To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 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 1st, 2010
Renesas Electronics Corporation

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

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RENESAS

PNP SILICON TRANSISTOR 2SA733

Phase-out/Discontinued

PNP SILICON TRANSISTOR

DESCRIPTION

The 2SA733 is designed for use in diver stage of AF amplifier.

FEATURES

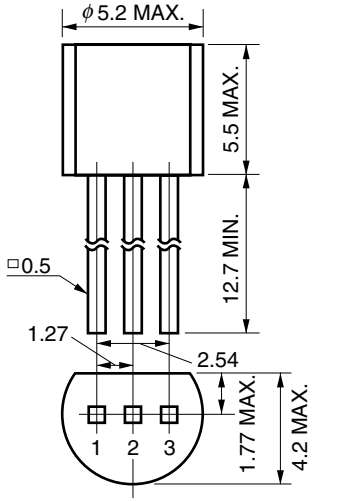
- High h_{FE} and Excellent Linearity: 200 TYP.
  h_{FE} (V_{CE} = –6.0 V, I_C = –1.0 mA)

ABSOLUTE MAXIMUM RATINGS

Maximum Temperature		
Storage Temperature		–55 to +150°C
Junction Temperature		+150°C Maximum
Maximum Power Dissipations (T_A = 25°C)		
Total Power Dissipation		250 mW
Maximum Voltages and Currents (T_A = 25°C)		
V_{CBO}	Collector to Base Voltage	–60 V
V_{CEO}	Collector to Emitter Voltage	–50 V
V_{EBO}	Emitter to Base Voltage	–5.0 V
I_C	Collector Current	–100 mA
I_B	Base Current	–20 mA

Note Pulse Test PW ≤ 350 μs, Duty Cycle ≤ 2%

★ PACKAGE DRAWING (Unit: mm)



1: Emitter
2: Collector
3: Base

EIAJ: SC-43B
JEDEC: TO-92
IEC: PA33

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Current Gain	h_{FE}	V_{CE} = –6.0 V, I_C = –1.0 mA	90	200	600	
Gain Bandwidth Product	f_T	V_{CE} = –6.0 V, I_E = 10 mA		180		MHz
Output Capacitance	C_{ob}	V_{CB} = –10 V, I_E = 0, f = 1.0 MHz		4.5		pF
Collector Cutoff Current	I_{CBO}	V_{CB} = –60 V, I_E = 0 A			–0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = –5.0 V, I_C = 0 A			–0.1	μA
Base to Emitter Voltage	V_{BE}	I_{CE} = –6.0 A, I_C = –1.0 mA	–0.58	–0.62	–0.68	V
Collector Saturation Voltage	$V_{CE(sat)}$	I_C = –100 mA, I_B = –10 mA		–0.18	–0.3	V

CLASSIFICATION OF h_{FE}

Rank	R	Q	P	E
Range	90 to 180	135 to 270	200 to 400	300 to 600

Remark h_{FE} Test Conditions: V_{CE} = –6.0 V, I_C = –1.0 mA

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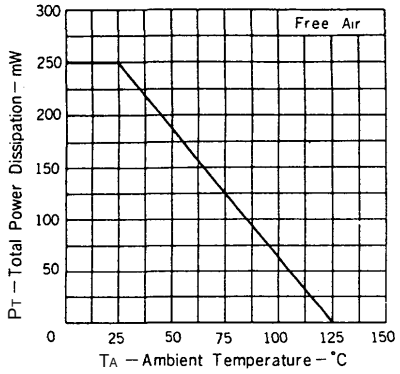
Date Published March 2004 N CP(K)
Printed in Japan

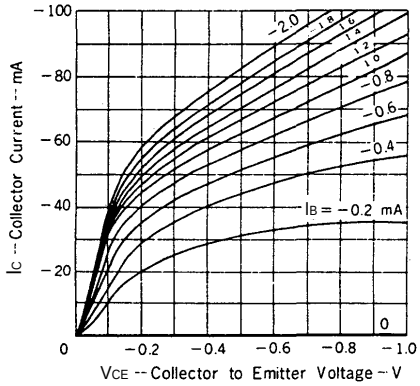
The mark ★ shows major revised points.

TYPICAL CHARACTERISTICS (T_A = 25°C, otherwise noted.)

