

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

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Manufacturers of World Class Discrete Semiconductors

CEN-U10

NPN SILICON POWER TRANSISTOR

JEDEC TO-202 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CEN-U10 type is a NPN Silicon Power Transistor designed for high voltage amplifier applications. This device is an electrical equivalent to Motorola's MPSU10.

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

	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CBO</sub>	300	V
Collector-Emitter Voltage	V <sub>CEO</sub>	300	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	V
Collector Current	I <sub>C</sub>	0.5	A
Power Dissipation	P <sub>D</sub>	1.75	W
Power Dissipation (T <sub>C</sub> = 25°C)	P <sub>D</sub>	10	W
Operating and Storage			
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	θ <sub>JA</sub>	70	°C/W
Thermal Resistance	θ <sub>JC</sub>	12.5	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> = 200V		0.2	μA
I <sub>EBO</sub>	V <sub>BE</sub> = 6.0V		0.1	μA
BV <sub>CBO</sub>	I <sub>C</sub> = 100μA	300		V
BV <sub>CEO</sub>	I <sub>C</sub> = 1.0mA	300		V
BV <sub>EBO</sub>	I <sub>E</sub> = 100μA	6.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> = 20mA, I <sub>B</sub> = 2.0mA		1.50	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> = 20mA, I <sub>B</sub> = 2.0mA		0.80	V
h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1.0mA	25		
h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 10mA	40		
h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 30mA	40		
f <sub>T</sub>	V <sub>CE</sub> = 20V, I <sub>C</sub> = 10mA, f = 100MHz	45		MHz
C <sub>ob</sub>	V <sub>CB</sub> = 20V, I <sub>E</sub> = 0, f = 1.0MHz		3.0	pF