

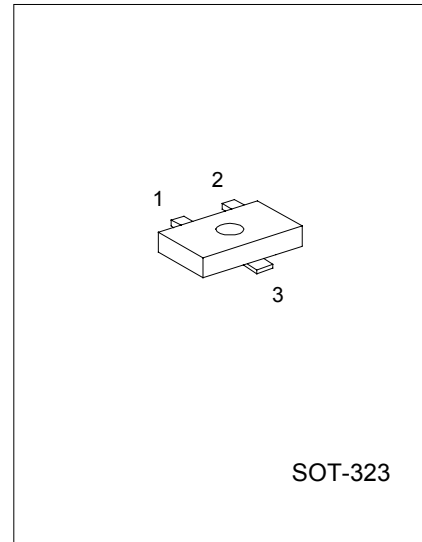
UTC BC846/BC847/BC848/BC849/BC850 NPN EPITAXIAL SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATION

FEATURES

*Suitable for automatic insertion in thick and thin-film circuits.

*Complement to BC856 ... BC860



1: EMITTER 2: BASE 3: COLLECTOR

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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	VCBO	80	V
BC846		50	
BC847 / BC850		30	
BC848 / BC849			
Collector-Emitter Voltage	VCEO	65	V
BC846		45	
BC847 / BC850		30	
BC848 / BC849			
Emitter-Base Voltage	VEBO	6	V
BC846 / BC847		5	
BC848 / BC849 / BC850			
Collector Current (DC)	Ic	100	mA
Collector Dissipation	Pc	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-65 ~ +150	°C

UTC BC846/BC847/BC848/BC849/BC850

NPN EPITAXIAL SILICON TRANSISTOR

ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	ICBO	V _{CB} =30V, I _E =0			15	nA
DC Current Gain	h _{FE}	V _{CE} =5.0V, I _C =2.0mA	110		800	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5.0mA		90 200	250 600	mV
Collector-Base Saturation Voltage	V _{BE(sat)}	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5.0mA		700 900		mV
Base-Emitter On Voltage	V _{BE(on)}	V _{CE} =5.0V, I _C =2.0mA V _{CE} =5.0V, I _C =10mA	580	660	700 720	mV
Current Gain Bandwidth Product	f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz		300		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz		3.5	6	pF
Input Capacitance	C _{ib}	V _{EB} =0.5V, I _C =0, f=1.0MHz		9		pF
Noise Figure: BC846/BC847/BC848 BC849/BC850 BC849 BC850	NF	V _{CE} =5V, I _C =200μA, f=1KHz, R _G =2KΩ V _{CE} =5V, I _C =200μA, R _G =2KΩ, f=30 ~ 15000Hz		2 1.2 1.4 1.4	10 4 4 3	dB

Classification of h_{FE}

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

Marking Code

P/N	RANK	MARK	RANK	MARK	RANK	MARK
BC846	A	8AA	B	8AB	C	8AC
BC847	A	8BA	B	8BB	C	8BC
BC848	A	8CA	B	8CB	C	8CC
BC849	A	8DA	B	8DB	C	8DC
BC850	A	8EA	B	8EB	C	8EC

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TYPICAL CHARACTERISTICS

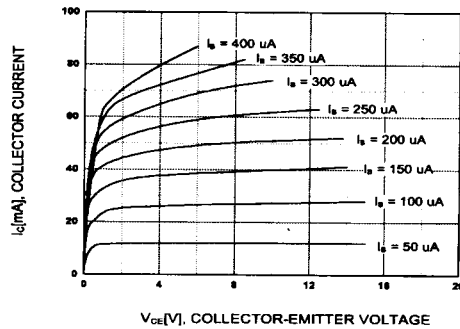


Figure 1. Static Characteristic

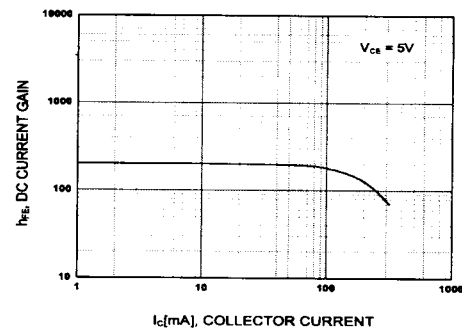


Figure 2. DC current Gain

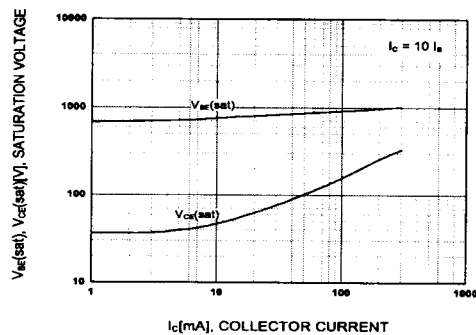


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

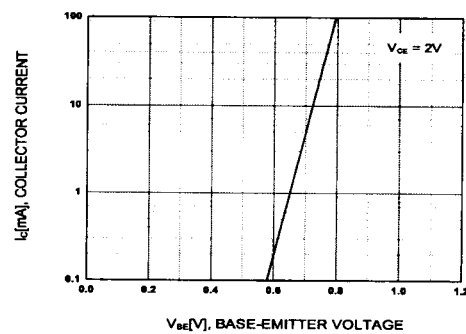


Figure 4. Base-Emitter On Voltage

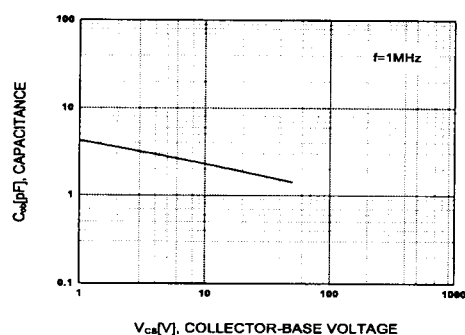


Figure 5. Collector Output Capacitance

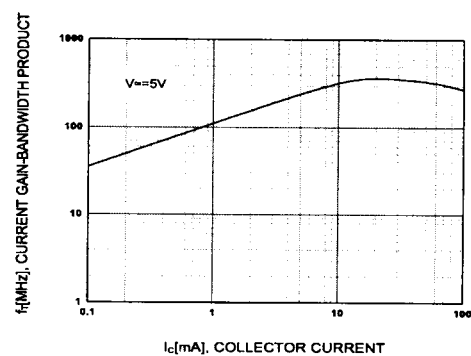


Figure 6. Current Gain Bandwidth Product

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