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

	SYMBOL	2N6190	2N6191	2N6192	2N6193	UNITS
Collector-Base Voltage	V_{CBO}	80	80	100	100	V
Collector-Emitter Voltage	V_{CEO}	80	80	100	100	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	6.0	6.0	V
Collector Current	I_C	5.0	5.0	5.0	5.0	A
Base Current	I_B	1.0	1.0	1.0	1.0	A
Power Dissipation	P_D	10	10	10	10	W
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +200			$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	17.5	17.5	17.5	17.5	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEV}	$V_{CE}=75\text{V}, V_{BE(\text{off})}=1.5\text{V}$ (2N6190, 2N6191)		10	μA
I_{CEV}	$V_{CE}=90\text{V}, V_{BE(\text{off})}=1.5\text{V}$ (2N6192, 2N6193)		10	μA
I_{CEV}	$V_{CE}=75\text{V}, V_{BE(\text{off})}=1.5\text{V}, T_C=150^{\circ}\text{C}$ (2N6190, 2N6191)		1.0	mA
I_{CEV}	$V_{CE}=90\text{V}, V_{BE(\text{off})}=1.5\text{V}, T_C=150^{\circ}\text{C}$ (2N6192, 2N6193)		1.0	mA
I_{CEO}	$V_{CE}=75\text{V}$ (2N6190, 2N6191)		100	μA
I_{CEO}	$V_{CE}=90\text{V}$ (2N6192, 2N6193)		100	μA
I_{CBO}	$V_{CB}=80\text{V}$ (2N6190, 2N6191)		10	μA
I_{CBO}	$V_{CB}=100\text{V}$ (2N6192, 2N6193)		10	μA
I_{EBO}	$V_{EB}=6.0\text{V}$		100	μA
BV_{CEO}	$I_C=10\text{mA}$ (2N6190, 2N6191)	80		V
BV_{CEO}	$I_C=10\text{mA}$ (2N6192, 2N6193)	100		V
$V_{CE(\text{SAT})}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.7	V
$V_{CE(\text{SAT})}$	$I_C=5.0\text{A}, I_B=500\text{mA}$		1.2	V
$V_{BE(\text{SAT})}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		1.2	V
$V_{BE(\text{SAT})}$	$I_C=5.0\text{A}, I_B=500\text{mA}$		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	μs
t_f	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$		200	ns

TO-39 CASE - MECHANICAL OUTLINE

