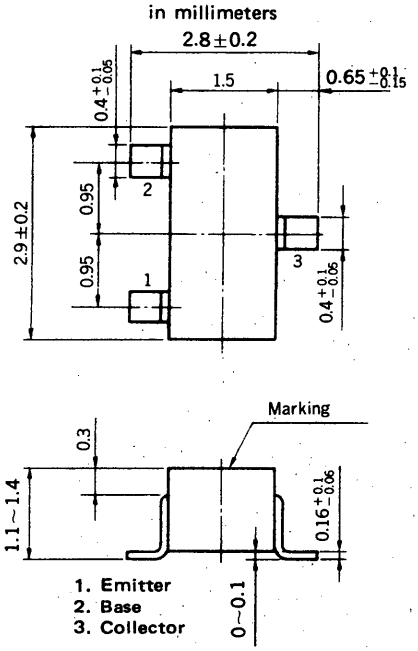
NEC

SILICON TRANSISTOR
2SD596

AUDIO FREQUENCY POWER AMPLIFIER
NPN SILICON EPITAXIAL TRANSISTOR
MINI MOLD

PACKAGE DIMENSIONS
in millimeters



DESCRIPTION

The 2SD596 is designed for use in small type equipments especially recommended for hybrid integrated circuit and other applications.

FEATURES

- Micro package.
- High DC current gain. h_{FE} : 200 TYP. (V_{CE} = 1.0 V, I_C = 100 mA)
- Complimentary to NEC 2SB624 PNP Transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current (T_A = 25 °C)

Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	25	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current (DC)	I_C	700	mA
Maximum Power Dissipation			
Total Power Dissipation at 25 °C Ambient Temperature	P_T	200	mW
Maximum Temperatures			
Storage Temperature Range	T_{stg}	−55 to +150	°C
Operating Junction Temperature	T_j	150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB} = 30 V, I_E = 0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB} = 5.0 V, I_C = 0
DC Current Gain	h_{FE1}	110	200	400		V_{CE} = 1.0 V, I_C = 100 mA *
DC Current Gain	h_{FE2}	50				V_{CE} = 1.0 V, I_C = 700 mA *
Base to Emitter Voltage	V_{BE}	600	640	700	mV	V_{CE} = 6.0 V, I_C = 10 mA *
Collector Saturation Voltage	$V_{CE(sat)}$		0.22	0.6	V	I_C = 700 mA, I_B = 70 mA *
Output Capacitance	C_{ob}		12		pF	V_{CB} = 6.0 V, I_E = 0, f = 10 MHz
Gain Bandwidth Product	f_T		170		MHz	V_{CE} = 6.0 V, I_E = −10 mA

* Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

h_{FE1} Classification

Marking	DV1	DV2	DV3	DV4	DV5
h_{FE}	110 to 180	135 to 220	170 to 270	200 to 320	250 to 400

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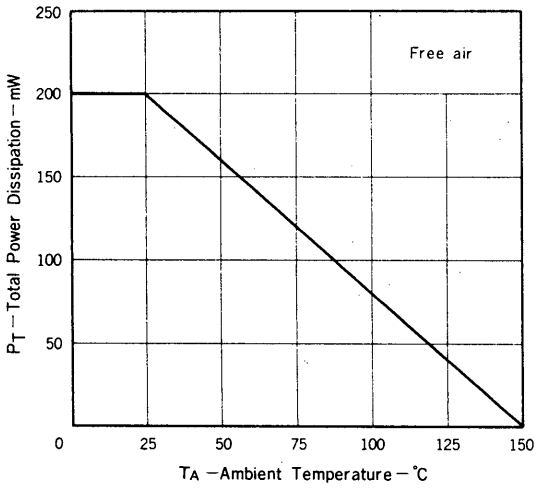
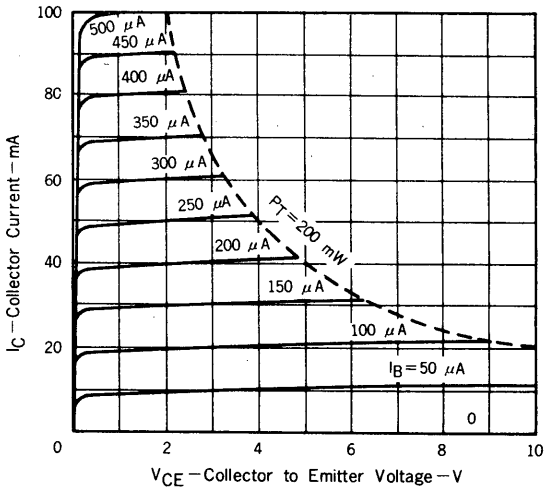
TYPICAL CHARACTERISTICS (T_A = 25 °C)

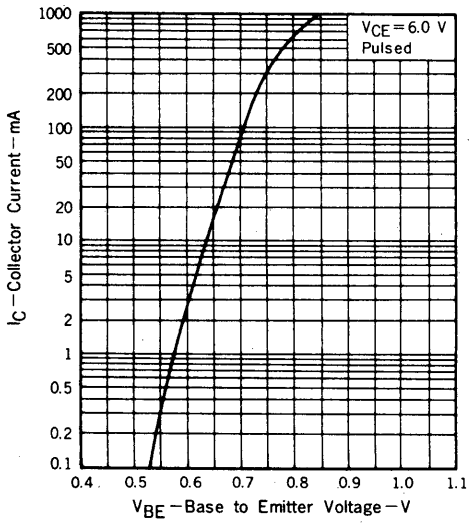
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



