

To our customers,

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## Old Company Name in Catalogs and Other Documents

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

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

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PNP SILICON EPITAXIAL TRANSISTOR  
MINI MOLD

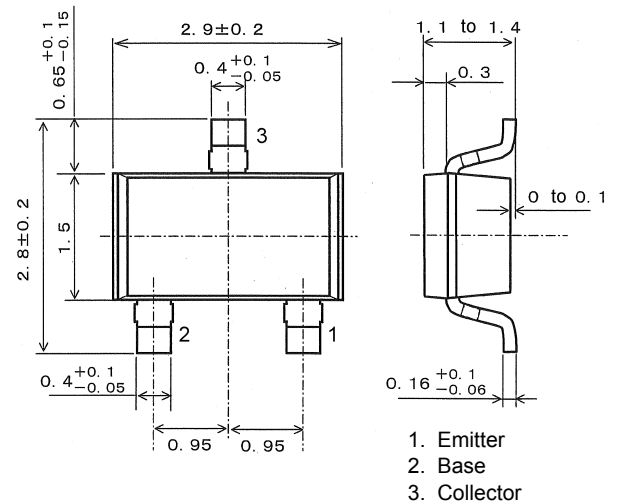
FEATURES

- Complementary to 2SC1623A
- High DC Current Gain:  $h_{FE} = 200$  TYP. ( $V_{CE} = -6.0$  V,  $I_C = -1.0$  mA)
- High Voltage:  $V_{CEO} = -50$  V

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

Collector to Base Voltage	$V_{CBO}$	-60	V
Collector to Emitter Voltage	$V_{CEO}$	-50	V
Emitter to Base Voltage	$V_{EBO}$	-5.0	V
Collector Current (DC)	$I_C$	-100	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	$I_{CBO}$			-0.1	$\mu\text{A}$	$V_{CB} = -60$ V, $I_E = 0$ A
Emitter Cut-off Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB} = -5.0$ V, $I_C = 0$ A
DC Current Gain	$h_{FE}$	90	200	600		$V_{CE} = -6.0$ V, $I_C = -1.0$ mA <sup>Note</sup>
Collector Saturation Voltage	$V_{CE(sat)}$		-0.18	-0.3	V	$I_C = -100$ mA, $I_B = -10$ mA
Base to Emitter Voltage	$V_{BE}$	-0.58	-0.62	-0.68	V	$V_{CE} = 6.0$ V, $I_C = -1.0$ mA
Gain Bandwidth Product	$f_T$		180		MHz	$V_{CE} = -6.0$ V, $I_E = 10$ mA
Output Capacitance	$C_{ob}$		4.5		pF	$V_{CB} = -10$ V, $I_E = 0$ A, $f = 1.0$ MHz

