

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

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Manufacturers of World Class Discrete Semiconductors

MPQ3904

NPN SILICON QUAD TRANSISTOR

JEDEC TO-116 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPQ3904 type is comprised of four independent silicon transistors mounted in a 14 PIN DIP, designed for general purpose amplifier and switching applications.

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

	SYMBOL		UNIT
Collector Base Voltage	V <sub>CB0</sub>	60	V
Collector Emitter Voltage	V <sub>CE0</sub>	40	V
Emitter Base Voltage	V <sub>EB0</sub>	6.0	V
Collector Current	I <sub>C</sub>	200	mA
Power Dissipation	P <sub>D</sub> (each transistor)	500	mW
Power Dissipation	P <sub>D</sub> (total package)	2000	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>STG</sub>	-65 TO +150	°C

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I <sub>CB0</sub>	V <sub>CB</sub> =40V		50	nA
I <sub>EB0</sub>	V <sub>BE</sub> =40V		50	nA
BV <sub>CB0</sub>	I <sub>C</sub> =10μA	60		V
BV <sub>CE0</sub>	I <sub>C</sub> =1.0mA	40		V
BV <sub>EB0</sub>	I <sub>E</sub> =10μA	6.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.2	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.85	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =0.1mA	30		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =1.0mA	50		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =10mA	75		
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz	250		MHz
C <sub>ob</sub>	V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=140kHz		4.0	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=140kHz		8.0	pF
t <sub>on</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =10mA, I <sub>B1</sub> =1.0mA	37 TYP.		ns
t <sub>off</sub>	I <sub>C</sub> =10mA, I <sub>B1</sub> =I <sub>B2</sub> =1.0mA	136 TYP.		ns

CONNECTION DIAGRAM

