

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)

	2N5190	2N5191	2N5192
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 ($T_C=25^{\circ}\text{C}$)	PD	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 ($T_C=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
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) 60 (2N5191) 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 2N5191 25 2N5192 20	100 100 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