

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

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Manufacturers of World Class Discrete Semiconductors

TIP32  
TIP32A  
TIP32B  
TIP32C

SILICON PNP POWER TRANSISTOR  
3 AMPS, 40 WATTS

JEDEC TO-220 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR TIP32 Series is a PNP Epitaxial-Base Silicon Power Transistor designed for power amplifier and high-speed switching applications.

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

	SYMBOL	TIP32	TIP32A	TIP32B	TIP32C	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	40	60	80	100	V
Emitter-Base Voltage	V <sub>EB0</sub>	5.0	5.0	5.0	5.0	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	60	80	100	V
Collector Current, Continuous	I <sub>C</sub>	3.0	3.0	3.0	3.0	A
Collector Current, Peak	I	5.0	5.0	5.0	5.0	A
Base Current	I <sub>B</sub>	1.0	1.0	1.0	1.0	A
Power Dissipation	P <sub>D</sub>	40	40	40	40	W
Power Dissipation (T <sub>A</sub> =25°C)	P <sub>D</sub>	2.0	2.0	2.0	2.0	W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 TO +150		-65 TO +150		°C

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I <sub>CEO</sub>	V <sub>CE</sub> =30V (TIP32, TIP32A)		0.3	mA
I <sub>CEO</sub>	V <sub>CE</sub> =60V (TIP32B, TIP32C)		0.3	mA
I <sub>CES</sub>	V <sub>CE</sub> =Rated V <sub>CEO</sub>		0.2	mA
I <sub>EB0</sub>	V <sub>EB</sub> =5.0V		1.0	mA
BV <sub>CEO</sub>	I <sub>C</sub> =30mA, (TIP32)	40		V
BV <sub>CEO</sub>	I <sub>C</sub> =30mA, (TIP32A)	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =30mA, (TIP32B)	80		V
BV <sub>CEO</sub>	I <sub>C</sub> =30mA, (TIP32C)	100		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =3.0A, I <sub>B</sub> =375mA		1.2	V
V <sub>BE(on)</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =3.0A		1.8	V
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =1.0A	25		-
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =3.0A	10	50	-
h <sub>fe</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.5A, f=1 kHz	20		-
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.5A, f=1 MHz	3		MHz
t <sub>on</sub>	I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =100mA, R <sub>L</sub> =30 OHMS	0.3 TYP		µSEC
t <sub>off</sub>	I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =100mA, R <sub>L</sub> =30 OHMS	1.0 TYP		µSEC