

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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# PNP SILICON EPITAXIAL TRANSISTOR

## 2SB1572

### PNP SILICON EPITAXIAL TRANSISTOR

#### FEATURES

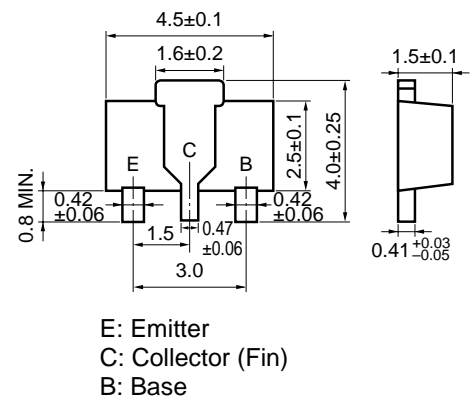
- Low  $V_{CE(sat)}$ :  $V_{CE(sat)1} \leq -0.4$  V
- Complementary to 2SD2403

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

Collector to Base Voltage	$V_{CBO}$	-80	V
Collector to Emitter Voltage	$V_{CEO}$	-60	V
Emitter to Base Voltage	$V_{EBO}$	-6.0	V
Collector Current (DC)	$I_{C(DC)}$	-3.0	A
Collector Current (pulse) <sup>Note1</sup>	$I_{C(pulse)}$	-5.0	A
Base Current (DC)	$I_{B(DC)}$	-0.2	A
Base Current (pulse) <sup>Note1</sup>	$I_{B(pulse)}$	-0.4	A
Total Power Dissipation <sup>Note2</sup>	$P_T$	2.0	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to + 150	$^\circ\text{C}$

- Notes** 1.  $PW \leq 10$  ms, Duty Cycle  $\leq 50\%$   
 2. When mounted on ceramic substrate of  $16\text{ cm}^2 \times 0.7$  mm

#### PACKAGE DRAWING (Unit: mm)



E: Emitter  
 C: Collector (Fin)  
 B: Base

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

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -80$ V, $I_E = 0$			-100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -6.0$ V, $I_C = 0$			-100	nA
DC Current Gain <sup>Note</sup>	$h_{FE1}$	$V_{CE} = -2.0$ V, $I_C = -0.1$ A	80			-
	$h_{FE2}$	$V_{CE} = -2.0$ V, $I_C = -1.0$ A	100	200	400	-
Base to Emitter Voltage <sup>Note</sup>	$V_{BE}$	$V_{CE} = -2.0$ V, $I_C = -0.1$ A	-0.63	-0.685	-0.73	V
Collector Saturation Voltage <sup>Note</sup>	$V_{CE(sat)1}$	$I_C = -2.0$ A, $I_B = -0.1$ A		-0.2	-0.4	V
Collector Saturation Voltage <sup>Note</sup>	$V_{CE(sat)2}$	$I_C = -3.0$ A, $I_B = -0.15$ A		-0.3	-0.6	V
Base Saturation Voltage <sup>Note</sup>	$V_{BE(sat)}$	$I_C = -2.0$ A, $I_B = -0.1$ A		-0.89	-1.2	V
Gain Bandwidth Product	$f_T$	$V_{CE} = -10$ V, $I_E = 0.3$ A		160		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10$ V, $I_E = 0$ , $f = 1.0$ MHz		45		pF
Turn-on Time	$t_{on}$	$I_C = -1.0$ A, $V_{CC} = -10$ V,		155		ns
Storage Time	$t_{stg}$	$R_L = 5.0$ $\Omega$ , $I_{B1} = -I_{B2} = -0.1$ A,		510		ns
Fall Time	$t_f$			35		ns

