

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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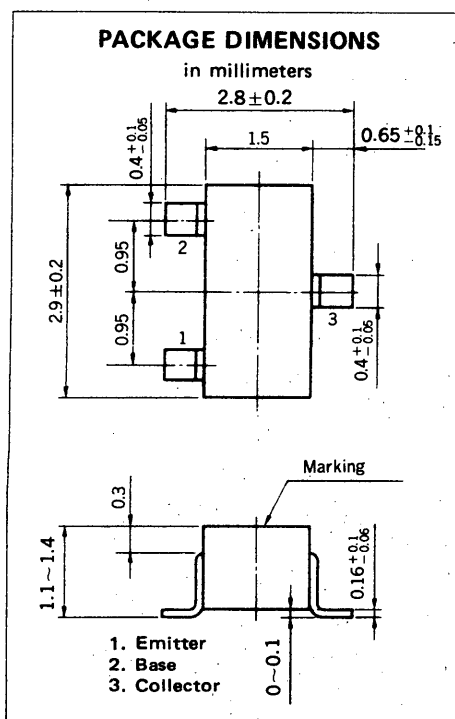
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DATA SHEET

RENESAS

SILICON TRANSISTOR 2SD596

AUDIO FREQUENCY POWER AMPLIFIER NPN SILICON EPITAXIAL TRANSISTOR MINI MOLD



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
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Maximum Temperatures

Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Junction Temperature	T_j	150	°C

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C)

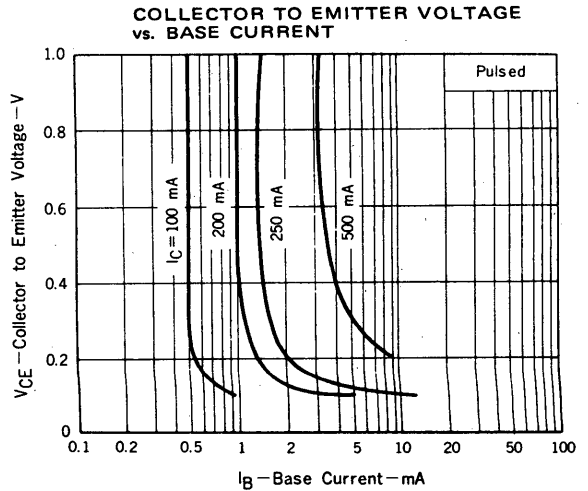
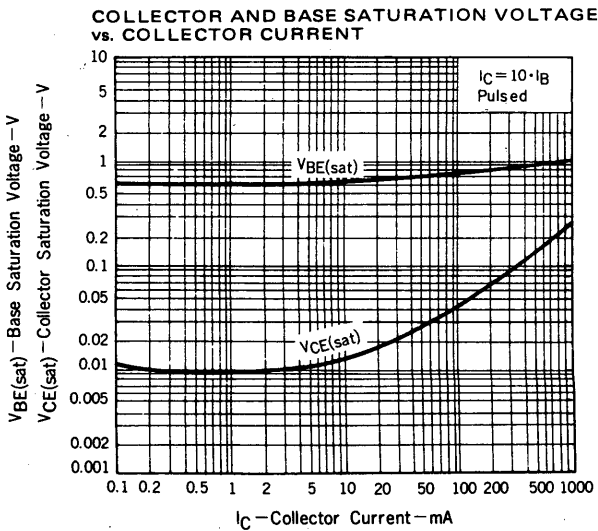
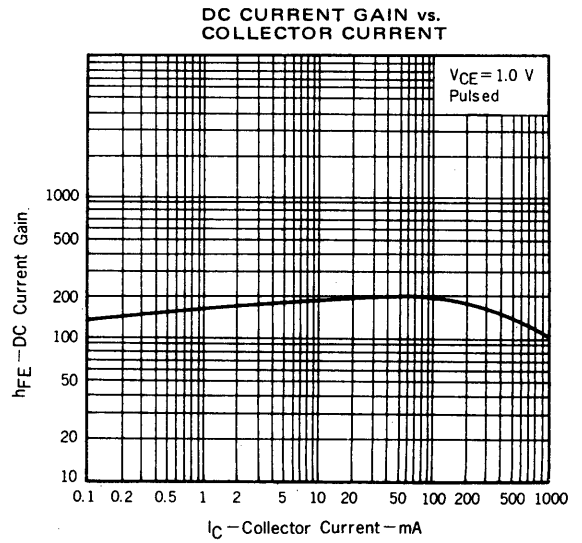
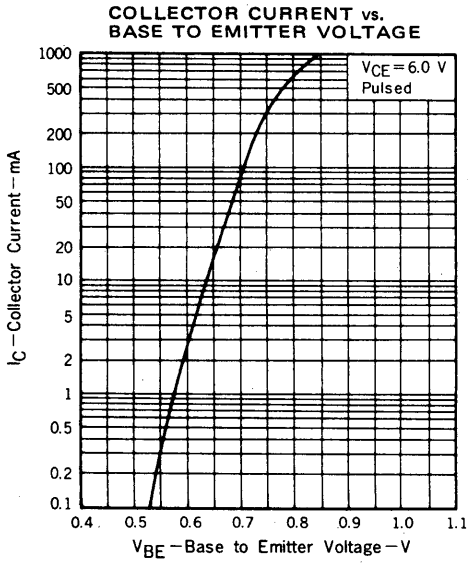
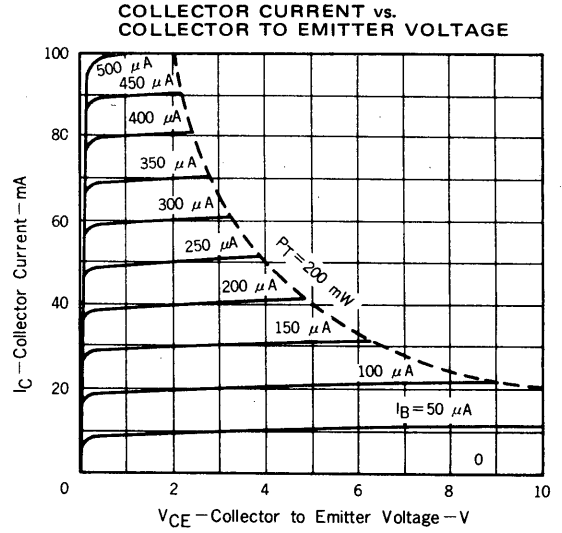
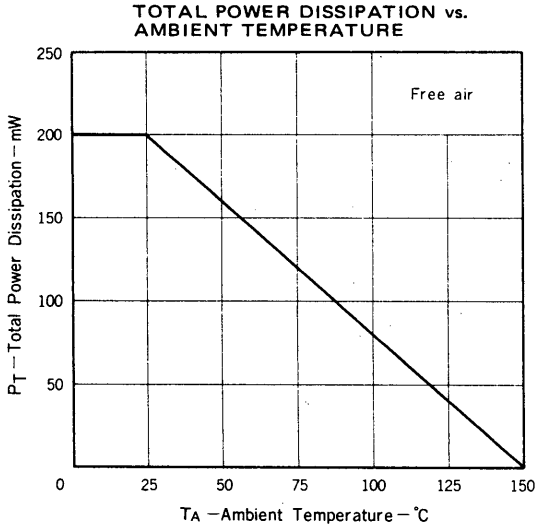
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	$V_{CB} = 30$ V, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			100	nA	$V_{EB} = 5.0$ V, $I_C = 0$
DC Current Gain	h_{FE1}	110	200	400		$V_{CE} = 1.0$ V, $I_C = 100$ mA *
DC Current Gain	h_{FE2}	50				$V_{CE} = 1.0$ 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

