

To our customers,

Old Company Name in Catalogs and Other Documents

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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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PNP SILICON EPITAXIAL TRANSISTOR

DESCRIPTION

The 2SB962-Z is designed for Audio Frequency Amplifier and Switching, especially in Hybrid Integrated Circuits.

FEATURES

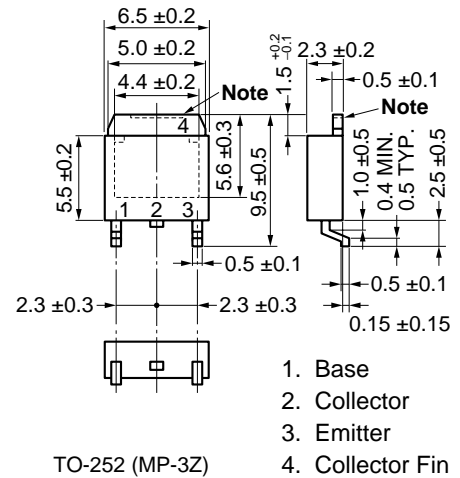
- Low $V_{CE(sat)}$: $V_{CE(sat)} = -0.3$ V TYP.

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

Collector to Base voltage	V_{CBO}	-40	V
Collector to Emitter voltage	V_{CEO}	-30	V
Emitter to Base voltage	V_{EBO}	-5	V
Collector Current (DC)	$I_{C(DC)}$	-3	A
Collector Current (pulse)	$I_{C(pulse)}$	-6	A
Total Power Dissipation ($T_A = 25^\circ\text{C}$)	P_T	2.0	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	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 $7.5\text{ cm}^2 \times 0.7$ mm

<R> PACKAGE DRAWING (Unit: mm)



Note The depth of notch at the top of the fin is from 0 to 0.2 mm.

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ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

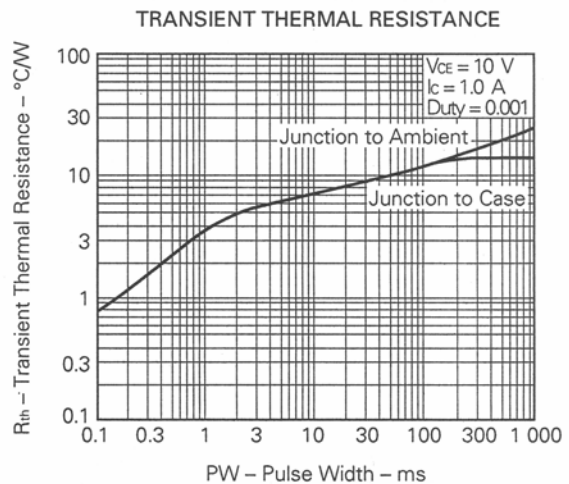
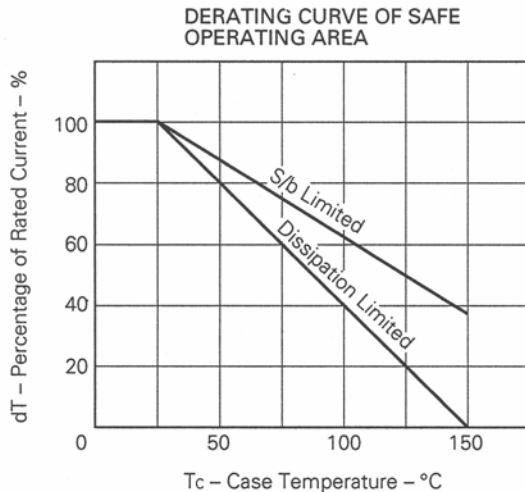
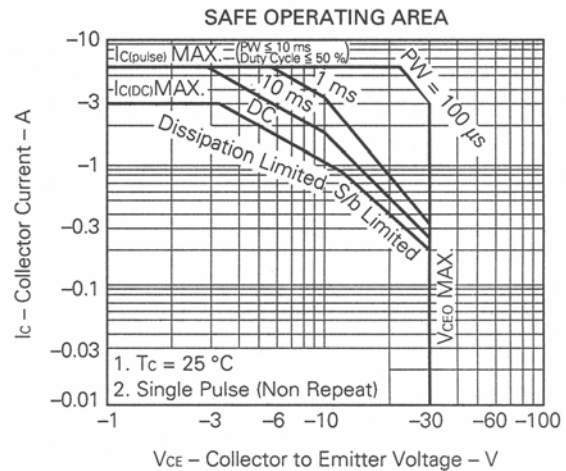
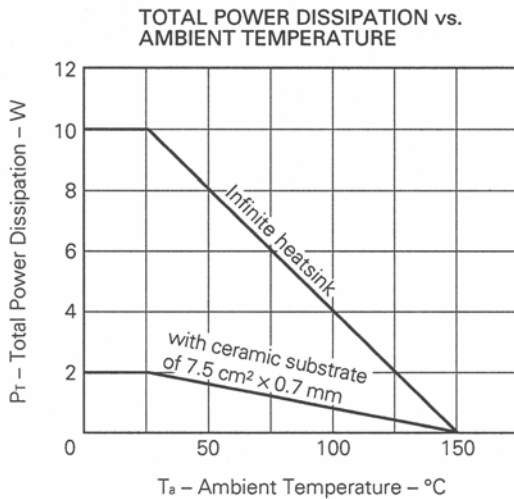
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I _{cBO}			-10	μA	V _{CB} = -30 V, I _E = 0
Emitter Cutoff Current	I _{EBO}			-1.0	μA	V _{EB} = -3.0 V, I _C = 0
DC Current Gain	h _{FE1} *	30	150			V _{CE} = -2.0 V, I _C = -20 mA
DC Current Gain	h _{FE2} *	60	160	400		V _{CE} = -2.0 V, I _C = -1.0 A
Collector Saturation Voltage	V _{CE(sat)} *		-0.3	-0.5	V	I _C = -2.0 A, I _B = -0.2 A
Base Saturation Voltage	V _{BE(sat)} *		-1.0	-2.0	V	I _C = -2.0 A, I _B = -0.2 A
Gain Bandwidth Product	f _r		80		MHz	V _{CE} = -5.0 V, I _E = 100 mA
Output Capacitance	C _{ob}		55		pF	V _{CB} = -10 V, I _E = 0, f = 1.0 MHz

