

**BCW65 SERIES  
BCW66 SERIES**

**SURFACE MOUNT  
NPN SILICON TRANSISTOR**



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



**SOT-23 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BCW65 and BCW66 series devices 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**

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

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

SYMBOL	<u>BCW65</u>	<u>BCW66</u>	UNITS
$V_{CB0}$	60	75	V
$V_{CE0}$	32	45	V
$V_{EBO}$	5.0		V
$I_C$	800		mA
$I_{CM}$	1.0		A
$I_B$	100		mA
$I_{BM}$	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
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CE0}$			20	nA
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CE0}, T_A=150^\circ\text{C}$			20	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=4.0\text{V}$			20	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$ (BCW65)	60			V
$BV_{CBO}$	$I_C=10\mu\text{A}$ (BCW66)	75			V
$BV_{CE0}$	$I_C=10\text{mA}$ (BCW65)	32			V
$BV_{CE0}$	$I_C=10\text{mA}$ (BCW66)	45			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.3	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1.25	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			2.0	V
$f_T$	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$		170		MHz
$C_c$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		8.0		pF
$C_e$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		50		pF

		<u>BCW65A</u>		<u>BCW65B</u>		<u>BCW65C</u>	
		MIN	MAX	MIN	MAX	MIN	MAX
$h_{FE}$	$V_{CE}=10\text{V}, I_C=100\mu\text{A}$	35		50		80	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	75		110		180	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100	250	160	400	250	630
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	35		60		100	

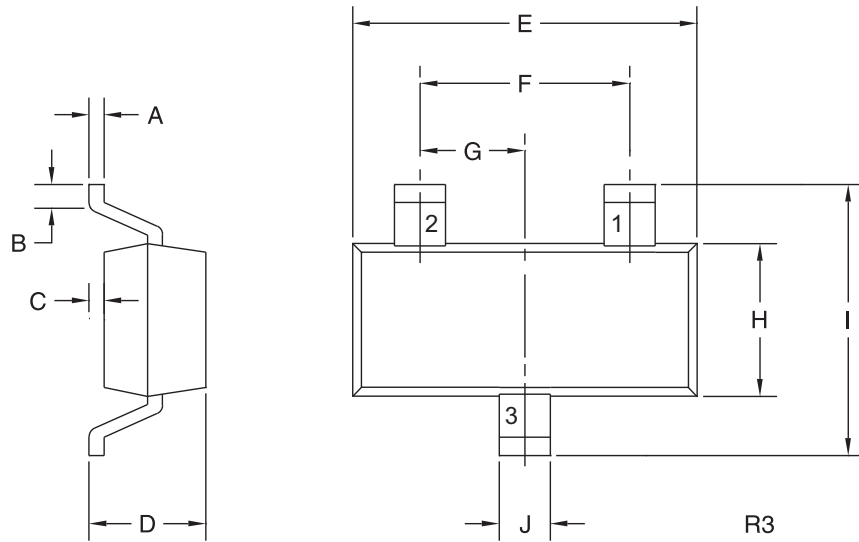
R3 (25-January 2016)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

DEVICE	MARKING CODE
BCW65A	EA
BCW65B	EB
BCW65C	EC
BCW66F	EF
BCW66G	EG
BCW66H	EH

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)

R3 (25-January 2016)

## 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

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