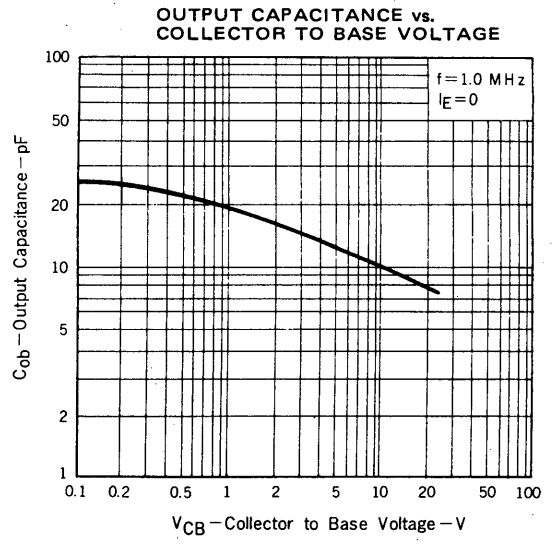
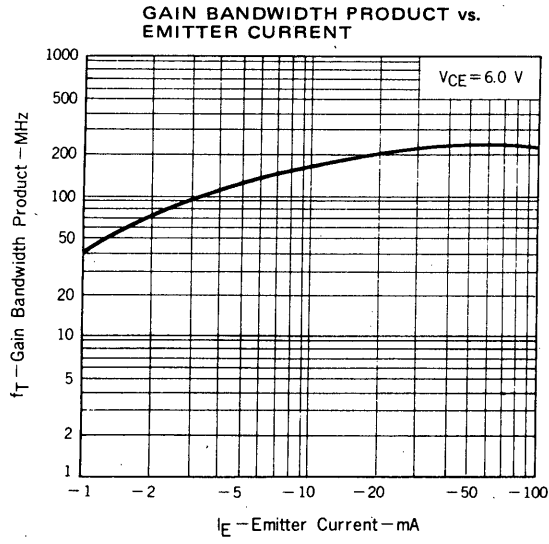
* Pulsed: $PW \leq 350$ μ s, Duty Cycle ≤ 2 %

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

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





[MEMO]

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Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

Specific: Aircrafts, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

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Anti-radioactive design is not implemented in this product.

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