

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

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Manufacturers of World Class Discrete Semiconductors

BSS44  
BSS46

PNP SILICON TRANSISTOR

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR BSS44, BSS46, types are Silicon PNP Transistors designed for switching and general amplifier applications where a high collector current (5.0 AMPS) is required.

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

	SYMBOL	BSS44	BSS46	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	65	85	V
Collector-Emitter Voltage	V <sub>CEO</sub>	60	80	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	6.0	V
Collector Current	I <sub>C</sub>	5.0	5.0	A
Power Dissipation	P <sub>D</sub>	1.0	1.0	W
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	5.0	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>	200		°C/W
Thermal Resistance	θ <sub>JC</sub>	35		°C/W

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

SYMBOL	TEST CONDITIONS	BSS44		BSS46		UNIT
		MIN	MAX	MIN	MAX	
I <sub>CBO</sub>	V <sub>CB</sub> =60V		500		500	nA
I <sub>CBO</sub>	V <sub>CB</sub> =60V, T <sub>A</sub> =100°C		200		200	µA
I <sub>CES</sub>	V <sub>CE</sub> =60V		500		500	nA
I <sub>CES</sub>	V <sub>CE</sub> =60V, T <sub>A</sub> =100°C		200		200	µA
I <sub>EBO</sub>	V <sub>EB</sub> =5.0V		100		100	nA
BV <sub>CB0</sub>	I <sub>C</sub> =5.0mA	65		85		V
BV <sub>CEO</sub>	I <sub>C</sub> =100mA	60		85		V
BV <sub>EBO</sub>	I <sub>E</sub> =1.0mA	6.0		6.0		V
V <sub>CE</sub> (SAT)	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	100 TYP		-		mV
V <sub>CE</sub> (SAT)	I <sub>C</sub> =5.0A, I <sub>B</sub> =0.5A		1.0		1.4	V
V <sub>BE</sub> (SAT)	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	750 TYP		-		mV
V <sub>BE</sub> (SAT)	I <sub>C</sub> =5.0A, I <sub>B</sub> =0.5A		1.6		1.6	V
h <sub>FE</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =500mA	30		25		
h <sub>FE</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =2.0A	40		30		
h <sub>FE</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =5.0A	50 TYP		-		
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500mA	70		70		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz		100		100	pF
C <sub>ib</sub>	V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=1.0MHz	700 TYP		700 TYP		pF
t <sub>on</sub>	V <sub>CC</sub> =20V, I <sub>C</sub> =0.5A, I <sub>B1</sub> =I <sub>B2</sub> =50mA	65 TYP		-		ns
t <sub>off</sub>	V <sub>CC</sub> =20V, I <sub>C</sub> =0.5A, I <sub>B1</sub> =I <sub>B2</sub> =50mA	450 TYP		-		ns
t <sub>on</sub>	V <sub>CC</sub> =20V, I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =50mA	-		0.3		µs
t <sub>off</sub>	V <sub>CC</sub> =20V, I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =50mA	-		1.0		µs

## 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

#### Corporate Headquarters & Customer Support Team

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