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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RENESAS

SILICON TRANSISTOR
2SA812

PNP SILICON EPITAXIAL TRANSISTOR
MINI MOLD

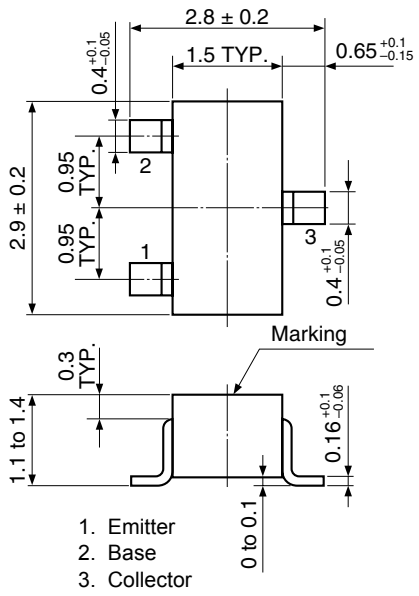
FEATURES

- Complementary to 2SC1623
- 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°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	°C
Storage Temperature Range	T_{stg}	–55 to +150	°C

<R> PACKAGE DRAWING (Unit: mm)



ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cut-off Current	I_{CBO}			–0.1	μA	V_{CB} = –60 V, I_E = 0 A
Emitter Cut-off Current	I_{EBO}			–0.1	μA	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[Note]
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
<R> Output Capacitance	C_{ob}		4.5		pF	V_{CB} = –10 V, I_E = 0 A, f = 1.0 MHz

Note Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 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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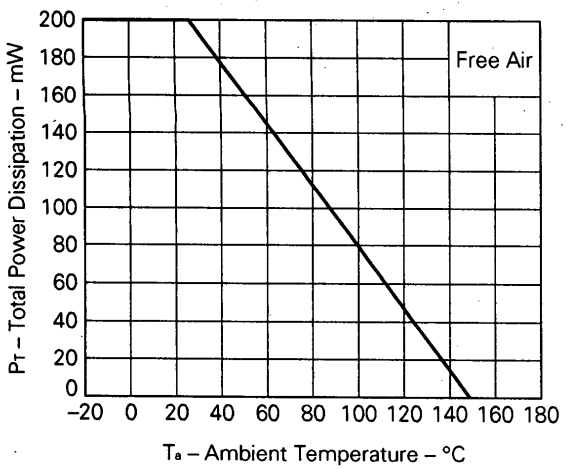
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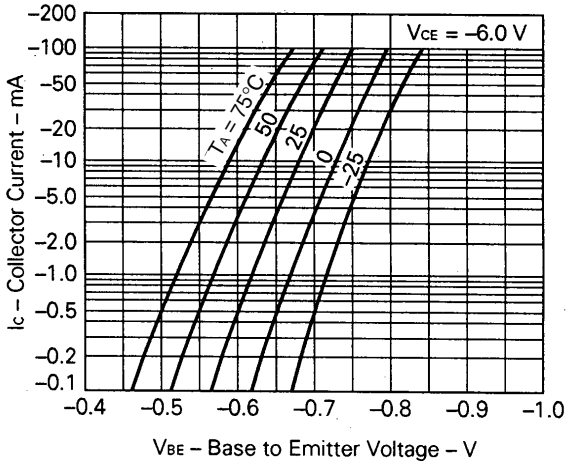
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<R> TYPICAL CHARACTERISTICS (T_A = 25°C)

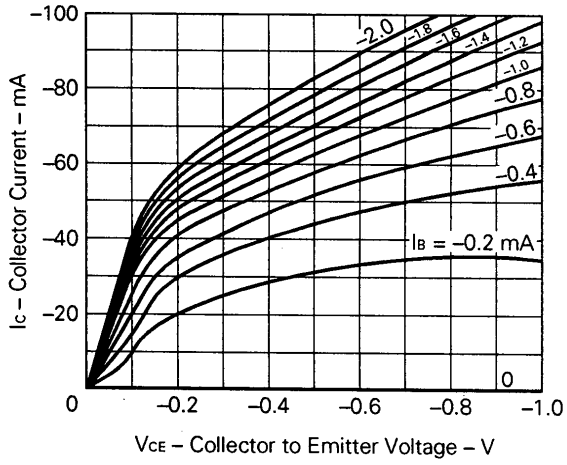
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



