



BC847BS

NPN SILICON TRANSISTOR

NPN GENERAL PURPOSE AMPLIFIER

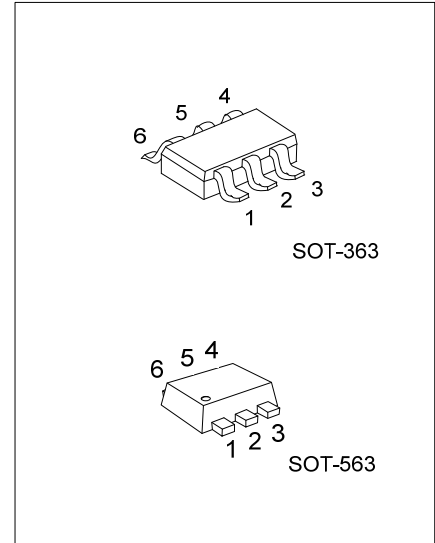
DESCRIPTION

The UTC **BC847BS** is a dual NPN transistors; it uses UTC's advanced technology to provide customers high DC current gain, low power dissipation and low collector-emitter saturation voltage.

The UTC **BC847BS** is suitable for a high gain, low noise and general purpose amplifier.

FEATURES

- * Low saturation voltage
- * High DC current gain
- * Current Gain Matching to 10%



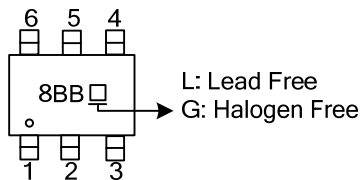
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BC847BSL-AL6-R	BC847BSG-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel
BC847BSL-AN6-R	BC847BSG-AN6-R	SOT-563	E1	B1	C2	E2	B2	C1	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

BC847BSG-AL6-R	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) AL6: SOT-363, AN6: SOT-563 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CES}	50	V
Collector-Emitter Voltage		V _{CEO}	45	V
Emitter-Base Voltage		V _{EBO}	6.0	V
Continuous Collector Current		I _C	100	mA
Power Dissipation	SOT-363	P _D	200	mW
	SOT-563		150	mW
Junction Temperature		T _J	-55 ~ +150	°C
Storage Temperature Range		T _{STG}	-55 ~ +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.

■ **THERMAL DATA**

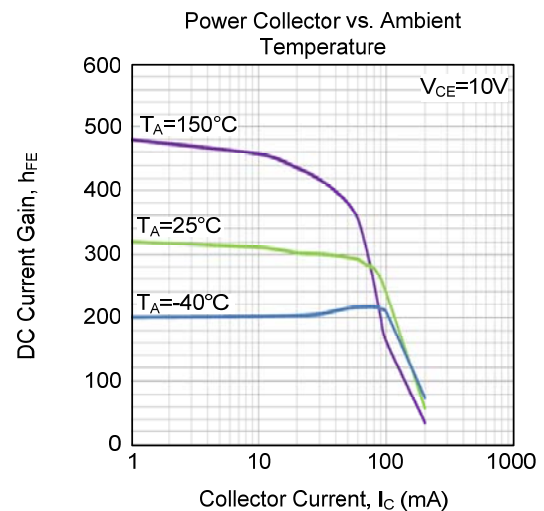
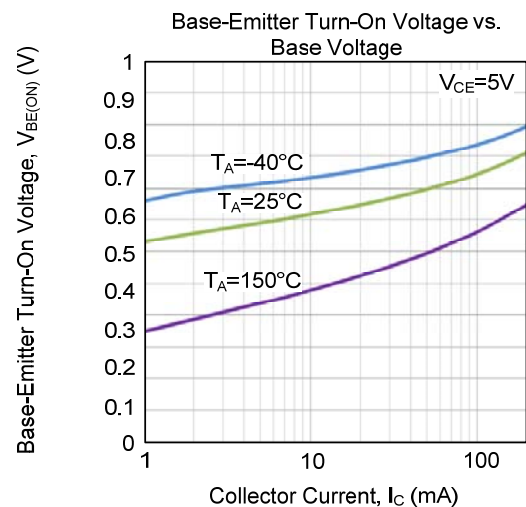
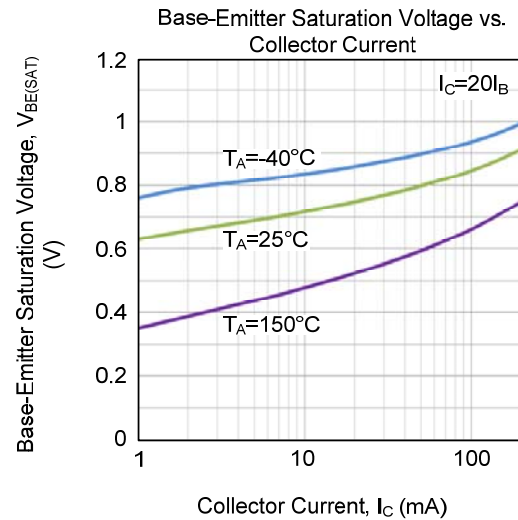
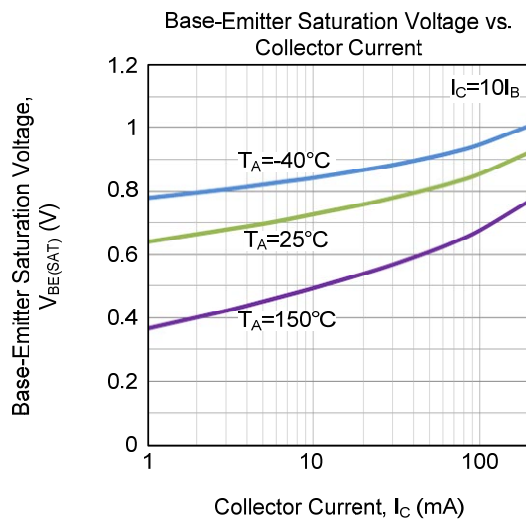
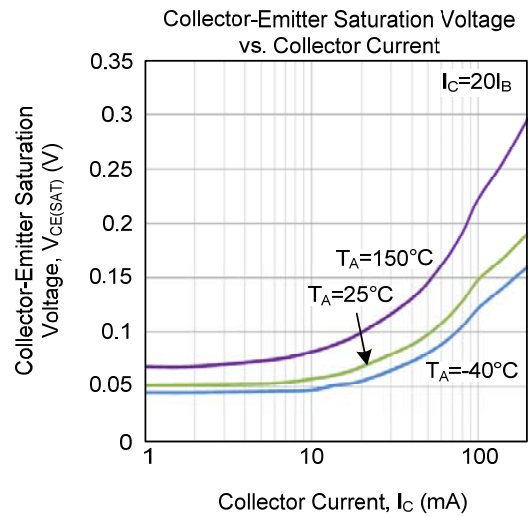
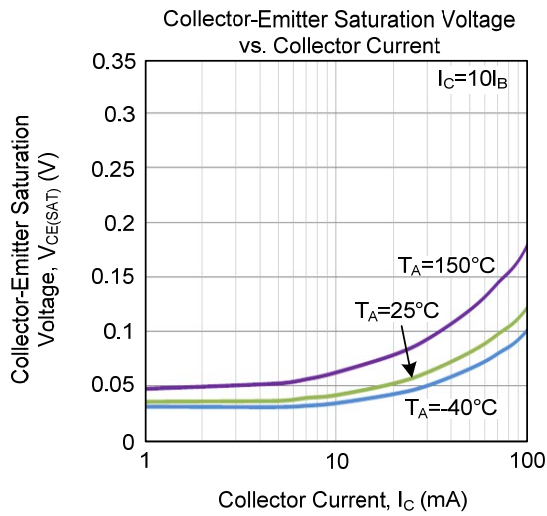
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-363	θ _{JA}	328 (Note)	°C/W
	SOT-563		833	°C/W

