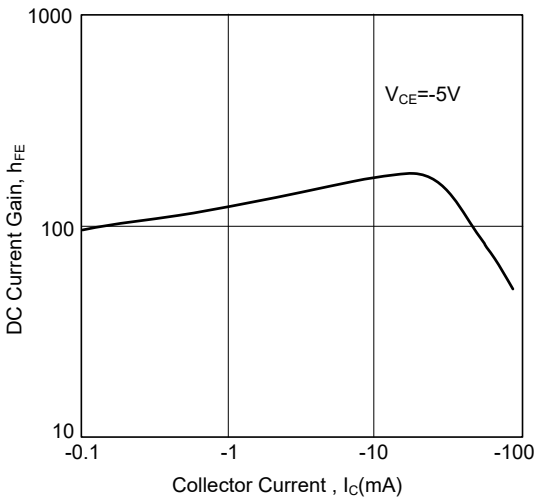
RANK	A	B	C
RANGE	110 - 220	200 - 450	420 - 800

■ TYPICAL CHARACTERISTICS

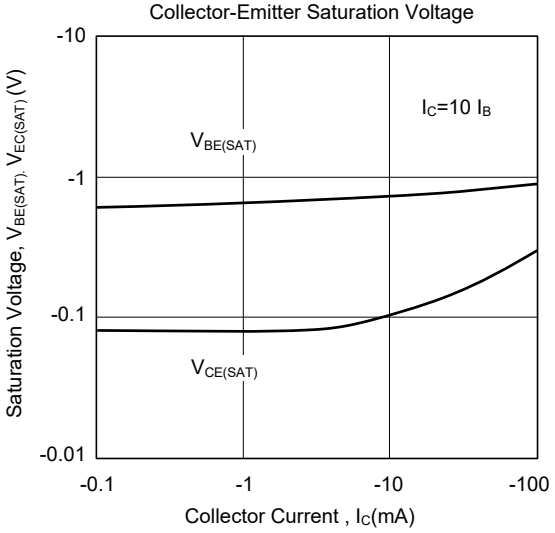
Static Characteristic



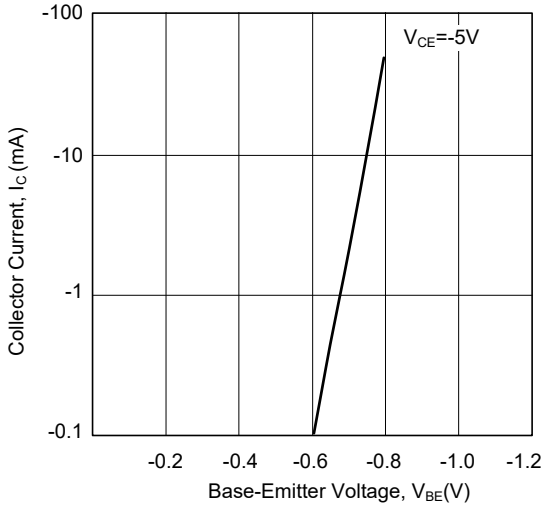
DC Current Gain



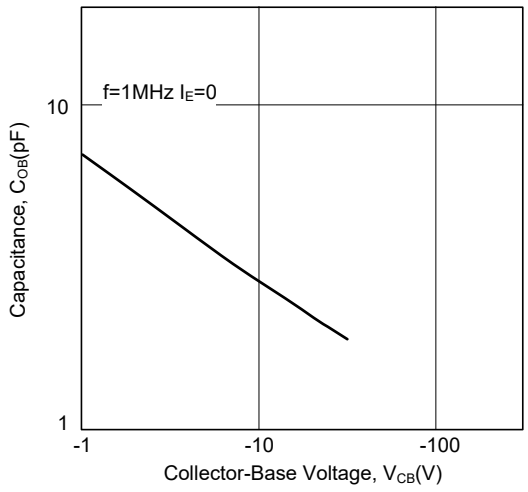
Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



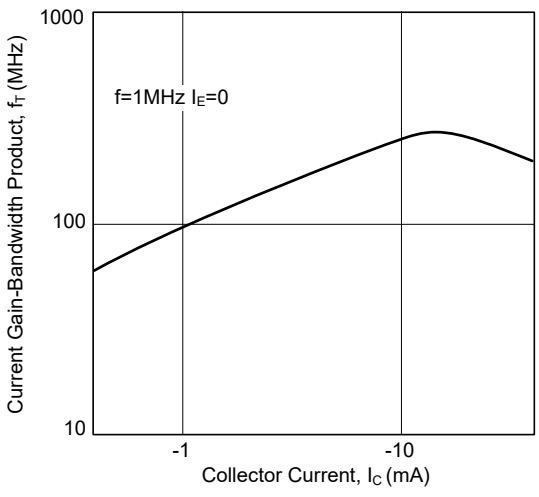
Base-Emitter on Voltage



Collector Output Capacitance



Current Gain Bandwidth Product



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