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

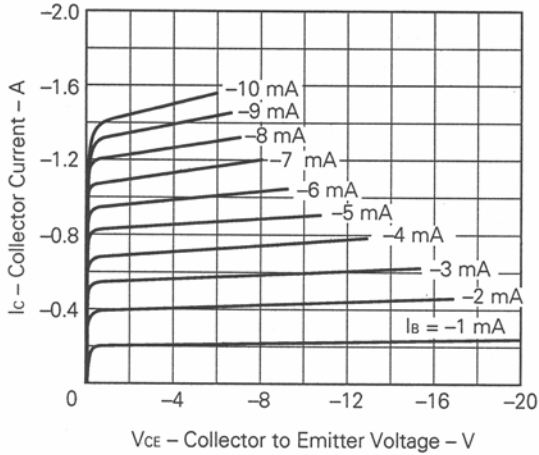
h_{FE} Classification

MARKING	R	Q	P	E
h _{FE2}	60 to 120	100 to 200	160 to 320	200 to 400

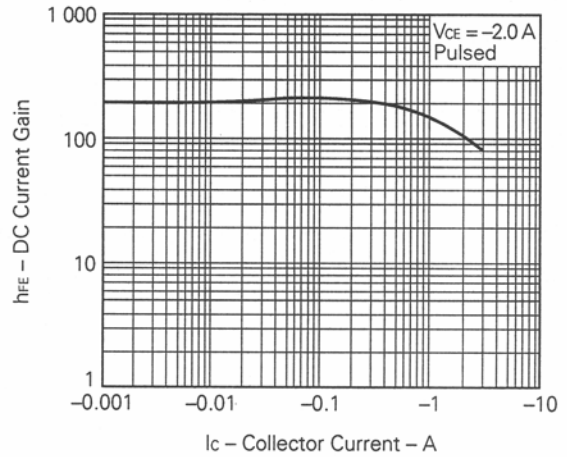
TYPICAL CHARACTERISTICS (T_a = 25 °C)



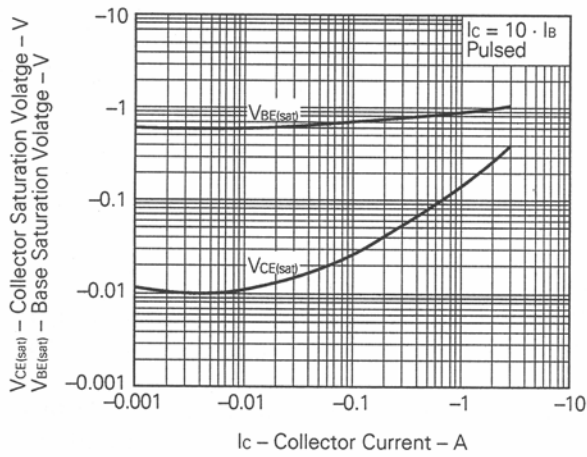
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



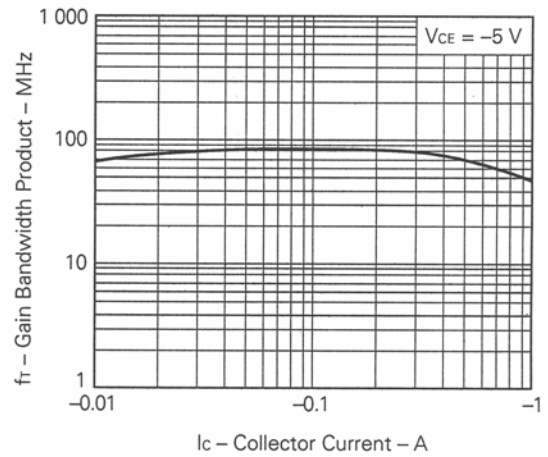
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



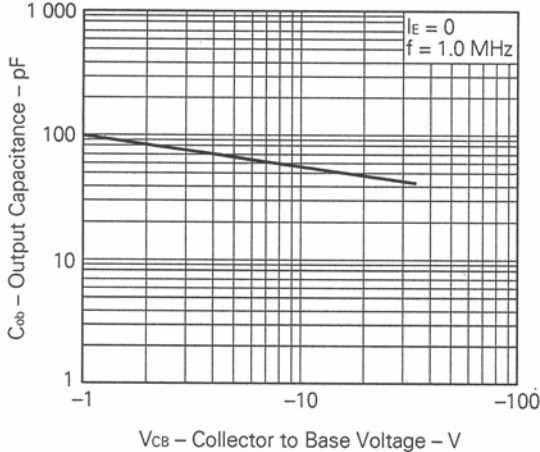
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



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