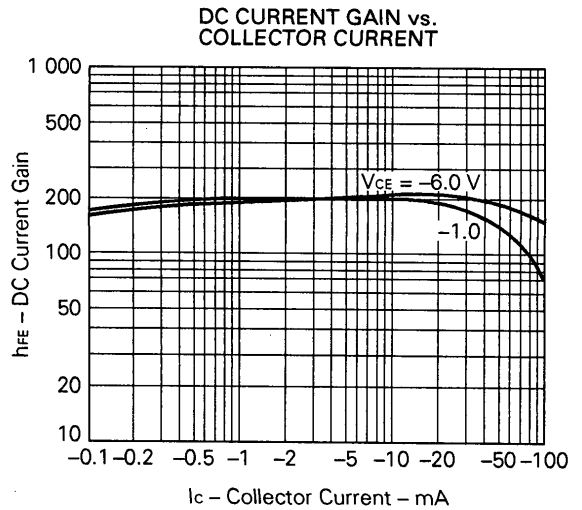
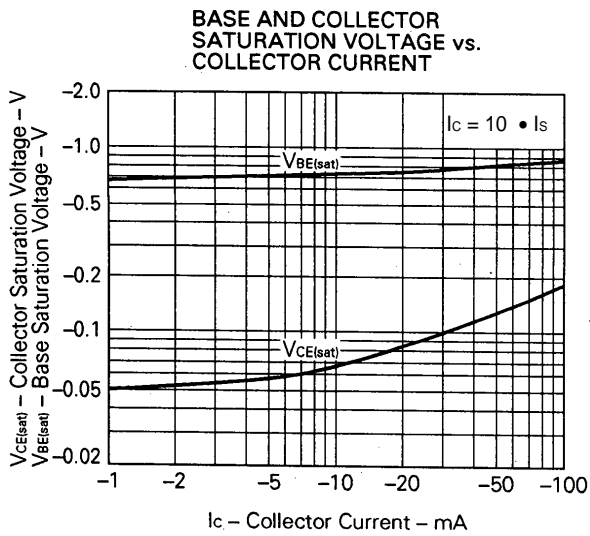
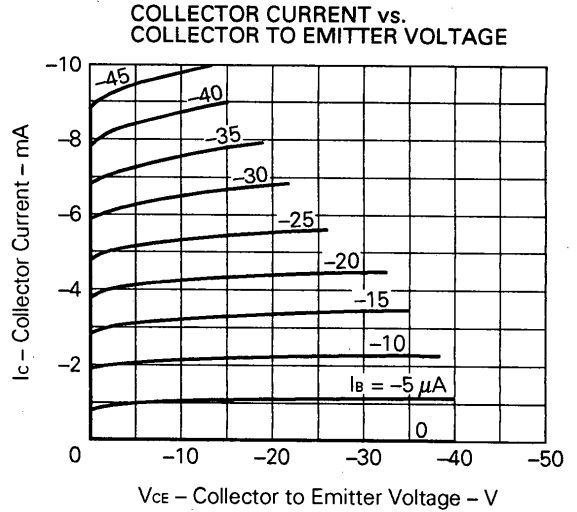
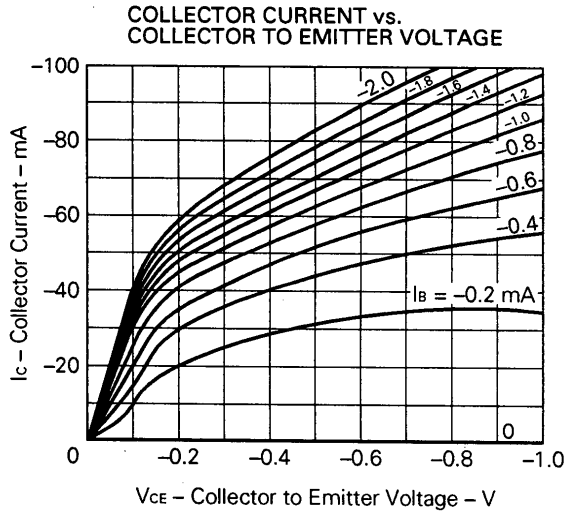
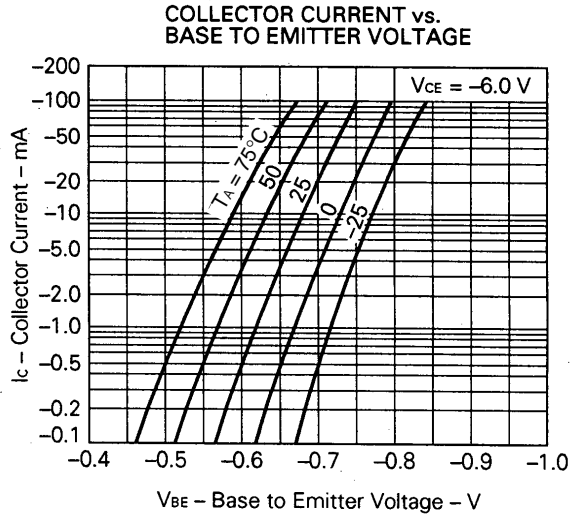
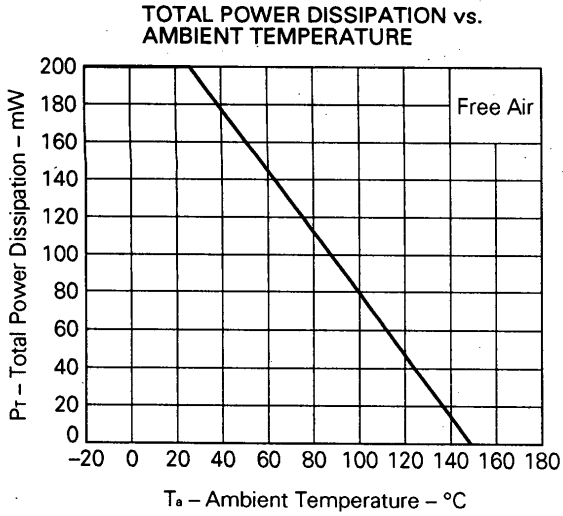
Note Pulsed:  $PW \leq 350 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

