

**BC817 SERIES  
BC818 SERIES**

**SURFACE MOUNT SILICON  
NPN TRANSISTORS**



**SOT-23 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BC817 and BC818 series devices are silicon NPN transistors, epoxy molded in a surface mount package, designed for general purpose switching and amplifier applications.

**MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE**

**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	BC817	BC818	UNITS
$V_{CBO}$	50	30	V
$V_{CEO}$	45	25	V
$V_{EBO}$		5.0	V
$I_C$	500		mA
$I_{CM}$	1.0		A
$I_{BM}$	200		mA
$P_D$	350		mW
$T_J, T_{stg}$	-65 to +150		$^\circ\text{C}$
$\theta_{JA}$	357		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=20\text{V}$			100	nA
$I_{CBO}$	$V_{CB}=20\text{V}, T_J=150^\circ\text{C}$			5.0	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$			100	nA
$BV_{CES}$	$I_C=10\mu\text{A}$ (BC817)	50			V
$BV_{CES}$	$I_C=10\mu\text{A}$ (BC818)	30			V
$BV_{CEO}$	$I_C=10\text{mA}$ (BC817)	45			V
$BV_{CEO}$	$I_C=10\text{mA}$ (BC818)	25			V
$BV_{EBO}$	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$			1.2	V
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100			MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		10		pF

	TEST CONDITIONS	BC817		BC817-16		BC817-25		BC817-40	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100	600	100	250	160	400	250	600
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	40	-	40	-	40	-	40	-

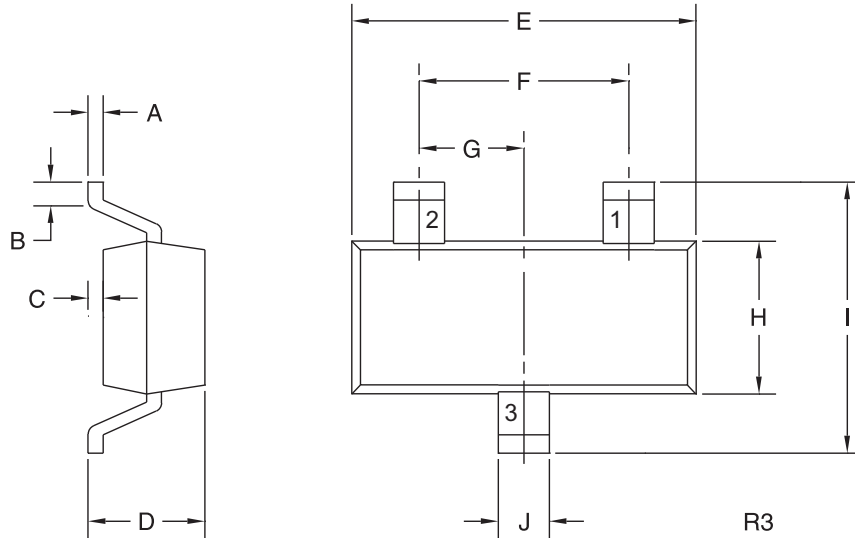
R1 (11-November 2013)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Emitter
- 3) Collector

DEVICE	MARKING CODE
BC817	6A or 6B or 6C or 6D
BC817-16	6A
BC817-25	6B
BC817-40	6C
BC818	6E or 6F or 6G or 6H
BC818-16	6E
BC818-25	6F
BC818-40	6G

SYMBOL	DIMENSIONS		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)

R1 (11-November 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

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[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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