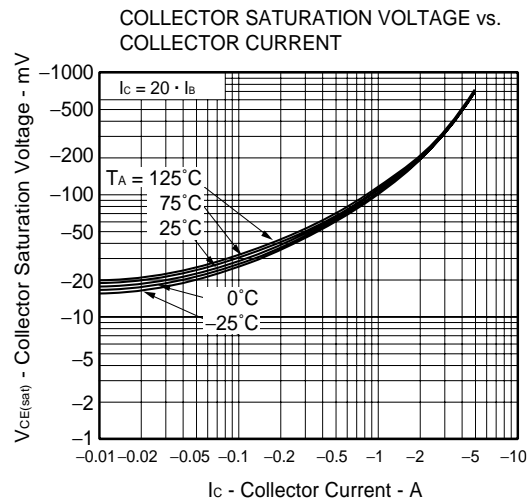
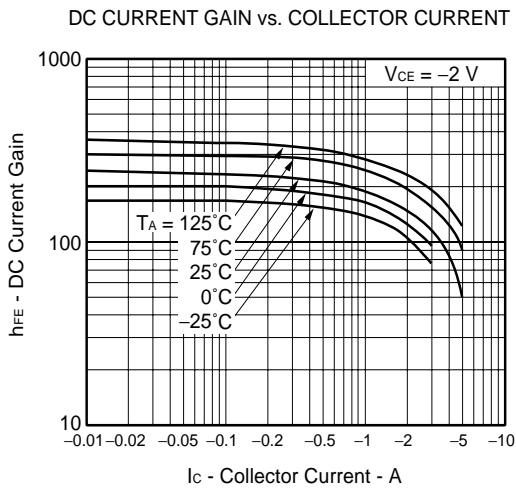
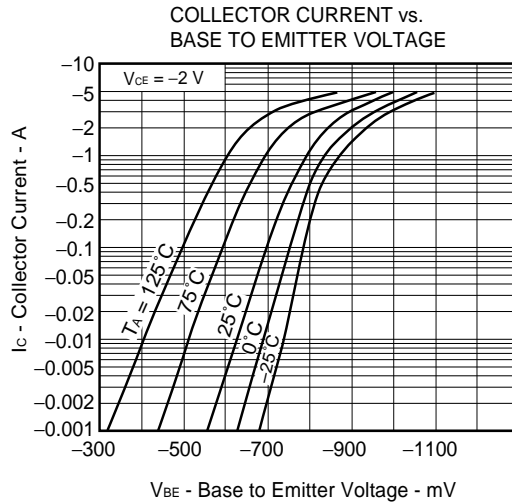
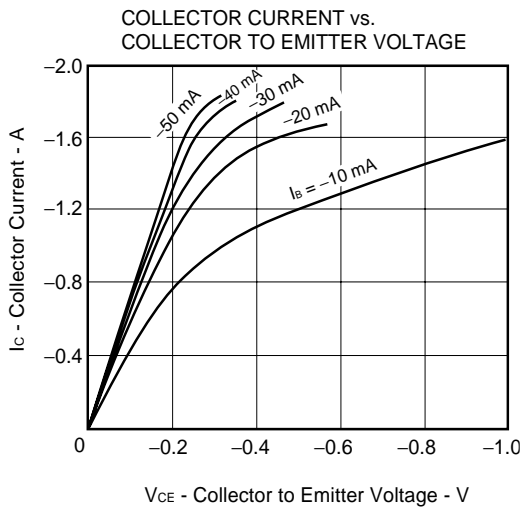
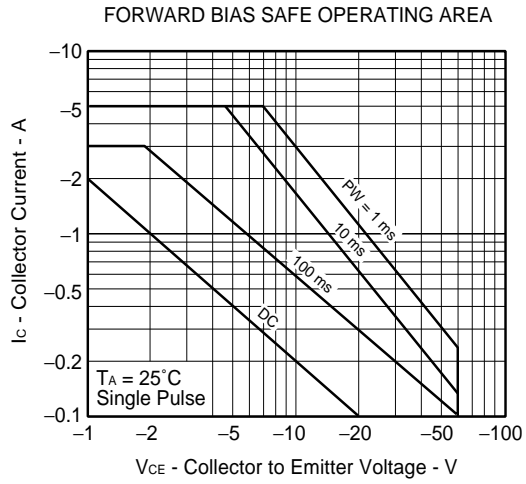
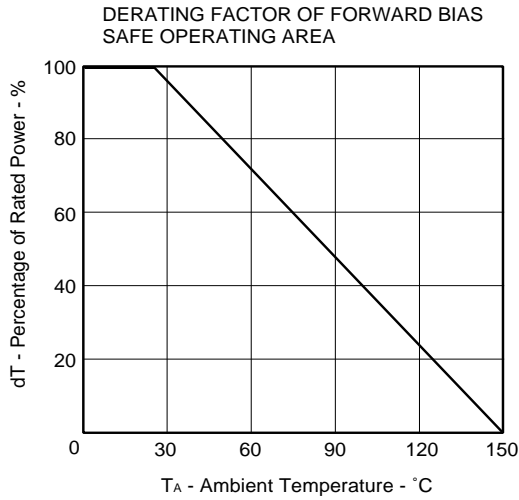
**Note** Pulsed:  $PW \leq 350$   $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

