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Manufacturers of World Class Discrete Semiconductors

2N5490
2N5492
2N5494
2N5496

NPN SILICON POWER TRANSISTORS

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5490 series types are Silicon NPN Power Transistors designed for medium power and amplifier applications.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL	2N5490 2N5494	2N5492	2N5496	UNIT
Collector-Base Voltage	V_{CBO}	60	75	90	V
Collector-Emitter Voltage (V_{BE}=1.5V)	V_{CEV}	60	75	90	V
Collector-Emitter Voltage (R_{BE}=100Ω)	V_{CER}	50	65	80	V
Collector-Emitter Voltage	V_{CEO}	40	55	70	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	5.0	V
Collector Current	I_C	7.0	7.0	7.0	A
Base Current	I_B	3.0	3.0	3.0	A
Power Dissipation	P_D	50	50	50	W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 TO +150		°C
Thermal Resistance	θ_{JC}	2.5	2.5	2.5	°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C)

		2N5496		2N5494		2N5492		2N5490		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
I_{CEV}	V_{CE}=85V, V_{BE}=1.5V		1.0		-		-		-	mA
I_{CEV}	V_{CE}=55V, V_{BE}=1.5V		-		1.0		-		-	mA
I_{CEV}	V_{CE}=70V, V_{BE}=1.5V		-		-		1.0		-	mA
I_{CER}	V_{CE}=Rated V_{CEO}, R_{BE}=100Ω		0.5		0.5		0.5		2.0	mA
I_{EBO}	V_{BE}=5.0V		1.0		1.0		1.0		1.0	mA
BV_{CEV}	V_{BE}=1.5V, I_C=100mA	90		60		75		60		V
BV_{CER}	I_C=100mA, R_{BE}=100Ω	80		50		65		50		V
BV_{CEO}	I_C=100mA	70		40		55		40		V
$V_{CE(SAT)}$	I_C=35A, I_B=0.35A		1.0		-		-		-	V
$V_{CE(SAT)}$	I_C=3.0A, I_B=0.3A		-		1.0		-		-	V
$V_{CE(SAT)}$	I_C=2.5A, I_B=0.25A		-		-		1.0		-	V
$V_{CE(SAT)}$	I_C=2.0A, I_B=0.2A		-		-		-		1.0	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=.35A		1.7		-		-		-	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=3.0A		-		1.5		-		-	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=2.5A		-		-		1.3		-	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=2.0A		-		-		-		1.1	V
h_{FE}	V_{CE}=4.0V, I_C=3.5A	20	100	-	-	-	-	-	-	
h_{FE}	V_{CE}=4.0V, I_C=3.0A	-	-	20	100	-	-	-	-	
h_{FE}	V_{CE}=4.0V, I_C=2.5A	-	-	-	-	20	100	-	-	
h_{FE}	V_{CE}=4.0V, I_C=2.0A	-	-	-	-	-	-	20	100	
f_T	V_{CE}=4.0V, I_C=0.5A	0.8		0.8		0.8		0.8		MHz
t_{on}	V_{CC}=30V		5.0		5.0		5.0		5.0	μs
t_{off}	V_{CC}=30V		15		15		15		15	μs