



BC847BS

Preliminary

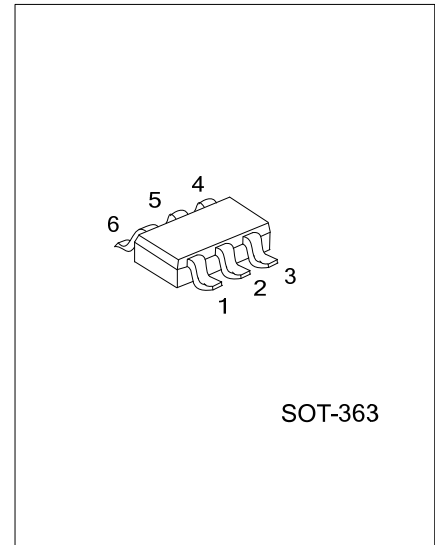
NPN EPITAXIAL SILICON TRANSISTOR

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

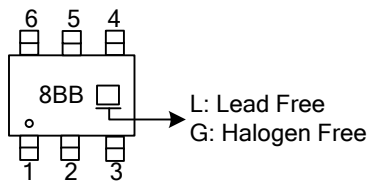
- * Low saturation voltage
- * High DC current gain

■ 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

<p>BC847BSL-AL6-R</p> <p>(1) Packing Type (2) Package Type (3) Halogen Free</p>	<p>(1) R: Tape Reel (2) AL6: SOT-363 (3) G: Halogen Free, L: Lead Free</p>
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■ MARKING



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NPN EPITAXIAL SILICON TRANSISTOR■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, 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	P_D	325	mW
Derate above 25°C		2.8	mW/ $^{\circ}\text{C}$
Junction Temperature	T_J	-55~+150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

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 ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	$^{\circ}\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CES}	$I_C=10\mu\text{A}$, $I_E=0$	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu\text{A}$, $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}$			15	nA
		$V_{CB}=30\text{V}$, $T_A=150^{\circ}\text{C}$			5.0	μA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$			0.25	V
		$I_C=100\text{mA}$, $I_B=5.0\text{mA}$			0.6	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$I_C=2.0\text{mA}$, $V_{CE}=5.0\text{V}$	0.58		0.70	V
		$I_C=10\text{mA}$, $V_{CE}=5.0\text{V}$			0.77	V
DC Current Gain	h_{FE}	$I_C=2.0\text{mA}$, $V_{CE}=5.0\text{V}$	200		450	
Transition Frequency	f_T	$I_C=10\text{mA}$, $V_{CE}=5.0\text{V}$, $f=100\text{MHz}$	100			MHz
Output Capacitance	C_{obo}	$V_{CB}=10\text{V}$, $f=1.0\text{MHz}$			4.5	pF
Noise Figure	NF	$I_C=0.2\text{mA}$, $V_{CE}=5.0\text{V}$, $R_S=2.0\text{k}\Omega$, $f=1.0\text{kHz}$, $BW=200\text{Hz}$			10	dB

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