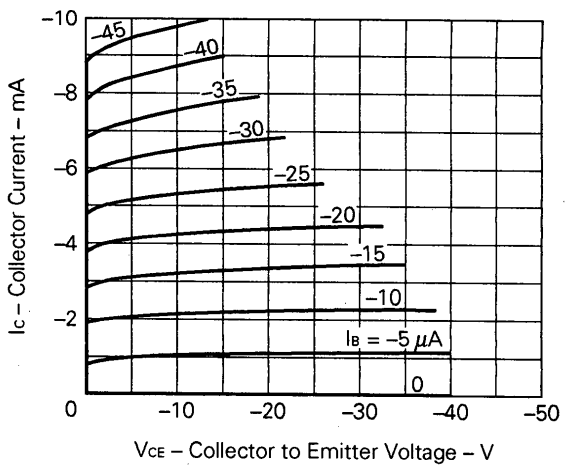
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



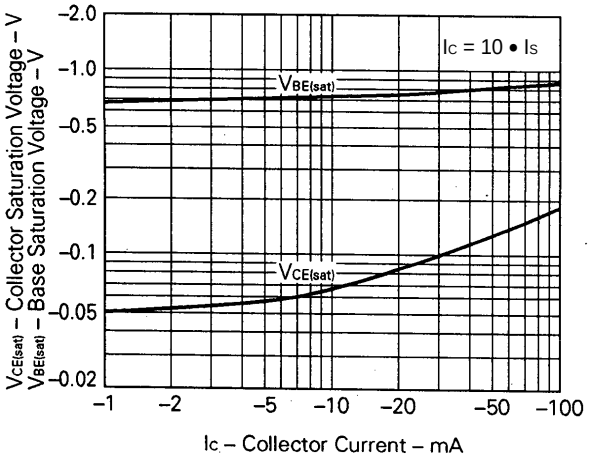
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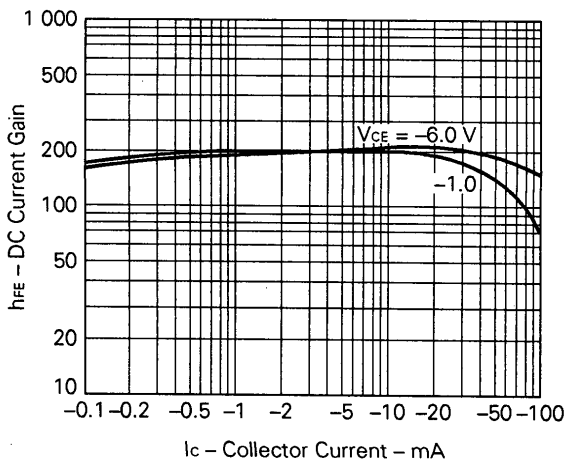
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT

