

PNP SILICON POWER TRANSISTORS

2SA1220, 2SA1220A

DESCRIPTION The 2SA1220, 2SA1220A are general purpose transistors designed for use in audio and radio frequency power amplifiers.

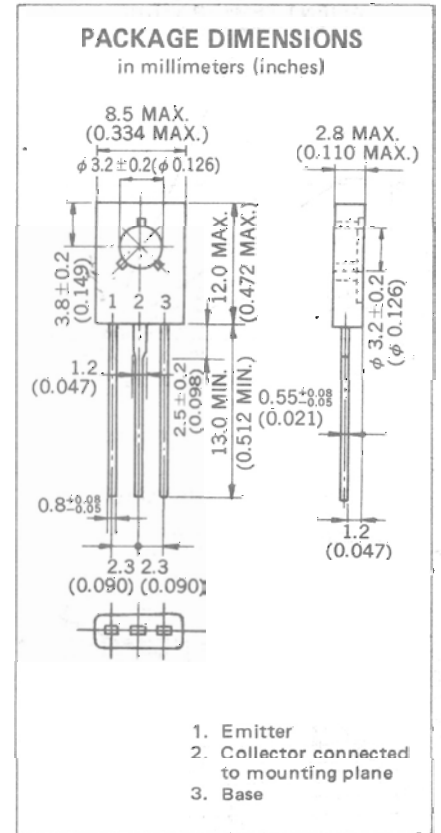
- FEATURES**
- Suitable for use in driver stage of 50 to 100 W audio amplifiers and output stage of TV vertical deflection circuit.
 - High Voltage and High f_T
 $V_{CEO} = -120 \text{ V} / -160 \text{ V}$ (2SA1220, 2SA1220A)
 $f_T = 105 \text{ MHz TYP.}$ (@ $V_{CE} = -5.0 \text{ V}$, $I_C = -0.2 \text{ A}$)
 - Complementary to the NEC 2SC2690, 2SC2690A NPN Transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures
 Storage Temperature -55 to $+150$ °C
 Junction Temperature $+150$ °C Maximum
 Maximum Power Dissipation
 Total Power Dissipation ($T_a = 25$ °C) 1.2 W
 Total Power Dissipation ($T_c = 25$ °C) 20 W
 Maximum Voltages and Currents ($T_a = 25$ °C)

	2SA1220	2SA1220A
V_{CBO} Collector to Base Voltage	-120	-160
V_{CEO} Collector to Emitter Voltage	-120	-160
V_{EBO} Emitter to Base Voltage	-5.0	V
$I_{C(DC)}$ Collector Current	-1.2	A
$I_{C(pulse)}$ * Collector Current	-2.5	A
$I_{B(DC)}$ Base Current	-0.3	A

* $PW \leq 10 \text{ ms}$, Duty Cycle $\leq 50 \%$



ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1} **	DC Current Gain	35	105		-	$V_{CE} = -5.0 \text{ V}$, $I_C = -5.0 \text{ mA}$
h_{FE2} **	DC Current Gain	60	140	320	-	$V_{CE} = -5.0 \text{ V}$, $I_C = -0.3 \text{ A}$
f_T	Gain Bandwidth Product		105		MHz	$V_{CE} = -5.0 \text{ V}$, $I_C = -0.2 \text{ A}$
C_{ob}	Output Capacitance		19		pF	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
I_{CBO}	Collector Cutoff Current			-1.0	μA	$V_{CB} = -120 \text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			-1.0	μA	$V_{EB} = -3.0 \text{ V}$, $I_C = 0$
$V_{CE(sat)}$ **	Collector Saturation Voltage		-0.4	-0.7	V	$I_C = -1.0 \text{ A}$, $I_B = -0.2 \text{ A}$
$V_{BE(sat)}$ **	Base Saturation Voltage		-1.0	-1.3	V	$I_C = -1.0 \text{ A}$, $I_B = -0.2 \text{ A}$

** Pulsed / $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2 \%$

Classification of h_{FE2}

Rank	R	Q	P
Range	60 to 120	100 to 200	160 to 320

Test Conditions: $V_{CE} = -5.0 \text{ V}$, $I_C = -0.3 \text{ A}$

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

