

# SILICON TRANSISTOR

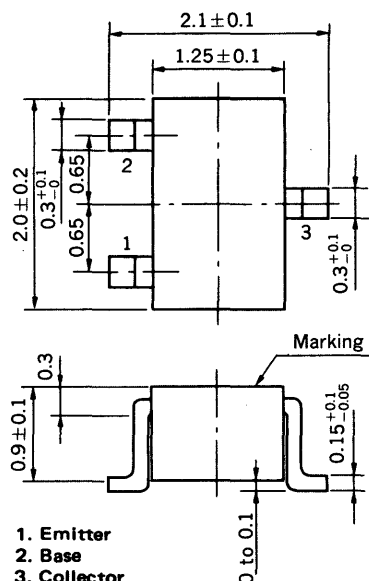
## 2SA1612

### AUDIO FREQUENCY HIGH GAIN AMPLIFIER

### PNP SILICON EPITAXIAL TRANSISTOR

#### PACKAGE DIMENSIONS

in millimeters



#### FEATURES

- Complementary to 2SC4180
- High DC Current Gain:  $h_{FE}$  500 TYP. ( $V_{CE} = -6.0$  V,  $I_C = -1.0$  mA)

#### ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current ( $T_a = 25^\circ\text{C}$ )

Collector to Base Voltage	$V_{CBO}$	-120	V
Collector to Emitter Voltage	$V_{CEO}$	-120	V
Emitter to Base Voltage	$V_{EBO}$	-5.0	V
Collector Current (DC)	$I_C$	-50	mA

Maximum Power Dissipation

Total Power Dissipation at $25^\circ\text{C}$ Ambient Temperature	$P_T$	150	mW
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Maximum Temperatures

Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

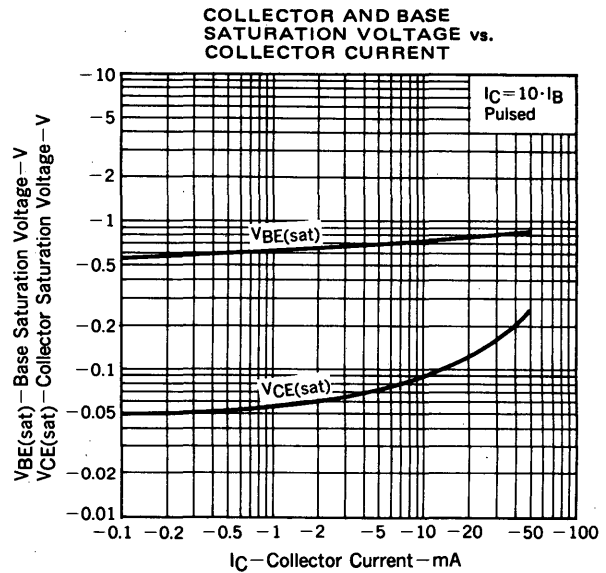
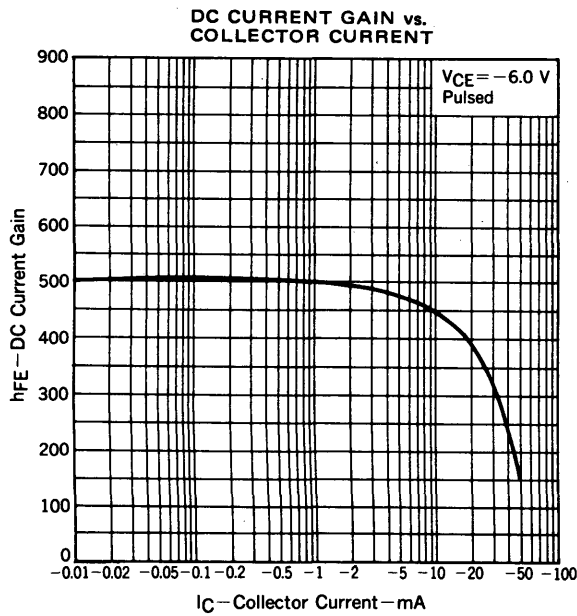
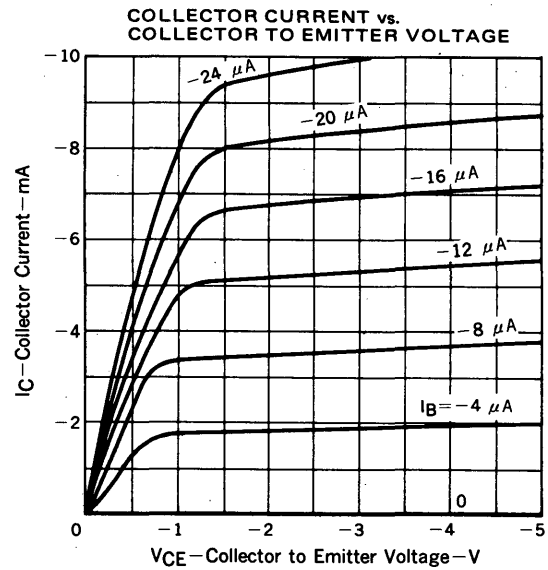
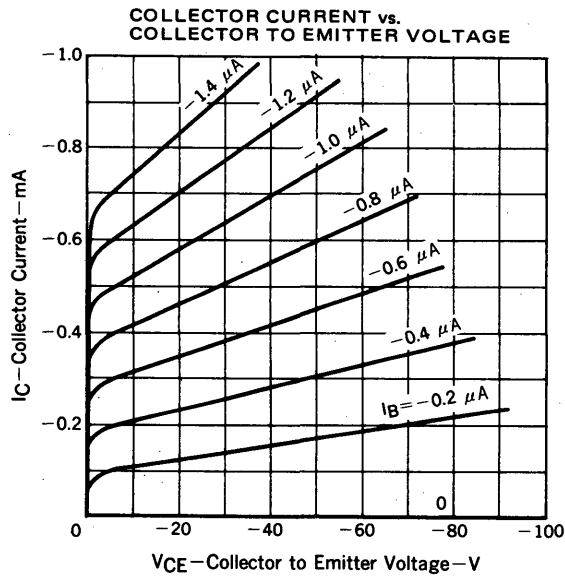
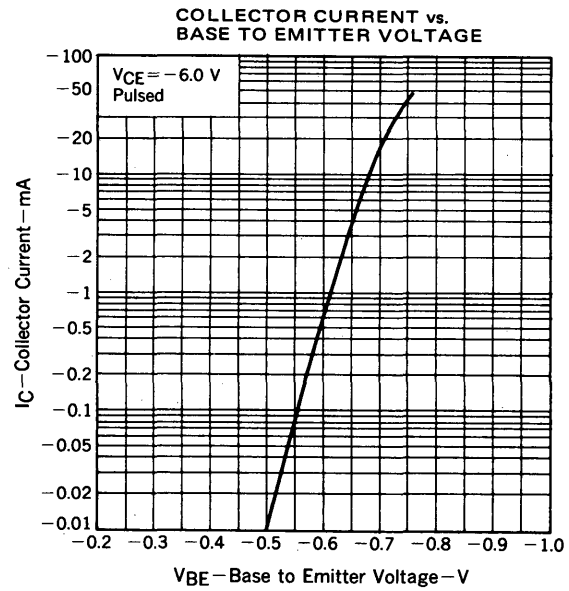
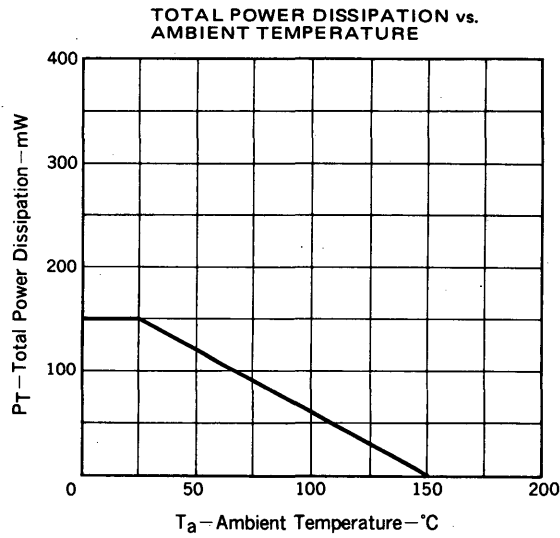
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	$I_{CBO}$			-50	nA	$V_{CB} = -120$ V, $I_E = 0$
Emitter Cutoff Current	$I_{EBO}$			-50	nA	$V_{EB} = -5.0$ V, $I_C = 0$
DC Current Gain	$h_{FE1}$	100	500			$V_{CE} = -6.0$ V, $I_C = -0.1$ mA*
DC Current Gain	$h_{FE2}$	135	500	900		$V_{CE} = -6.0$ V, $I_C = -1.0$ mA
Collector Saturation Voltage	$V_{CE(sat)}$		-0.09	-0.30	V	$I_C = -10$ mA, $I_B = -1.0$ mA
Base to Emitter Voltage	$V_{BE}$	-0.55	-0.61	-0.65	V	$V_{CE} = -6.0$ V, $I_C = -1.0$ mA
Gain Bandwidth Product	$f_T$	50	90		MHz	$V_{CE} = -6.0$ V, $I_E = 1.0$ mA
Output Capacitance	$C_{ob}$		2.0	3.0	pF	$V_{CB} = -30$ V, $I_E = 0$ , $f = 1.0$ MHz