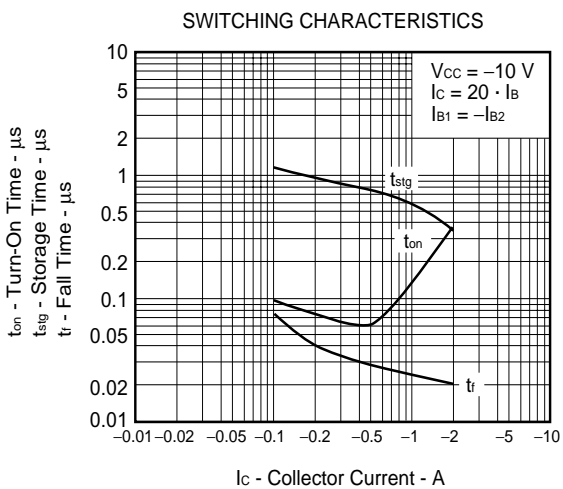
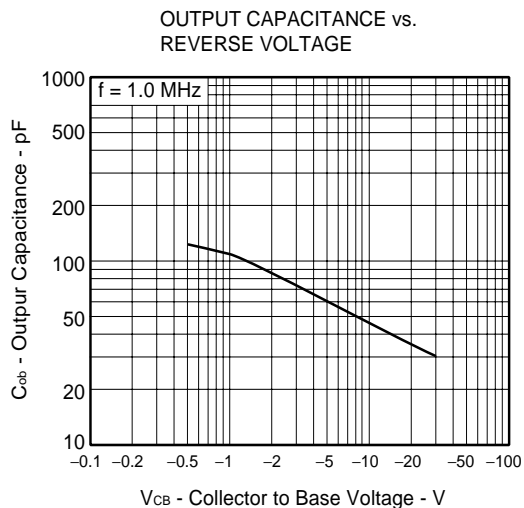
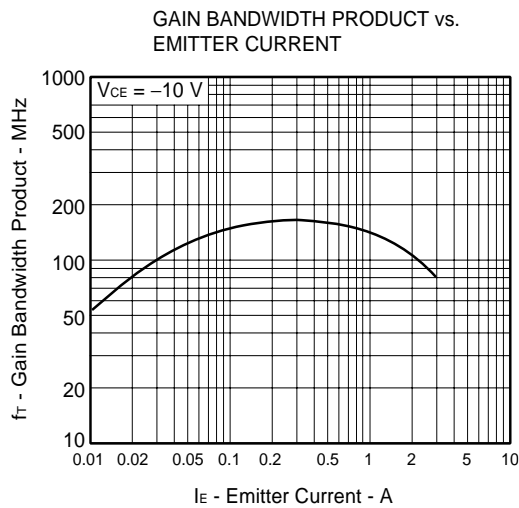
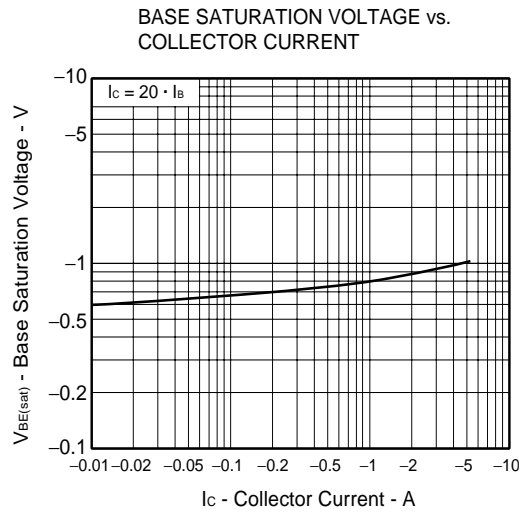
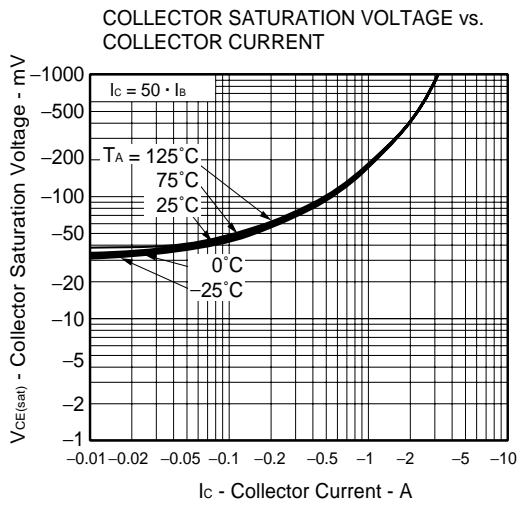
#### $h_{FE}$ CLASSIFICATION

Marking	HX	HY	HZ
$h_{FE2}$	100 to 200	160 to 320	200 to 400

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