

BC846/847/848/849/850

NPN EPITAXIAL SILICON TRANSISTOR

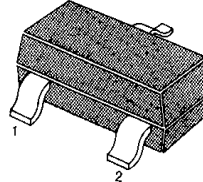
SWITCHING AND AMPLIFIER APPLICATIONS

- Suitable for automatic insertion in thick and thin-film circuits
- LOW NOISE: BC849, BC850
- Complement to BC856 ... BC860

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}		
: BC846		80	V
: BC847/850		50	V
: BC848/849		30	V
Collector Emitter Voltage	V_{CEO}		
: BC846		65	V
: BC847/850		45	V
: BC848/849		30	V
Emitter-Base Voltage	V_{EBO}		
: BC846/847		6	V
: BC848/849/850		5	V
Collector Current (DC)	I_C	100	mA
Collector Dissipation	P_C	310	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^\circ\text{C}$

SOT-23



1. Base 2. Emitter 3. Collector

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			15	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=2\text{mA}$	110		800	
Collector Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		90	250	mV
		$I_C=100\text{mA}, I_B=5\text{mA}$		200	600	mV
Collector Base Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		700		mV
		$I_C=100\text{mA}, I_B=5\text{mA}$		900		mV
Base Emitter On Voltage	$V_{BE}(\text{on})$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	580	660	700	mV
		$V_{CE}=5\text{V}, I_C=10\text{mA}$		720		mV
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$		300		MHz
Collector Base Capacitance	C_{CBO}	$V_{CB}=10\text{V}, f=1\text{MHz}$		3.5	6	pF
Emitter Base Capacitance	C_{EBO}	$V_{EB}=0.5\text{V}, f=1\text{MHz}$		9		pF
Noise Figure : BC846/847/848	NF	$V_{CE}=5\text{V}, I_C=200\mu\text{A}$		2	10	dB
: BC849/850		$f=1\text{KHz}, R_G=2\text{K}\Omega$		1.2	4	dB
: BC849		$V_{CE}=5\text{V}, I_C=200\mu\text{A}$		1.4	4	dB
: BC850		$R_G=2\text{K}\Omega$ $f=30\sim 15000\text{Hz}$		1.4	3	dB

h_{FE} CLASSIFICATION

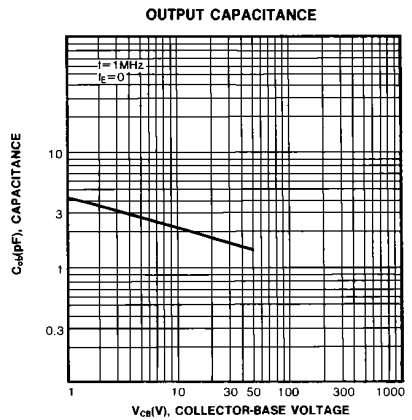
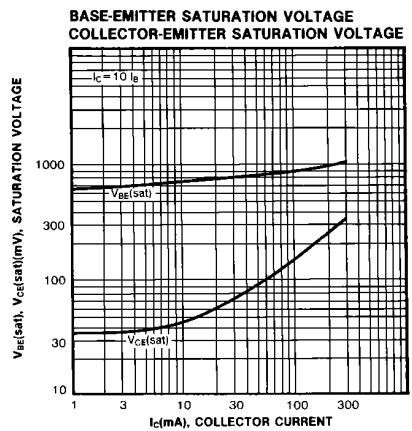
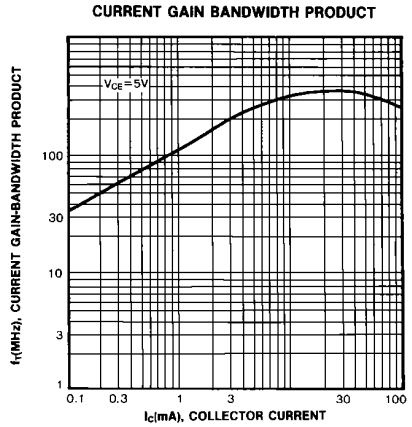
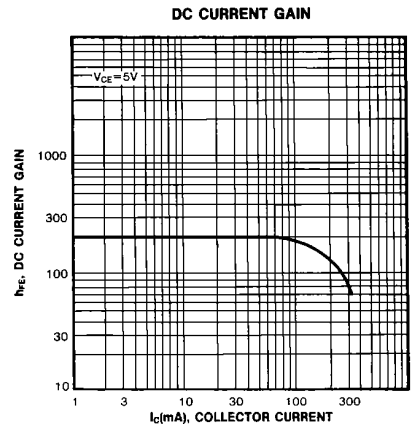
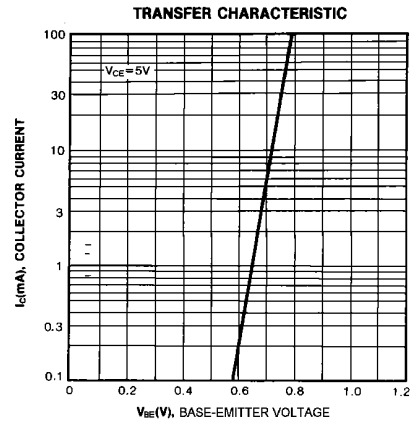
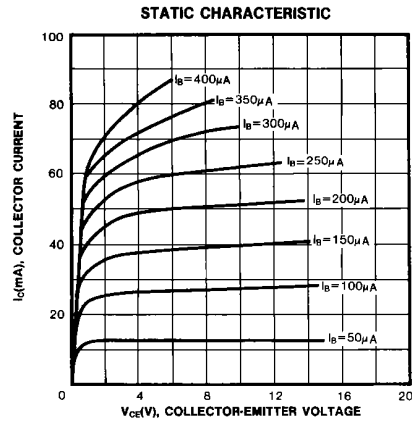
Classification	A	B	C
h_{FE}	110-220	200-450	420-800

MARKING CODE

TYPE	846A	846B	846C	847A	847B	847C	848A	848B	848C	849A	849B	849C	850A	850B	850C
MARK	8AA	8AB	8AC	8BA	8BB	8BC	8CA	8CB	8CC	8DA	8DB	8DC	8EA	8EB	8EC

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