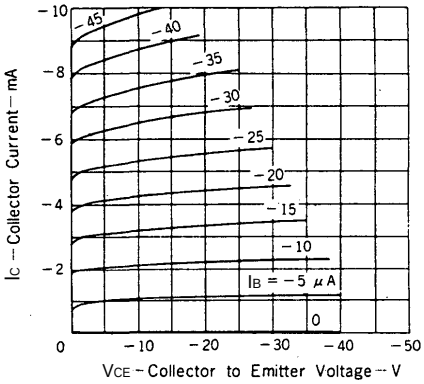
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



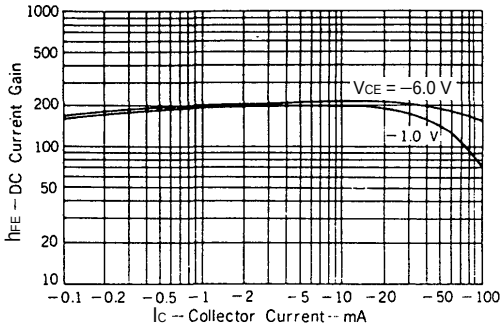
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



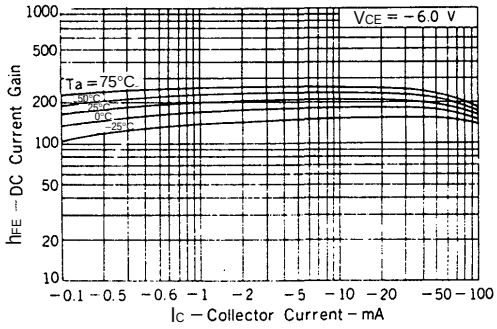
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



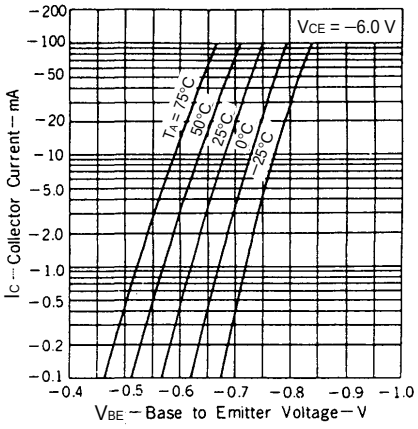
DC CURRENT GAIN vs. COLLECTOR CURRENT



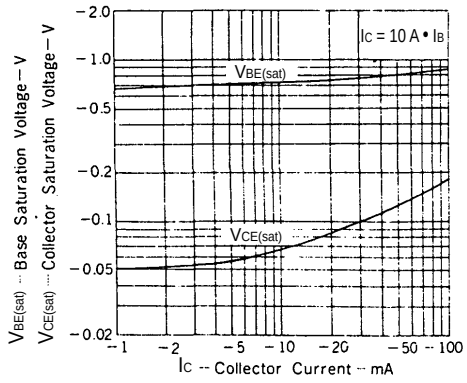
DC CURRENT GAIN vs. COLLECTOR CURRENT



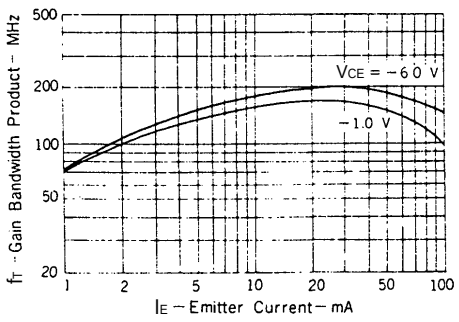
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



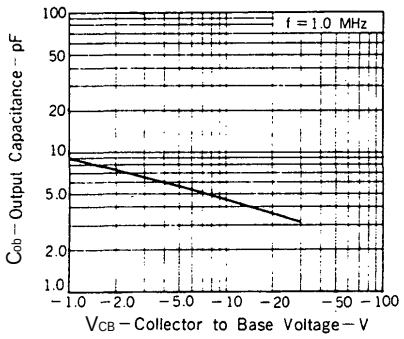
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



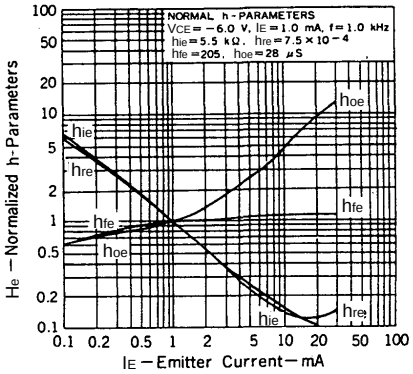
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



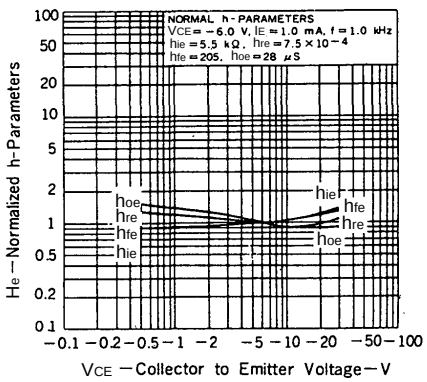
OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



NORMALIZED h-PARAMETERS vs. EMITTER CURRENT



NORMALIZED h-PARAMETERS vs. COLLECTOR TO EMITTER VOLTAGE



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