$h_{FE}$  CLASSIFICATION

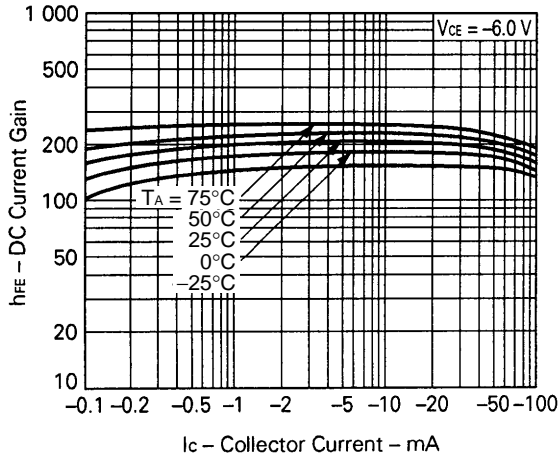
Marking	M4	M5	M6	M7
$h_{FE}$	90 to 180	135 to 270	200 to 400	300 to 600

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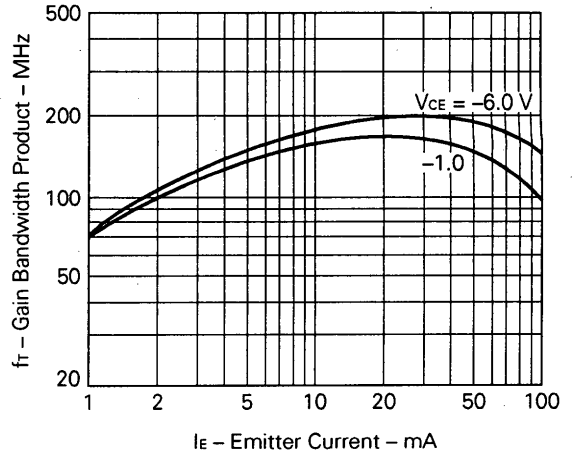
<R> TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)



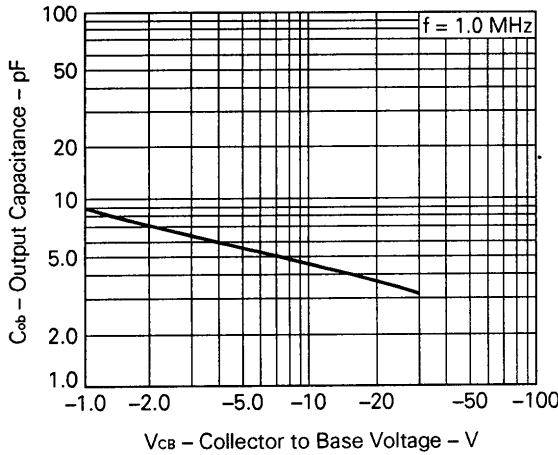
DC CURRENT GAIN vs. COLLECTOR CURRENT



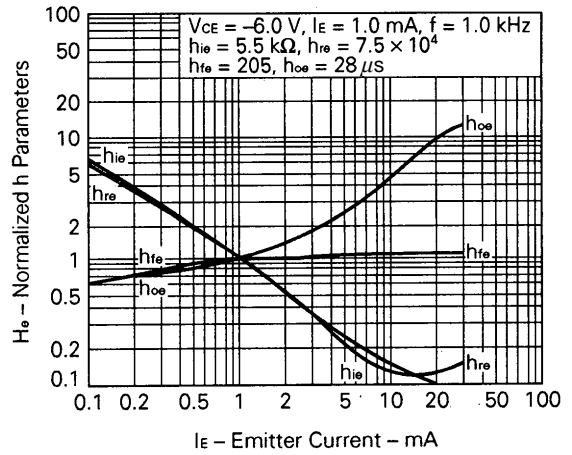
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



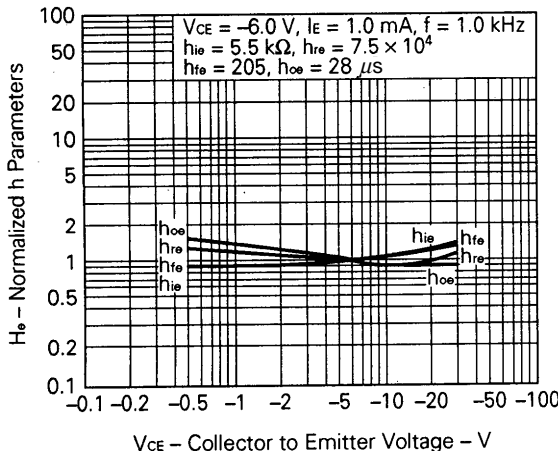
OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



NORMALIZED h PARAMETER vs. EMITTER CURRENT



NORMALIZED h PARAMETER vs. COLLECTOR TO EMITTER VOLTAGE



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