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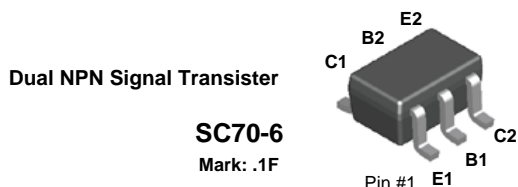
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## BC847BS

### NPN Multi-chip General Purpose Amplifier

This device is designed for general purpose amplifier applications at collector currents to 200 mA.  
 Sourced from Process 07.



**NOTE:** The pinouts are symmetrical; pin 1 and pin 4 are interchangeable. Units inside the carrier can be of either orientation and will not affect the functionality of the device.

### Absolute Maximum Ratings \* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>CES</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	6.0	V
I <sub>C</sub>	Collector Current (DC)	100	mA
T <sub>J</sub> , T <sub>STG</sub>	Junction Temperature and Storage Temperature	-55 ~ +150	°C

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics \* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
P <sub>D</sub>	Total Device Dissipation	210	mW
	Derate above 25°C	1.6	mW/°C
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	625	°C/W

\*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06".

**Electrical Characteristics** \*  $T_a = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Condition	MIN	MAX	Units
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**Off Characteristics**

$V_{(BR)CBO}$	Collector-Emitter Breakdown Voltage	$I_C = 10 \mu\text{A}, I_E = 0$	50		V
$V_{(BR)CES}$	Collector-Base Breakdown Voltage	$I_C = 10 \mu\text{A}, I_E = 0$	50		V
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	$I_C = 10 \text{mA}, I_B = 0$	45		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10 \mu\text{A}, I_C = 0$	6.0		V
$I_{CBO}$	Collector-Cutoff Current	$V_{CB} = 30 \text{V}, I_E = 0$ $V_{CB} = 30 \text{V}, I_E = 0, T_A = 150^\circ\text{C}$		15 5.0	nA $\mu\text{A}$

**On Characteristics**

$h_{FE}$	DC Current Gain	$I_C = 2.0 \text{mA}, V_{CE} = 5.0 \text{V}$	200	450	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage *	$I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$ $I_C = 100 \text{mA}, I_B = 5.0 \text{mA}$		0.25 0.65	V V
$V_{BE(on)}$	Emitter-Base Breakdown Voltage *	$I_C = 2.0 \text{mA}, V_{CE} = 5.0 \text{V}$ $I_C = 10 \text{mA}, V_{CE} = 5.0 \text{V}$	0.58	0.7 0.77	V V

\* Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

**NOTE:** All voltages (V) and currents (A) are negative polarity for PNP transistors.



BC847BS

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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