

CentralTM 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 $^{\circ}\text{C}$	
Thermal Resistance, Junction to Case	θ_{J-C}		3.12 $^{\circ}\text{C}/\text{W}$	

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	μA
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{EB}=1.5\text{V}$			100	μA
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