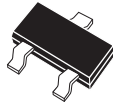


**BCW65 SERIES  
BCW66 SERIES**

**SURFACE MOUNT  
NPN SILICON TRANSISTOR**



**SOT-23 CASE**

# Central<sup>TM</sup>

**Semiconductor Corp.**

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

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

	SYMBOL	BCW65	BCW66	UNITS
Collector-Base Voltage	$V_{CB0}$	60	75	V
Collector-Emitter Voltage	$V_{CEO}$	32	45	V
Emitter-Base Voltage	$V_{EBO}$		5.0	V
Collector Current	$I_C$		800	mA
Peak Collector Current	$I_{CM}$		1.0	A
Base Current	$I_B$		100	mA
Peak Base Current	$I_{BM}$		200	mA
Power Dissipation	$P_D$		350	mW
Operating and Storage				
Junction Temperature	$T_J, T_{stg}$	-65 to +150		$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	357		$^\circ\text{C/W}$

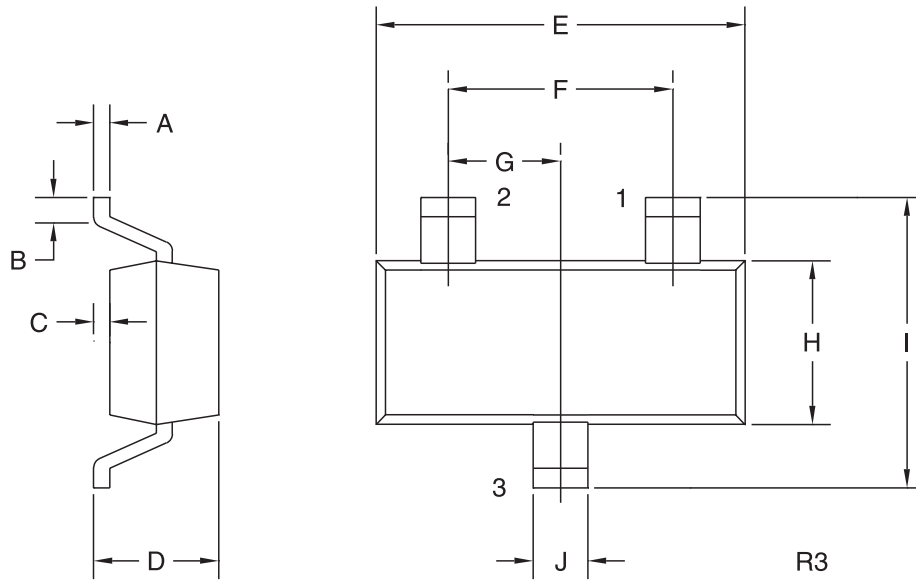
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CEO}$			20	nA
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CEO}, T_A=150^\circ\text{C}$			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
$BV_{CEO}$	$I_C=10\text{mA}$ (BCW65)	32			V
$BV_{CEO}$	$I_C=10\text{mA}$ (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

		<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	

R1 (20-February 2003)

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	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)