Central™
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Manufacturers of World Class Discrete Semiconductors

2N5294
2N5296
2N5298

NPN SILICON TRANSISTOR

JEDEC TO-220 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5294, 5296 and 5298 types are silicon NPN transistors that are manufactured by the epitaxial base process and designed for applications that require power amplifier and medium speed switching capablilites.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL	2N5294	2N5296	2N5298	UNIT
Collector-Base Voltage	V_{CBO}	80	60	80	V
Collector-Emitter Voltage	V_{CEO}	70	40	60	V
Collector-Emitter Voltage	V_{CEV}	80	60	80	V
Collector-Emitter Voltage (R_{BE}=100Ω)	V_{CER}	75	50	70	V
Collector Current	I_C		4.0		A
Base Current	I_B		2.0		A
Power Dissipation	P_D		36		W
Operating and Storage Junction Temp.	T_J,T_{stg}		-65 TO +150		°C
Thermal Resistance	ΘJC		3.47		°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

		2N5294		2N5296		2N5298		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
I_{CEV}	V_{CE}=35V, V_{BE}=1.5V		-		2.0		-	mA
I_{CEV}	V_{CE}=65V, V_{BE}=1.5V		0.5		-		0.5	mA
I_{CEV}	V_{CE}=35V, V_{BE}=1.5V, T_C=150°C		-		5.0		-	mA
I_{CEV}	V_{CE}=65V, V_{BE}=1.5V, T_C=150°C		3.0		-		3.0	mA
I_{CER}	V_{CE}=50V, R_{BE}=100Ω		0.5		-		0.5	mA
I_{CER}	V_{CE}=50V, R_{BE}=100Ω, T_C=150°C		2.0		-		2.0	mA
I_{EBO}	V_{BE}=7.0V		1.0		-		-	mA
I_{EBO}	V_{BE}=5.0V		-		1.0		1.0	mA
BV_{CEO}	I_C=100mA	70		40		60		V
BV_{CEV}	I_C=100mA, V_{BE}=1.5V	80		60		80		V
BV_{CER}	I_C=100mA, R_{BE}=100Ω	75		50		70		V
$V_{CE(SAT)}$	I_C=0.5A, I_B=.05A		1.0		-		-	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=0.1A		-		1.0		-	V
$V_{CE(SAT)}$	I_C=1.5A, I_B=0.15A		-		-		1.0	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=0.5A		1.1		-		-	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=1.0A		-		1.3		-	V
$V_{BE(ON)}$	V_{CE}=4.0V, I_C=1.5A		-		-		1.5	V
h_{FE}	V_{CE}=4.0V, I_C=0.5V	30	120	-	-	-	-	
h_{FE}	V_{CE}=4.0V, I_C=1.0V	-	-	30	120	-	-	
h_{FE}	V_{CE}=4.0V, I_C=1.5V	-	-	-	-	20	80	
f_T	V_{CE}=4.0V, I_C=0.2A	0.8		0.8		0.8		MHz
t_{ON}	V_{CC}=30V, I_C=0.5A, I_B=0.05A		5.0		-		-	µs
t_{ON}	V_{CC}=30V, I_C=1.0A, I_B=0.1A		-		5.0		-	µs
t_{ON}	V_{CC}=30V, I_C=1.5A, I_B=0.15A		-		-		5.0	µs
t_{OFF}	V_{CC}=30V, I_C=0.5A, I_B=0.05A		15		-		-	µs
t_{OFF}	V_{CC}=30V, I_C=1.0A, I_B=0.1A		-		15		-	µs
t_{OFF}	V_{CC}=30V, I_C=1.5A, I_B=0.15A		-		-		15	µs

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