

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

BSW67  
BSW68

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR BSW67, BSW68 types are Silicon NPN Epitaxial Planar Transistors designed for high voltage inductive load switching applications.

## MAXIMUM RATINGS (T<sub>C</sub>=25°C)

	SYMBOL	BSW67	BSW68	UNITS
Collector-Base Voltage	V <sub>CBO</sub>	120	150	V
Collector-Emitter Voltage	V <sub>CEO</sub>	120	150	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0		V
Collector Current	I <sub>C</sub>	1.0		A
Collector Current (Peak)	I <sub>CM</sub>	2.0		A
Power Dissipation (T <sub>A</sub> =25°C)	P <sub>D</sub>	800		mW
Power Dissipation	P <sub>D</sub>	5.0		W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200		°C
Thermal Resistance	θ <sub>JA</sub>	220		°C/W
Thermal Resistance	θ <sub>JC</sub>	35		°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	BSW67		BSW68		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CBO</sub>	V <sub>CB</sub> =Rated V <sub>CBO</sub>		100	100		μA
I <sub>CBO</sub>	V <sub>CB</sub> = ½ Rated V <sub>CBO</sub>		100	100		nA
I <sub>CBO</sub>	V <sub>CB</sub> = ½ Rated V <sub>CBO</sub> , T <sub>C</sub> =150°C		50	50		μA
I <sub>EBO</sub>	V <sub>EB</sub> =3.0V		100	100		nA
I <sub>EBO</sub>	V <sub>EB</sub> =6.0V		100	100		μA
BV <sub>CEO</sub>	I <sub>C</sub> =10mA	120		150		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		150	150		mV
V <sub>CE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		400	400		mV
V <sub>CE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =150mA		1.0	1.0		V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		0.9	0.9		V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.1	1.1		V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =150mA		1.2	1.2		V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	30		30		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA	40		40		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500mA	30		30		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0A	15		15		

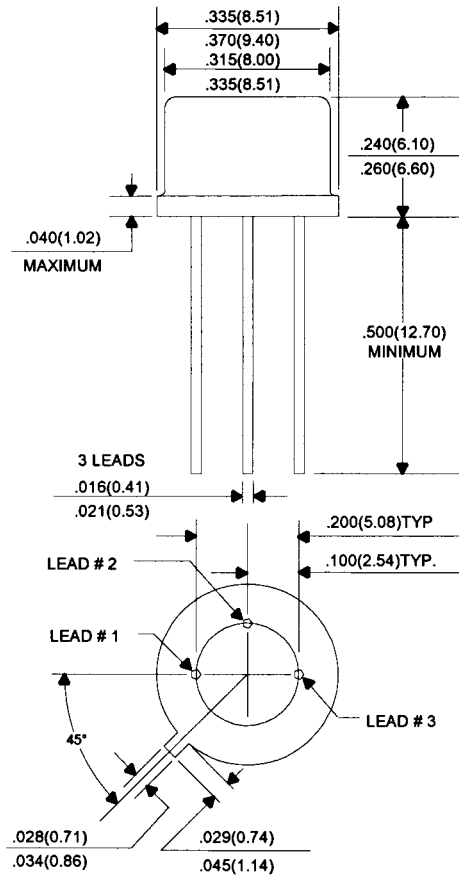
(Continued on Reverse Side)

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	BSW67		BSW68		UNIT <sup>s</sup>
		MIN	MAX	MIN	MAX	
$f_T$	$V_{CE}=20V, I_C=100mA, f=100MHz$		130 TYP		130 TYP	MHz
$C_{ob}$	$V_{CB}=10V, I_E=0, f=1.0MHz$		20		20	pF
$C_{ib}$	$V_{EB}=0V, I_C=0, f=1.0MHz$		300		300	pF
$t_{on}$	$V_{CC}=20V, I_C=500mA, I_{B1}=I_{B2}=50mA$		500 TYP		500 TYP	ns
$t_{off}$	$V_{CC}=20V, I_C=500mA, I_{B1}=I_{B2}=50mA$		900 TYP		900 TYP	ns

JEDEC TO-39 CASE - MECHANICAL OUTLINE

All Dimensions in Inches (mm).



Lead Code:

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

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