

To our customers,

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## Old Company Name in Catalogs and Other Documents

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

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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

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AUDIO FREQUENCY POWER AMPLIFIER  
PNP SILICON EPITAXIAL TRANSISTOR  
MINI MOLD

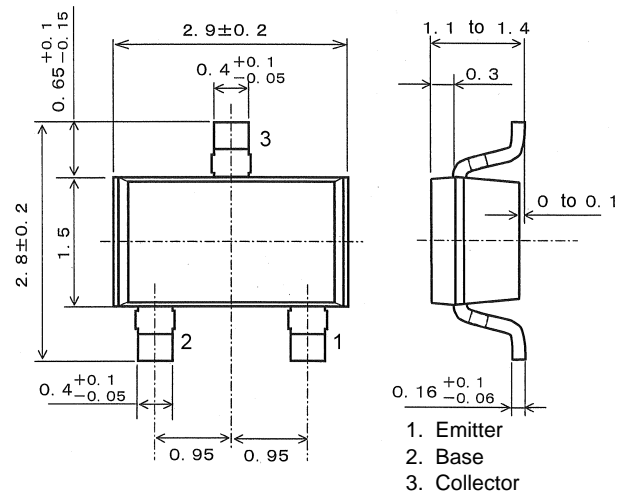
FEATURES

- Complementary to NEC 2SD596A NPN Transistor.
- High DC Current Gain:  $h_{FE} = 200$  TYP. ( $V_{CE} = -1.0$  V,  $I_C = -100$  mA)

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

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
Total Power Dissipation	$P_T$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

PACKAGE DRAWING  
(Unit: mm)



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

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cut-off Current	$I_{CBO}$			-100	nA	$V_{CB} = -30$ V, $I_E = 0$ A
Emitter Cut-off Current	$I_{EBO}$			-100	nA	$V_{EB} = -5.0$ V, $I_C = 0$ A
DC Current Gain	$h_{FE1}$	110	200	400		$V_{CE} = -1.0$ V, $I_C = -100$ mA <sup>Note</sup>
	$h_{FE2}$	50				$V_{CE} = -1.0$ V, $I_C = -700$ mA <sup>Note</sup>
Collector Saturation Voltage	$V_{CE(sat)}$		-0.25	-0.6	V	$I_C = -700$ mA, $I_B = -70$ mA <sup>Note</sup>
Base to Emitter Voltage	$V_{BE}$	-600	-640	-700	mV	$V_{CE} = -6.0$ V, $I_C = -10$ mA <sup>Note</sup>
Gain Bandwidth Product	$f_T$		160		MHz	$V_{CE} = -6.0$ V, $I_E = 10$ mA
Output Capacitance	$C_{ob}$		17		pF	$V_{CB} = -6.0$ V, $I_E = 0$ A, $f = 1.0$ MHz