Note: FR-5 = 1.0 × 0.75 × 0.062 in.

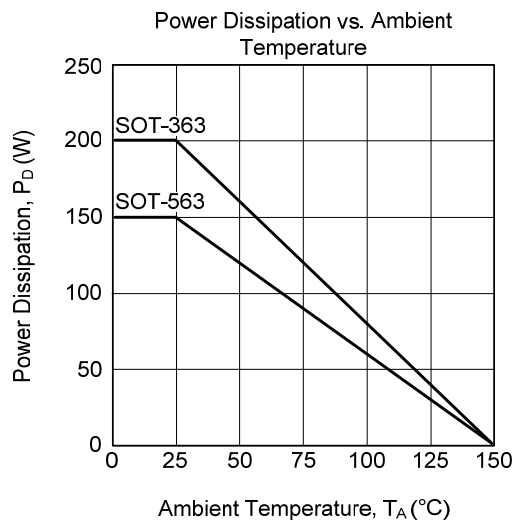
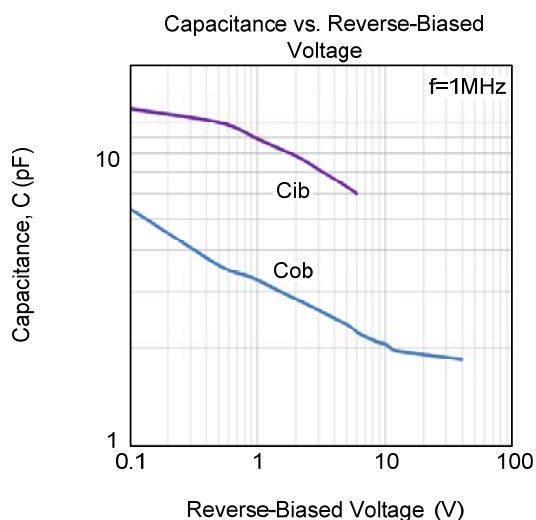
■ **ELECTRICAL CHARACTERISTICS** (T_A=25°C, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CES}	I _C =10μA, I _E =0	50			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =10mA, I _B =0	45			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =10μA, I _C =0	6.0			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =30V			15	nA
		V _{CB} =30V, T _A =150°C			5.0	μA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =10mA, I _B =0.5mA			0.25	V
		I _C =100mA, I _B =5.0mA			0.6	V
Base-Emitter Turn-On Voltage	V _{BE(ON)}	I _C =2.0mA, V _{CE} =5.0V	0.58		0.70	V
		I _C =10mA, V _{CE} =5.0V			0.77	V
DC Current Gain	h _{FE}	I _C =2.0mA, V _{CE} =5.0V	200		450	
Transition Frequency	f _T	I _C =10mA, V _{CE} =5.0V, f=100MHz	100			MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1.0MHz			4.5	pF
Noise Figure	NF	I _C =0.2mA, V _{CE} =5.0V, R _S =2.0kΩ, f=1.0kHz, BW=200Hz			10	dB
		I _C =0.1mA, V _{CE} =10V, R _S =1kΩ, f=1.0kHz, BW=200Hz		1.0		dB
		I _C =0.2mA, V _{CE} =5.0V, R _S =2kΩ, f=10Hz to 15.7kHz, T _A =25°C		2.8		dB

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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