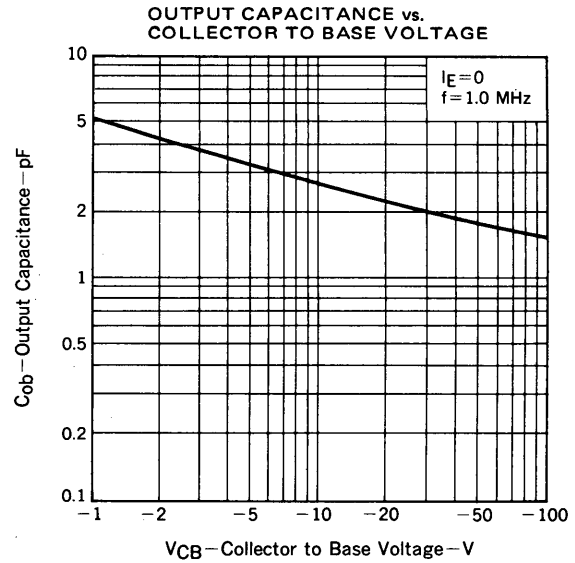
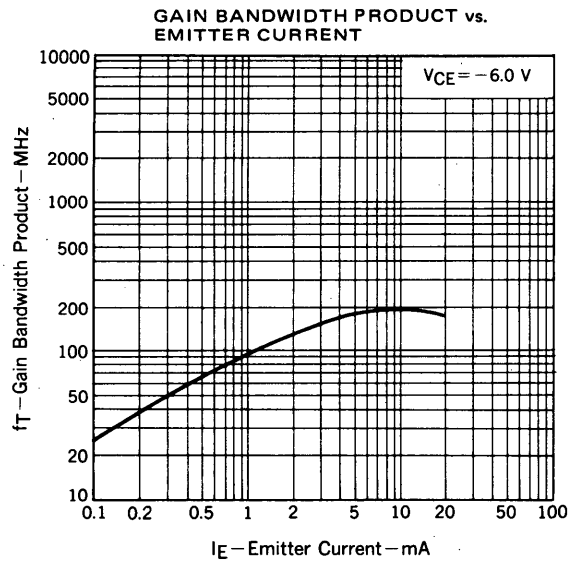
\* Pulsed:  $PW \leq 350$   $\mu\text{s}$ , Duty Cycle  $\leq 2\%$ 

#### $h_{FE2}$ Classification

Marking	C15	C16	C17	C18
$h_{FE2}$	135 to 270	200 to 400	300 to 600	450 to 900

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





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