

BCW31

**SURFACE MOUNT
NPN SILICON TRANSISTOR**



SOT-23 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BCW31, manufactured in the popular SOT-23 Surface Mount package, is an NPN General Purpose Switching and Amplification Transistor, suitable for applications requiring collector currents up to 100mA.

MARKING CODE: D1

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	100	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	Θ_{JA}	357	$^{\circ}\text{C/W}$

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

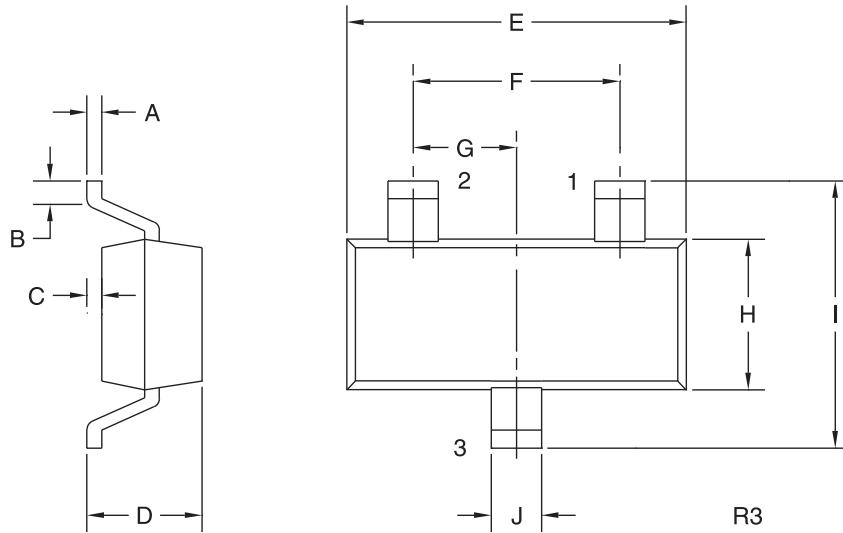
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
BV_{CBO}	$I_C=10\mu\text{A}$	30		V
BV_{CEO}	$I_C=2.0\text{mA}$	20		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.25	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	0.55	0.70	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	110	220	
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		4.0	pF
NF	$I_C=0.2\text{mA}, V_{CE}=5.0\text{V}, R_S=2.0\text{k}\Omega, f=1.0\text{MHz}, BW=200\text{Hz}$		10	dB

R3 (20-November 2009)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

MARKING CODE: D1

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 (20-November 2009)



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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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