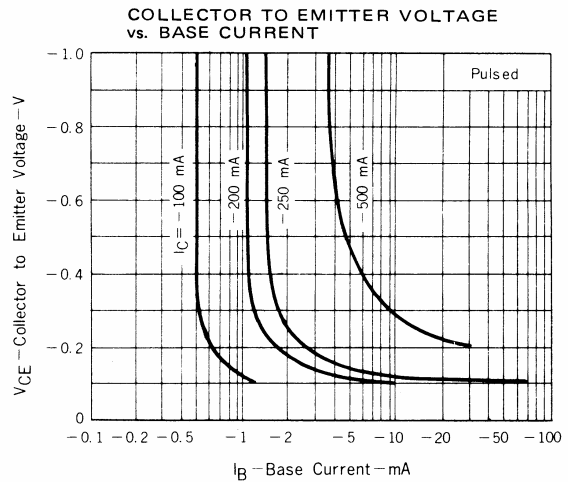
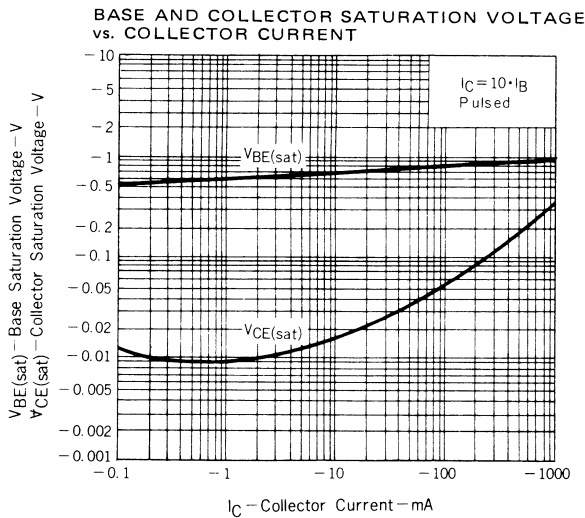
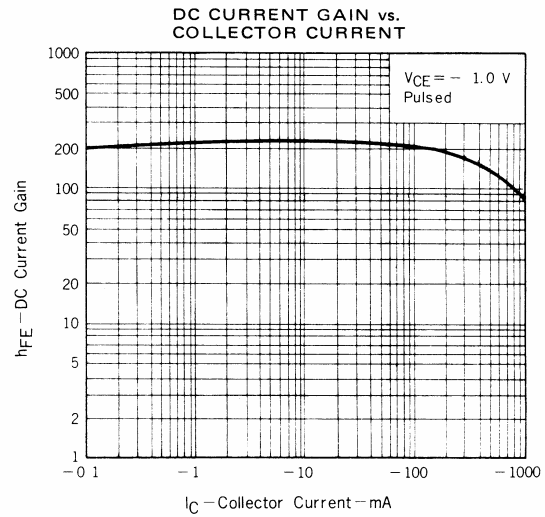
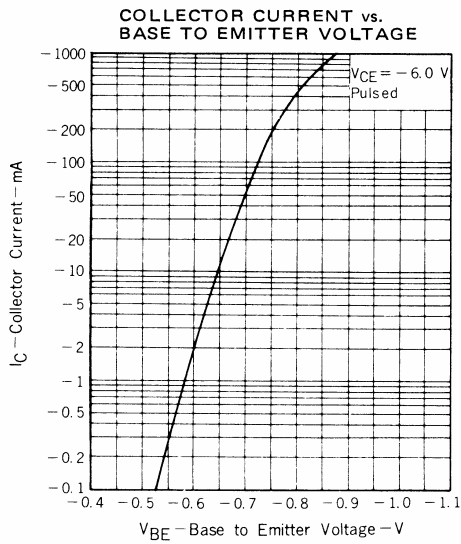
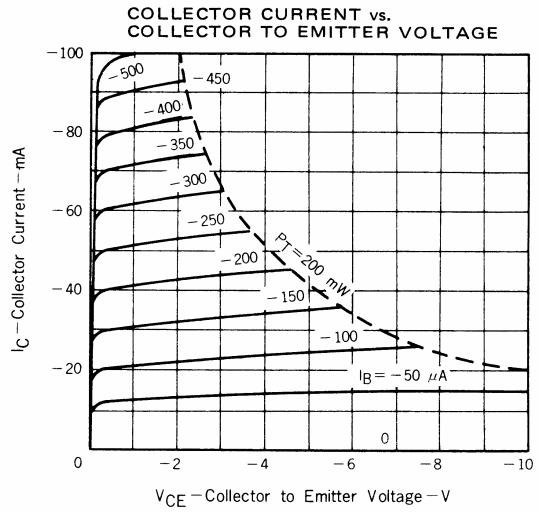
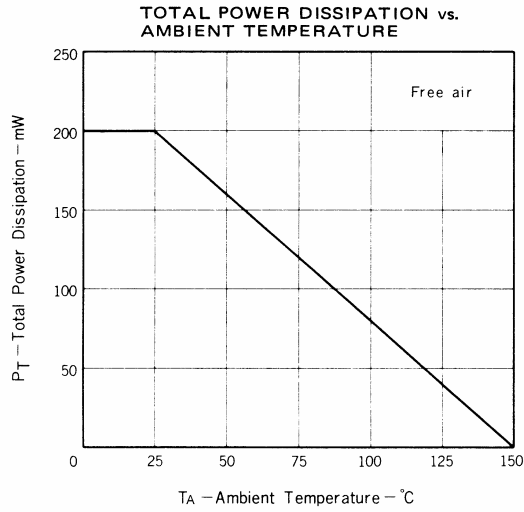
**Note** Pulsed:  $PW \leq 350 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

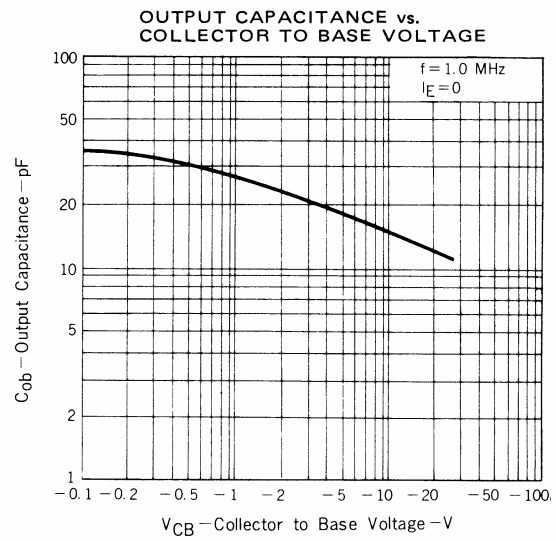
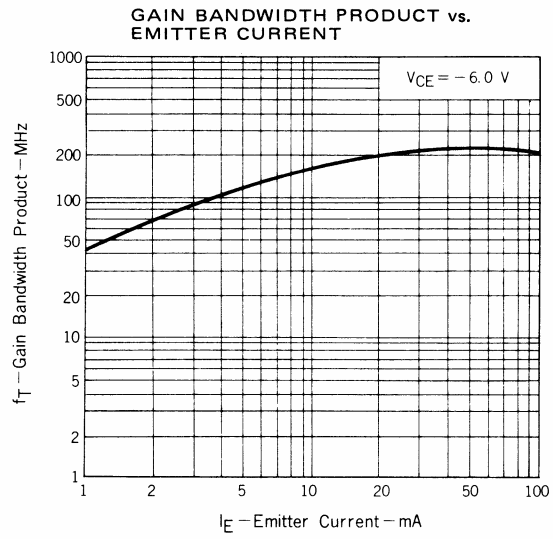
$h_{FE1}$  CLASSIFICATION

Marking	BV1	BV2	BV3	BV4	BV5
$h_{FE1}$	110 to 180	135 to 220	170 to 270	200 to 320	250 to 400

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