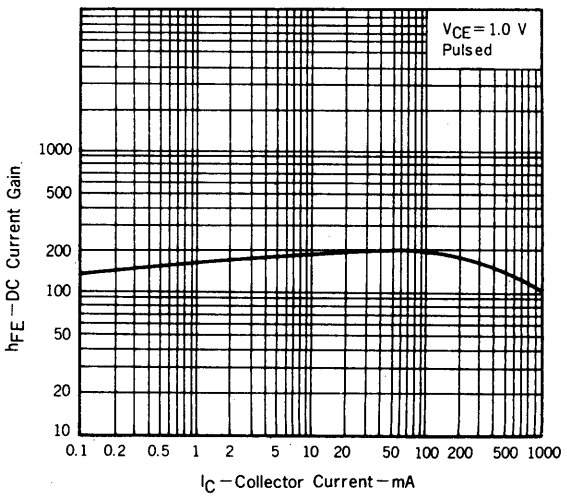
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



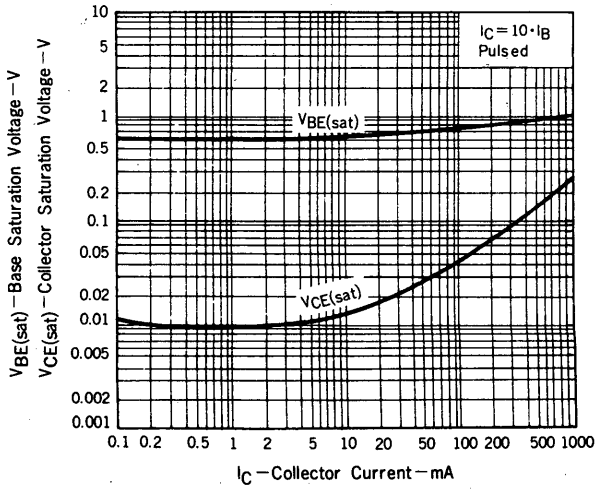
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



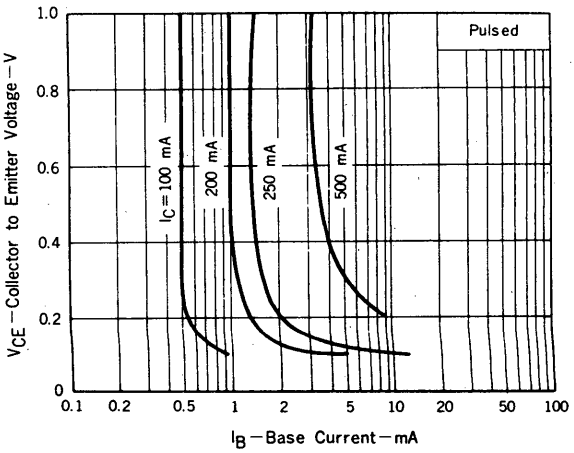
DC CURRENT GAIN vs. COLLECTOR CURRENT



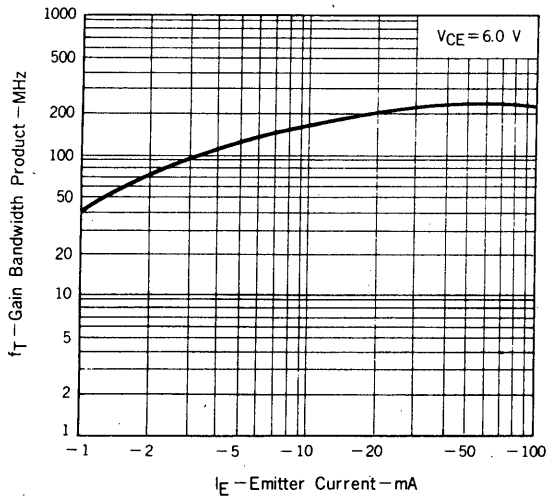
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



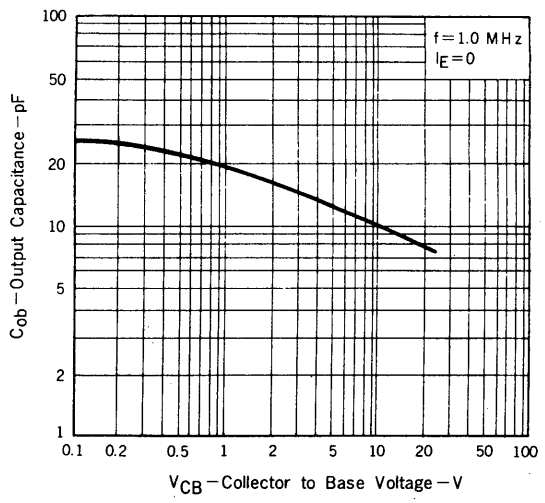
COLLECTOR TO EMITTER VOLTAGE vs. BASE CURRENT



GAIN BANDWIDTH PRODUCT vs.
EMITTER CURRENT



OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



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