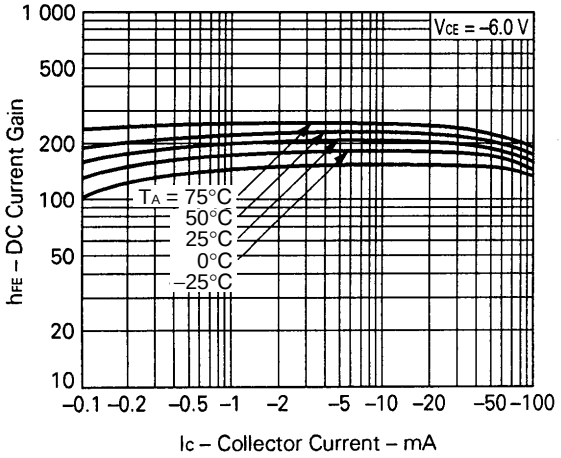


DC CURRENT GAIN vs. COLLECTOR CURRENT

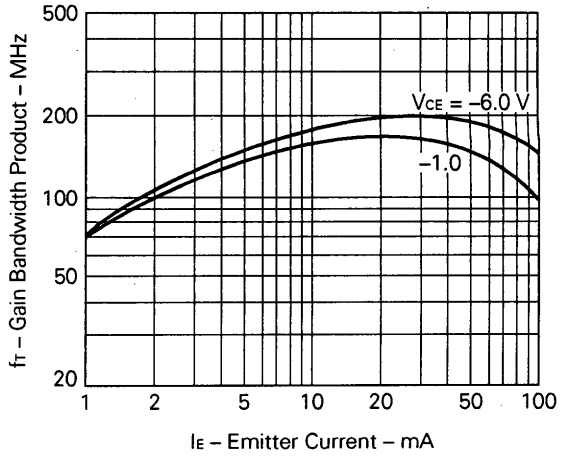


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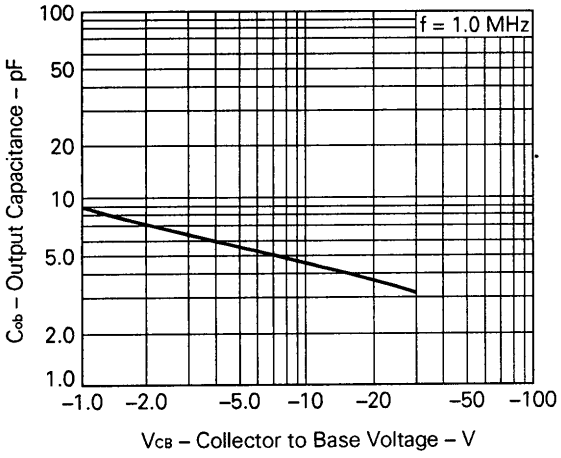
DC CURRENT GAIN vs.
COLLECTOR CURRENT



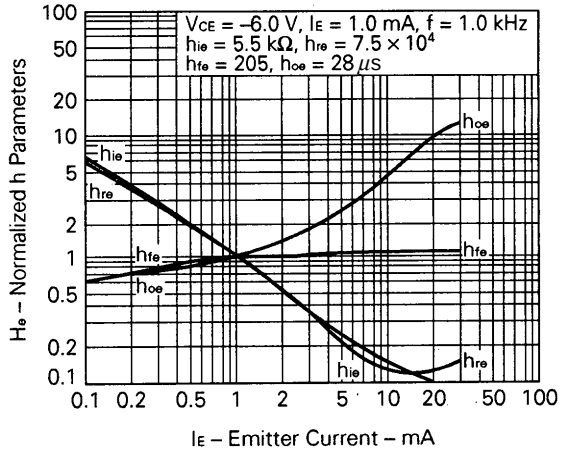
GAIN BANDWIDTH PRODUCT vs.
EMITTER CURRENT



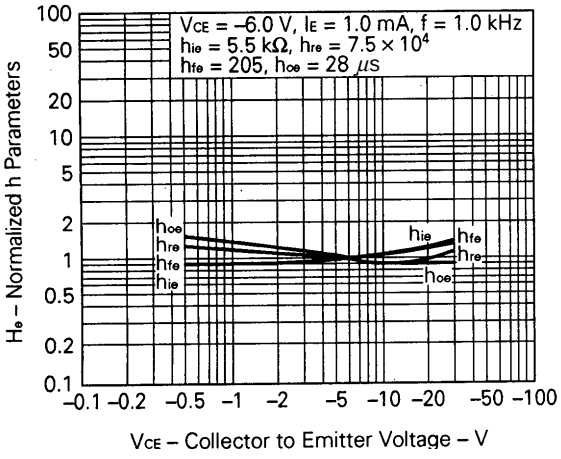
OUTPUT CAPACITANCE vs.
REVERSE VOLTAGE



NORMALIZED h PARAMETER vs.
EMITTER CURRENT



NORMALIZED h PARAMETER vs.
COLLECTOR TO EMITTER VOLTAGE



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