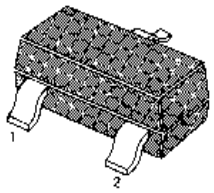
BC846/847/848/849/850

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

SOT-23



1. Base 2. Emitter 3. Collector

ABSOLUTE MAXIMUM RATINGS (T_A=25°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	°C
Storage Temperature	T_{STG}	-65 ~ 150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Characteristic	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	250	mV
		I_C=100mA, I_B=5mA		200	600	mV
Collector Base 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	580	660	700	mV
		V_{CE}=5V, I_C=10mA			720	mV
Current Gain Bandwidth Product	f_T	V_{CE}=5V, I_C=10mA f=100MHz		300		MHz
Collector Base Capacitance	C_{CBO}	V_{CB}=10V, f=1MHz		3.5	6	pF
Emitter Base Capacitance	C_{EBO}	V_{EB}=0.5V, f=1MHz		9		pF
Noise Figure : BC846/847/848	NF	V_{CE}=5V, I_C=200μA		2	10	dB
: BC849/850		f=1KHz, R_G=2KΩ		1.2	4	dB
: BC849	NF	V_{CE}=5V, I_C=200μA		1.4	4	dB
: BC850		R_G=2KΩ f=30~15000Hz		1.4	3	dB

h_{FE} CLASSIFICATION

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

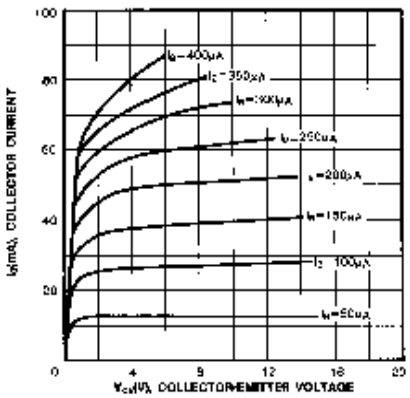
MARKING CODE

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

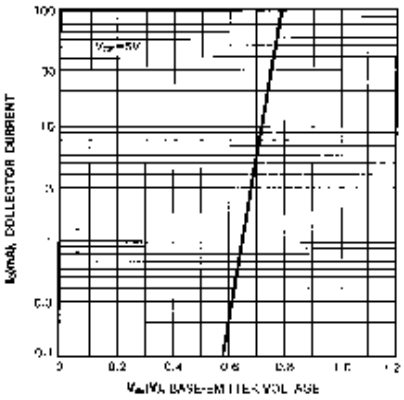
Rev. B

FAIRCHILD SEMICONDUCTOR

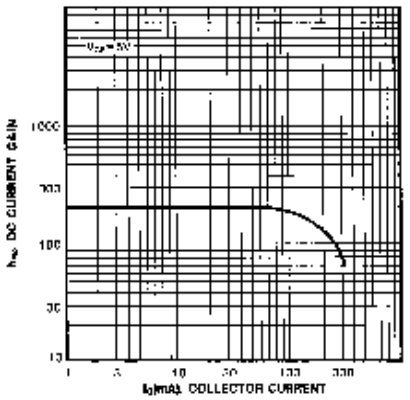
STATIC CHARACTERISTIC



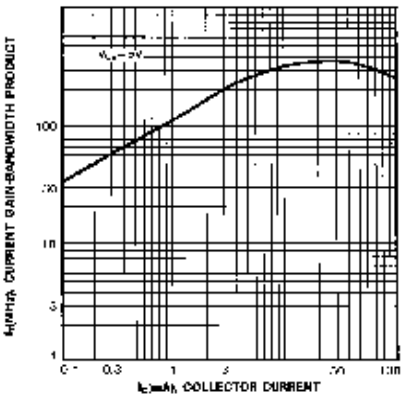
TRANSFER CHARACTERISTIC



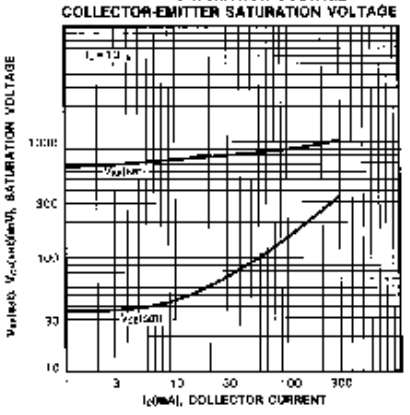
DC CURRENT GAIN



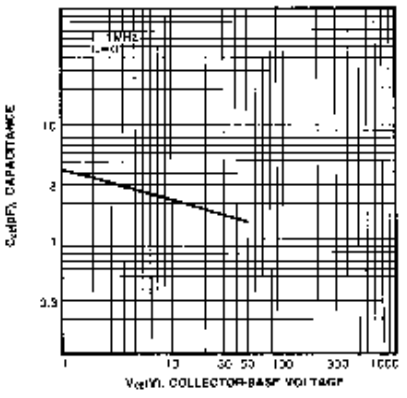
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE



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PRODUCT STATUS DEFINITIONS

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Datasheet Identification	Product Status	Definition
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