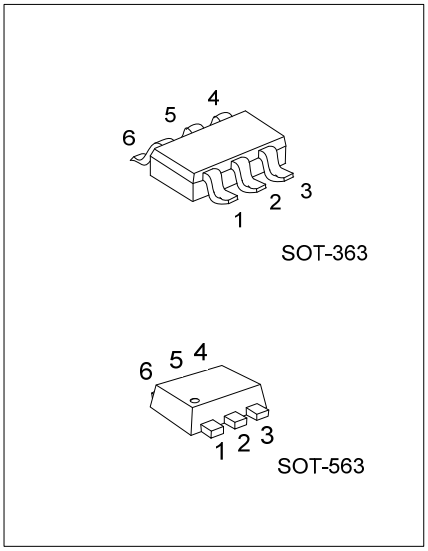
BC847BS

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

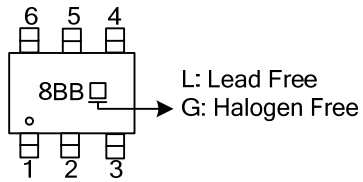
Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BC847BSL-AL6-R	BC847BSG-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel
BC847BSL-AN6-R	BC847BSG-AN6-R	SOT-563	E1	B1	C2	E2	B2	C1	Tape Reel

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

■ 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

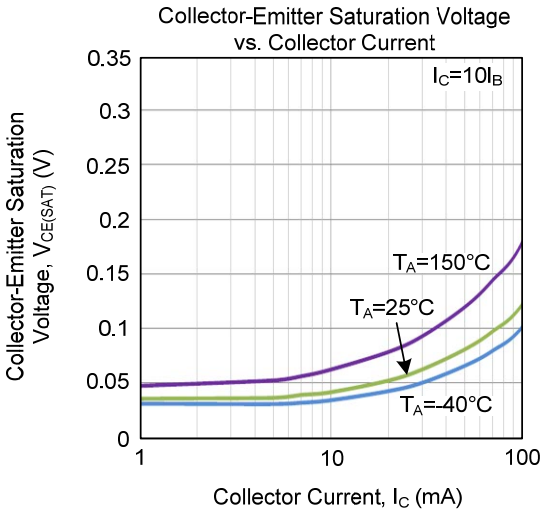
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-363	θ_{JA}	328 (Note)	°C/W
	SOT-563		833	°C/W

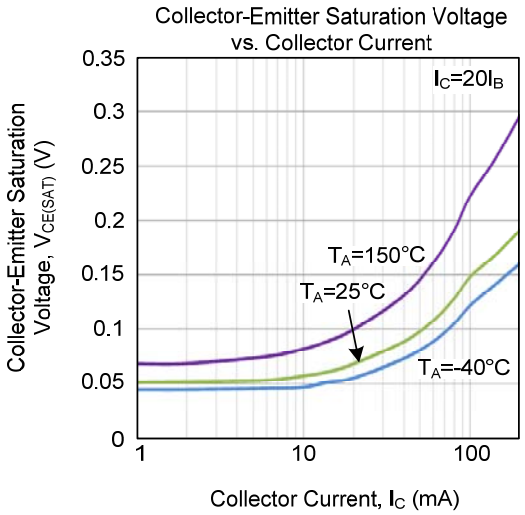
Note: FR-5 = 1.0 × 0.75 × 0.062 in.

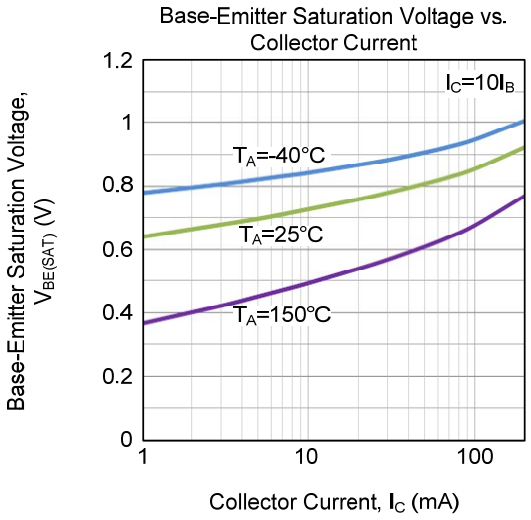
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise noted)

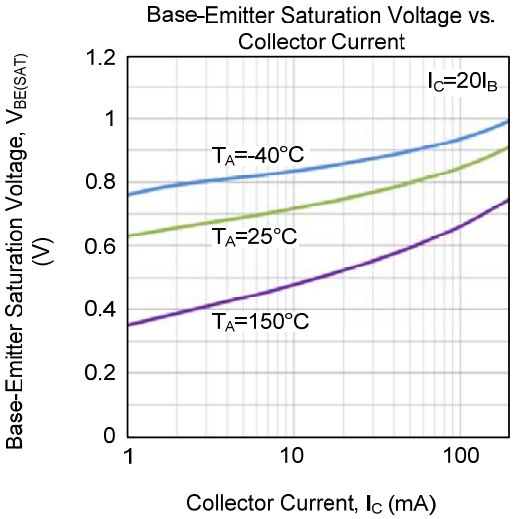
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CES}	I_C=10μA, I_E=0	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	6.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V			15	nA
		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

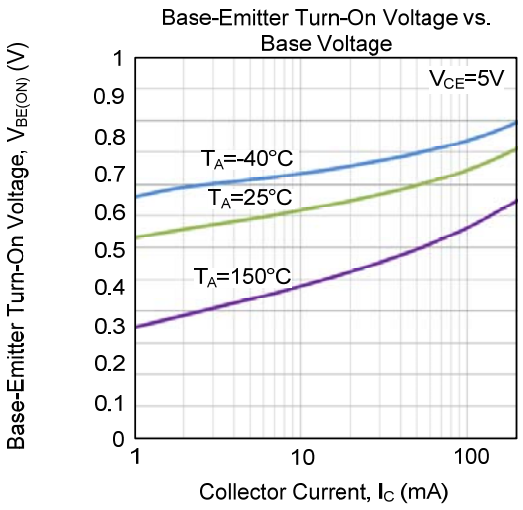
■ TYPICAL CHARACTERISTICS

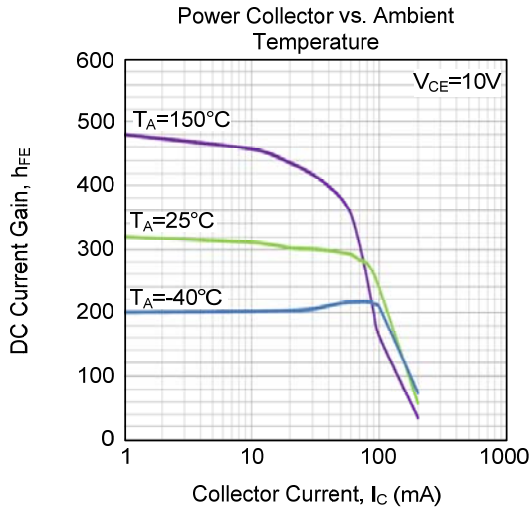












■ TYPICAL CHARACTERISTICS (Cont.)