

BC846 SERIES
BC847 SERIES
BC848 SERIES

SURFACE MOUNT
NPN SILICON TRANSISTOR



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BC846, BC847 and BC848 Series types are NPN Silicon Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose switching and amplifier applications.

MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE

Note: Reverse Lead Codes Available, Add "R" to the end of the Part # and Marking Code.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Peak Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	BC848	BC847	BC846	UNITS
V_{CBO}	30	50	80	V
V_{CEO}	30	45	65	V
V_{EBO}		5.0		V
I_C		100		mA
I_{CM}		200		mA
I_{BM}		200		mA
P_D		350		mW
T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
θ_{JA}		357		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		15	nA
I_{CBO}	$V_{CB}=30\text{V}, T_A=150^\circ\text{C}$		5.0	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		100	nA
BV_{CBO}	$I_C=10\mu\text{A}$ (BC848)	30		V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC847)	50		V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC846)	80		V
BV_{CEO}	$I_C=10\text{mA}$ (BC848)	30		V
BV_{CEO}	$I_C=10\text{mA}$ (BC847)	45		V
BV_{CEO}	$I_C=10\text{mA}$ (BC846)	65		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.25	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.60	V
$V_{BE(ON)}$	$I_C=2.0\text{mA}, V_{CE}=5.0\text{V}$	0.58	0.70	V
$V_{BE(ON)}$	$I_C=10\text{mA}, V_{CE}=5.0\text{V}$		0.77	V
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		MHz
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=2.0\text{K}\Omega, f=1.0\text{KHz}, \text{BW}=200\text{Hz}$		10	dB

	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	<u>BC846A</u>		<u>BC846B</u>		<u>BC847C</u>	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}		110	220	200	450	420	800

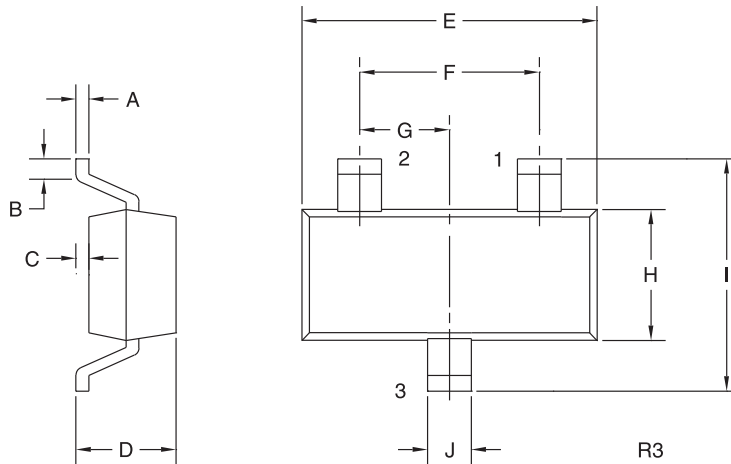
R1 (20-November 2009)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

STANDARD	*REVERSE
1) BASE	1) EMITTER
2) EMITTER	2) BASE
3) COLLECTOR	3) COLLECTOR

DEVICE	MARKING CODE
BC846A	1A
BC846B	1B
BC847A	1E
BC847B	1F
BC847C	1G
BC848A	1J
BC848B	1K
BC848C	1L

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

* Reverse Lead Codes Available, Add "R" to the end of the Part # and Marking Code.

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