

**BCW65 SERIES
BCW66 SERIES**

**SURFACE MOUNT
NPN SILICON TRANSISTOR**



www.centrasemi.com



SOT-23 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BCW65 and BCW66 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

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		$^\circ\text{C}$
θ_{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_{CB0}	$V_{CB}=\text{Rated } V_{CE0}$			20	nA
I_{CBO}	$V_{CB}=\text{Rated } V_{CE0}, T_A=150^\circ\text{C}$			20	μA
I_{EBO}	$V_{EB}=4.0\text{V}$			20	nA
BV_{CB0}	$I_C=10\mu\text{A}$ (BCW65)	60			V
BV_{CB0}	$I_C=10\mu\text{A}$ (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	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0		pF
C_e	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		60		pF

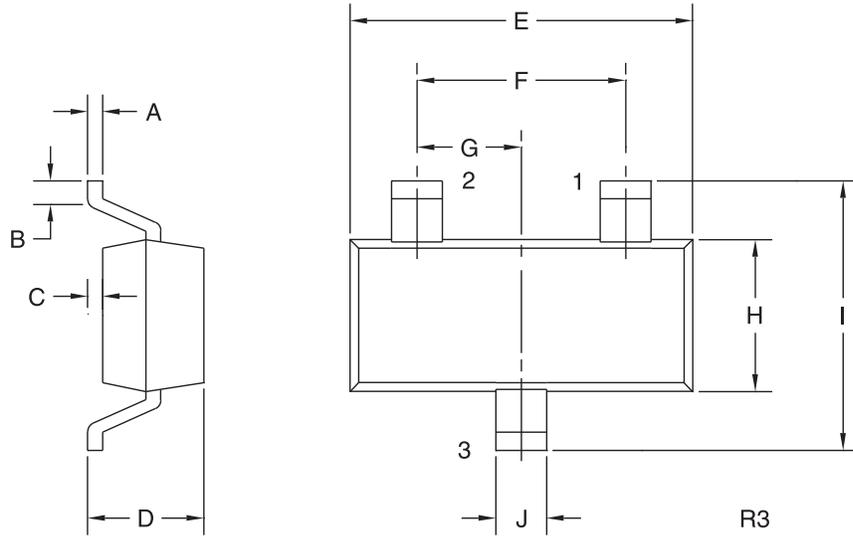
	TEST CONDITIONS	<u>BCW65A</u>		<u>BCW65B</u>		<u>BCW65C</u>	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=10\text{V}, I_C=100\mu\text{A}$	35		50		80	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	75		110		180	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100	250	160	400	250	630
h_{FE}	$V_{CE}=2.0\text{V},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

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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)

R2 (20-November 2009)