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

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Manufacturers of World Class Discrete Semiconductors

2N5190  
2N5191  
2N5192

NPN Silicon Transistor  
General Purpose Power

JEDEC TO-126 Case

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5190, 2N5191, and 2N5192 are Silicon NPN Epitaxial Base Power Transistors designed for Medium power amplifier and switching applications.

## MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ Unless otherwise noted)

		<u>2N5190</u>	<u>2N5191</u>	<u>2N5192</u>
Collector-Base Voltage	$V_{CB0}$	40V	60V	80V
Collector-Emitter Voltage	$V_{CE0}$	40V	60V	80V
Emitter-Base Voltage	$V_{EB0}$		5.0V	
Collector Current, Continuous	$I_C$		4.0A	
Collector Current, Peak	$I_{CM}$		7.0A	
Base Current	$I_B$		1.0A	
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$		40W	
Operating & Storage Junction Temperature	$T_J, T_{stg}$		-65 to +150°C	
Thermal Resistance, Junction to Case	$\theta_{J-C}$		3.12°C/W	

## ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNIT</u>
$I_{CB0}$	$V_{CB}=\text{Rated } V_{CB}$		100	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=\text{Rated } V_{CE0}, V_{EB}=1.5\text{V}$		100	$\mu\text{A}$
$I_{CE0}$	$V_{CE}=\text{Rated } V_{CE0}$		1.0	mA
$I_{EB0}$	$V_{EB}=5.0\text{V}$		1.0	mA
$BV_{CE0}$	$I_C=0.1\text{A}$	40 (2N5190)		V
		60 (2N5191)		V
		80 (2N5192)		V
$V_{CE(s)}$	$I_C=1.5\text{A}, I_B=0.15\text{A}$		0.6	V
$V_{CE(s)}$	$I_C=4.0\text{A}, I_B=1.0\text{A}$		1.4	V
$V_{BE(on)}$	$V_{CE}=2.0\text{V}, I_C=1.5\text{A}$		1.2	V
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=1.5\text{A}$			-
		2N5190	25	100
		2N5191	25	100
		2N5192	20	80
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=4.0\text{A}$			-
		2N5190	10	-
		2N5191	10	-
		2N5192	7.0	-
$f_T$	$V_{CE}=10\text{V}, I_C=1.0\text{A}, f=1.0\text{ MHz}$	2.0		MHz