

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

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Manufacturers of World Class Discrete Semiconductors

2N6190  
2N6191  
2N6192  
2N6193

PNP SILICON  
POWER TRANSISTOR

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6190 series types are PNP Silicon Power Transistors designed for switching and amplifier applications.

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

	SYMBOL	2N6190	2N6191	2N6192	2N6193	UNITS
Collector-Base Voltage	V <sub>CBO</sub>	80	80	100	100	V
Collector-Emitter Voltage	V <sub>CEO</sub>	80	80	100	100	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	6.0	6.0	6.0	V
Collector Current	I <sub>C</sub>	5.0	5.0	5.0	5.0	A
Base Current	I <sub>B</sub>	1.0	1.0	1.0	1.0	A
Power Dissipation	P <sub>D</sub>	10	10	10	10	W
Operating and Storage						
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>		-65 to +200			°C
Thermal Resistance	θ <sub>JC</sub>	17.5	17.5	17.5	17.5	°C/W

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

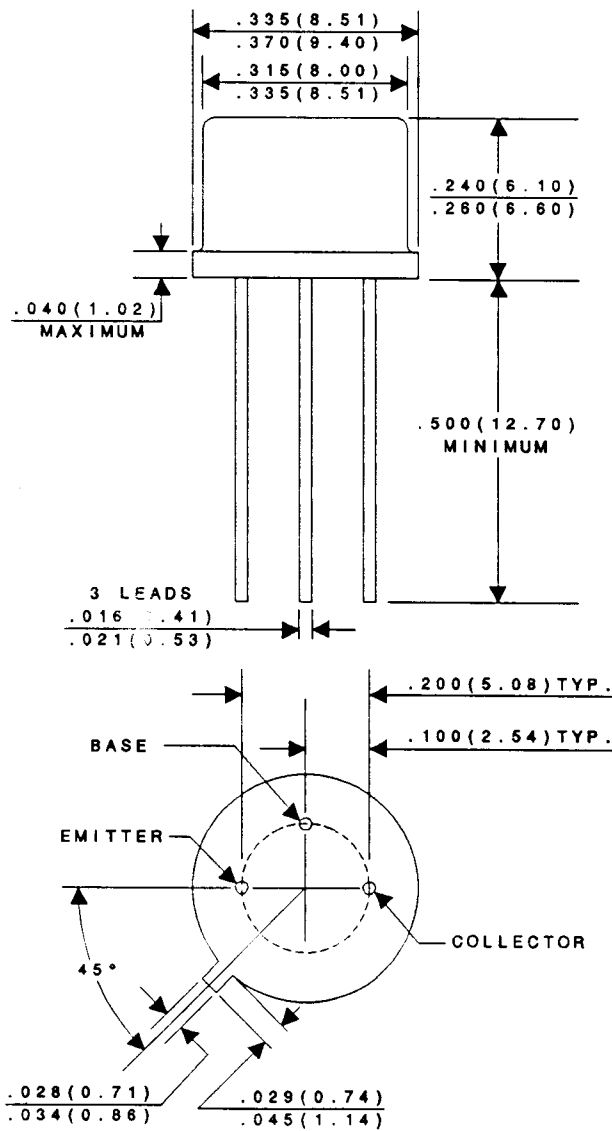
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CEV</sub>	V <sub>CE</sub> =75V, V <sub>BE(off)</sub> =1.5V (2N6190, 2N6191)		10	μA
I <sub>CEV</sub>	V <sub>CE</sub> =90V, V <sub>BE(off)</sub> =1.5V (2N6192, 2N6193)		10	μA
I <sub>CEV</sub>	V <sub>CE</sub> =75V, V <sub>BE(off)</sub> =1.5V, T <sub>C</sub> =150°C (2N6190, 2N6191)		1.0	mA
I <sub>CEV</sub>	V <sub>CE</sub> =90V, V <sub>BE(off)</sub> =1.5V, T <sub>C</sub> =150°C (2N6192, 2N6193)		1.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> =75V (2N6190, 2N6191)		100	μA
I <sub>CEO</sub>	V <sub>CE</sub> =90V (2N6192, 2N6193)		100	μA
I <sub>CBO</sub>	V <sub>CB</sub> =80V (2N6190, 2N6191)		10	μA
I <sub>CBO</sub>	V <sub>CB</sub> =100V (2N6192, 2N6193)		10	μA
I <sub>EBO</sub>	V <sub>EB</sub> =6.0V		100	μA
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (2N6190, 2N6191)	80		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (2N6192, 2N6193)	100		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =2.0A, I <sub>B</sub> =200mA		0.7	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =5.0A, I <sub>B</sub> =500mA		1.2	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =2.0A, I <sub>B</sub> =200mA		1.2	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =5.0A, I <sub>B</sub> =500mA		1.8	V

(CONTINUED ON REVERSE SIDE)

ELECTRICAL CHARACTERISTICS (CONTINUED)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$h_{FE}$	$V_{CE}=2.0V, I_C=500mA$ (2N6190, 2N6192)	30		
$h_{FE}$	$V_{CE}=2.0V, I_C=500mA$ (2N6191, 2N6193)	50		
$h_{FE}$	$V_{CE}=2.0V, I_C=2.0A$ (2N6190, 2N6192)	30	120	
$h_{FE}$	$V_{CE}=2.0V, I_C=2.0A$ (2N6191, 2N6193)	40	240	
$h_{FE}$	$V_{CE}=2.0V, I_C=5.0A$ (2N6190, 2N6192)	20		
$h_{FE}$	$V_{CE}=2.0V, I_C=5.0A$ (2N6191, 2N6193)	20		
$f_T$	$V_{CE}=10V, I_C=500mA, f=10MHz$	30		MHz
$C_{ob}$	$V_{CB}=10V, I_E=0, f=100kHz$		300	pF
$C_{ib}$	$V_{CE}=2.0V, I_C=0, f=100kHz$		1250	pF
$t_d$	$V_{CC}=40V, V_{BE(off)}=3.0V, I_C=2.0A, I_{B1}=200mA$		100	ns
$t_r$	$V_{CC}=40V, V_{BE(off)}=3.0V, I_C=2.0A, I_{B1}=200mA$		100	ns
$t_s$	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$		2.0	$\mu s$
$t_f$	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$		200	ns

TO-39 CASE - MECHANICAL OUTLINE



## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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