



BC846BS

Preliminary

DUAL TRANSISTOR

DUAL NPN SURFACE MOUNT SMALL SIGNAL TRANSISTOR

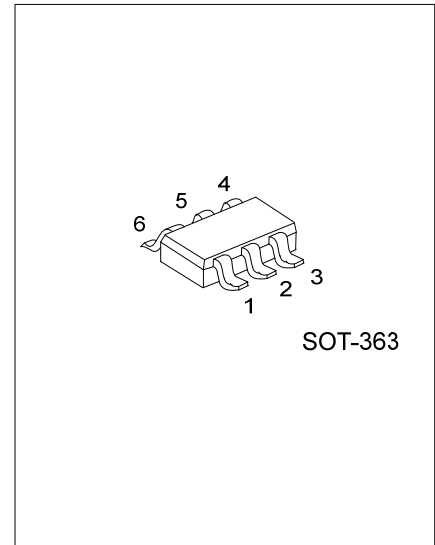
DESCRIPTION

The UTC **BC846BS** is a dual NPN surface mount small signal transistor, it uses UTC's advanced technology to provide customers with high DC current gain, etc.

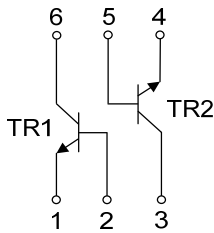
The UTC **BC846BS** is suitable for switching and AF amplifier applications.

FEATURES

- * Suitable for automatic insertion in thick and thin-film circuits
- * Switching and AF Amplifier Applications



EQUIVALENT CIRCUIT



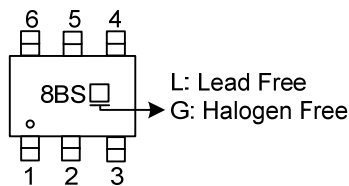
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BC846BSL-AL6-R	BC846BSG-AL6-R	SOT-363	E1	B1	C2	E2	B2	C1	Tape Reel

Note: Pin Assignment: E: Emitter B: Base C: Collector

<p>BC846BSG-AL6-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AL6: SOT-363 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CBO}	80	V
Collector-Emitter Voltage	V _{CEO}	65	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	100	mA
Peak Collector Current	I _{CM}	200	mA
Peak Emitter Current	I _{EM}	200	mA
Power Dissipation	P _D	200	mW
Operating Temperature Range	T _J	-40 ~ +150	°C
Storage Temperature	T _{STG}	-40 ~ +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	θ _{JA}	625	°C/W

Note: Device mounted on FR-4 PCB minimum land pad.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C =10μA, I _B =0	80			V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	65			V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			V
Collector-Base Cut-off Current	I _{CBO}	V _{CB} =50V; I _E =0			50	nA
Emitter-Base Cut-off Current	I _{EBO}	V _{EB} =6V; I _C =0			100	nA
ON CHARACTERISTICS						
DC Current Gain	h _{FE}	V _{CE} =5.0V, I _C =2.0mA	200		450	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =10mA, I _B =0.5mA		50	100	mV
		I _C =100mA, I _B =5.0mA		125	300	mV
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =10mA, I _B =0.5mA		720	850	mV
		I _C =100mA, I _B =5.0mA		840		mV
Base-Emitter Voltage	V _{BE(ON)}	V _{CE} =5.0V, I _C =2.0mA	580	640	700	mV
		V _{CE} =5.0V, I _C =10mA			770	mV
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C _{OB}	V _{CB} =10V, I _E =0, f=1.0MHz		3.5		pF
Input Capacitance	C _{IB}	V _{EB} =0.5V, I _C =0, f=1.0MHz		9		pF
Gain Bandwidth Product	f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	100			MHz
Noise Figure	NF	V _{CE} =5.0V, I _C =0.2mA, R _S =2kΩ, f=10MHz to 15.7KHz		1.9		dB
		V _{CE} =5.0V, I _C =0.2mA, R _S =2kΩ, f=1kHz, B=200Hz		3.1		dB

Note: Short duration pulse test used to minimize self-heating effect.

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