

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

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Manufacturers of World Class Discrete Semiconductors

2N5770

NPN SILICON RF TRANSISTOR

JEDEC TO-92 CASE (EBC)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5770 type is a NPN Silicon Epitaxial Planar Transistors designed for high frequency amplifier and oscillator applications.

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

	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CEO</sub>	15	V
Emitter-Base Voltage	V <sub>EBO</sub>	3.0	V
Collector Current	I <sub>C</sub>	50	mA
Power Dissipation	P <sub>D</sub>	625	mW
Operating and Storage			
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	θ <sub>JA</sub>	200	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> = 15V		10	nA
I <sub>CBO</sub>	V <sub>CB</sub> = 15V, T <sub>A</sub> = 150°C		1.0	μA
BV <sub>CB0</sub>	I <sub>C</sub> = 1.0μA	30		V
BV <sub>CEO</sub>	I <sub>C</sub> = 3.0mA	15		V
BV <sub>EBO</sub>	I <sub>E</sub> = 10μA	3.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1.0mA		0.4	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1.0mA		1.0	V
h <sub>FE</sub>	V <sub>CE</sub> = 1.0V, I <sub>C</sub> = 3.0mA	20		
h <sub>FE</sub>	V <sub>CE</sub> = 1.0V, I <sub>C</sub> = 8.0mA	50	200	
f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 8.0mA, f = 100MHz	900		MHz
C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1.0MHz		1.7	pF
C <sub>ib</sub>	V <sub>EB</sub> = 0.5V, I <sub>C</sub> = 0, f = 1.0MHz		2.0	pF
G <sub>pe</sub>	V <sub>CB</sub> = 12V, I <sub>C</sub> = 6.0mA, f = 200MHz	15		dB
P <sub>O</sub>	V <sub>CB</sub> = 15V, I <sub>C</sub> = 8.0mA, f = 500MHz	30		mW
η	V <sub>CB</sub> = 15V, I <sub>C</sub> = 8.0mA, f = 500MHz	25		%
NF	V <sub>CE</sub> = 6.0V, I <sub>C</sub> = 1.0mA, R <sub>G</sub> = 400Ω, f = 60MHz		6.0	dB