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

	SYMBOL	2N5490 2N5494	2N5492	2N5496	UNIT
Collector-Base Voltage	V_{CBO}	60	75	90	V
Collector-Emitter Voltage ($V_{BE}=1.5\text{V}$)	V_{CEV}	60	75	90	V
Collector-Emitter Voltage ($R_{BE}=100\Omega$)	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		$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	2.5	2.5	2.5	$^{\circ}\text{C/W}$

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

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