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

SILICON POWER TRANSISTOR 2SC2690,2690A

Phase-out/Discontinued

NPN SILICON EPITAXIAL TRANSISTOR FOR LOW/HIGH FREQUENCY POWER AMPLIFICATION

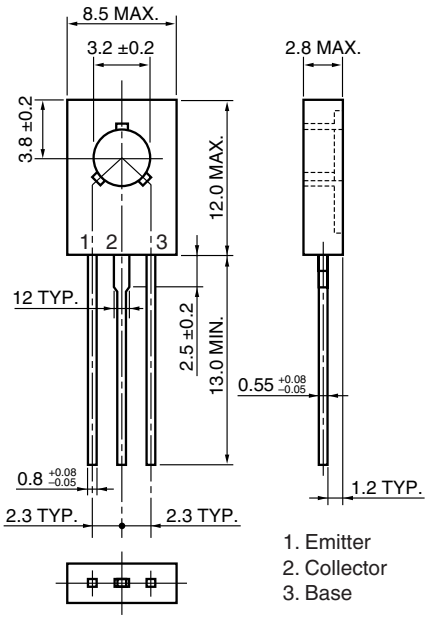
DESCRIPTION

These products are general purpose transistors designed for use in audio and radio frequency power amplifiers.

FEATURES

- Suitable for use in driver stage of 50 to 100 W audio amplifiers and output stage of TV vertical deflection circuit.
- High voltage and high f_T
  V_{CEO} = 120 V (2SC2690) / 160 V (2SC2690A)
  f_T = 175 MHz (V_{CE} = 5.0 V, I_C = 0.2 A)
- Complementary to the 2SA1220 and 2SA1220A PNP transistors.

★ PACKAGE DRAWING (Unit: mm)



★ ORDERING INFORMATION

PART NUMBER	PACKAGE
2SC2690	TO-126 (MP-5)
2SC2690-AZ Note	TO-126 (MP-5)
2SC2690A	TO-126 (MP-5)
2SC2690A-AZ Note	TO-126 (MP-5)

Note Pb-free (This product does not contain Pb in external electrode.)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

		2SA2690	2SA2690A	
Collector to Base Voltage	V_{CBO}	120	160	V
Collector to Emitter Voltage	V_{CEO}	120	160	V
Emitter to Base Voltage	V_{EBO}	5.0		V
Collector Current (DC)	$I_{C(DC)}$	1.2		A
Collector Current (pulse) Note	$I_{C(pulse)}$	2.5		A
Base Current (DC)	$I_{B(DC)}$	0.3		A
Total Power Dissipation (T_A = 25°C)	P_T	1.2		W
Total Power Dissipation (T_C = 25°C)	P_T	20		W
Junction Temperature	T_j	150		°C
Storage Temperature	T_{stg}	–55 to +150		°C

Note PW ≤ 10 ms, Duty Cycle ≤ 50%

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Printed in Japan

The mark ★ shows major revised points.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 120. V, I_E = 0			1.0	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 3.0 V, I_C = 0			1.0	μA
DC Current Gain **Note**	h_{FE1}	V_{CE} = 5.0 V, I_C = 5.0 mA	35	150		
	h_{FE2}	V_{CE} = 5.0 V, I_C = 0.3 A	60	140	320	
Collector Saturation Voltage **Note**	$V_{CE(sat)}$	I_C = 1.0 A, I_B = 0.2 A		0.4	0.7	V
Base Saturation Voltage **Note**	$V_{BE(sat)}$			1.0	1.3	V
Gain Bandwidth Product	f_T	V_{CE} = 5.0 V, I_C = 0.2 A		175		MHz
Output Capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz		26		pF

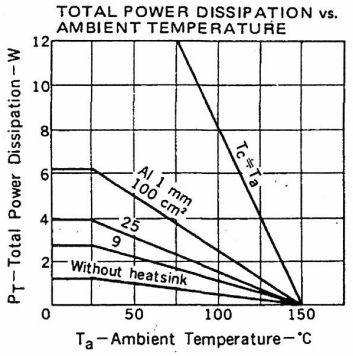
Note Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2%

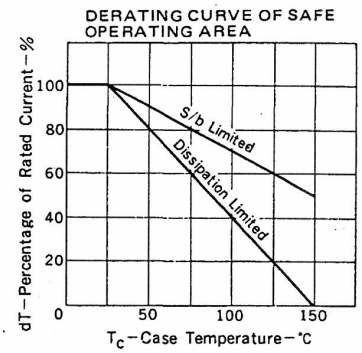
h_{FE} CLASSIFICATION

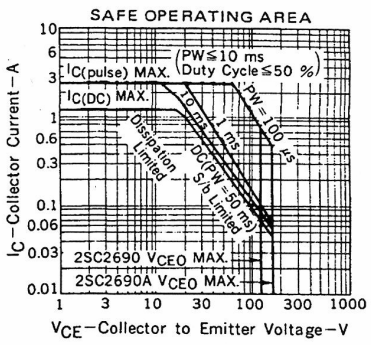
MARKING	R	Q	P
h_{FE2}	60 to 120	100 to 200	160 to 320

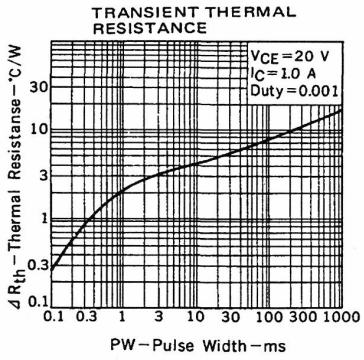
Remark Test condition: V_{CE} = 5.0 V, I_C = 0.3 A

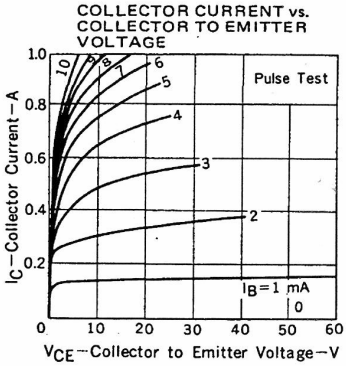
TYPICAL CHARACTERISTICS (T_A = 25°C)

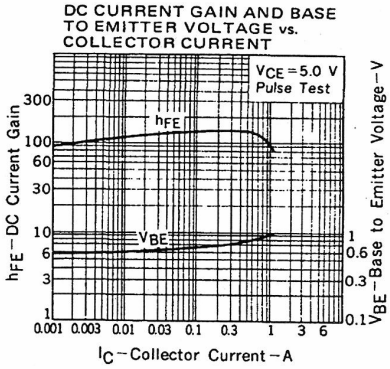


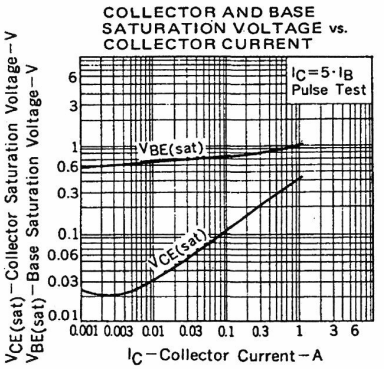


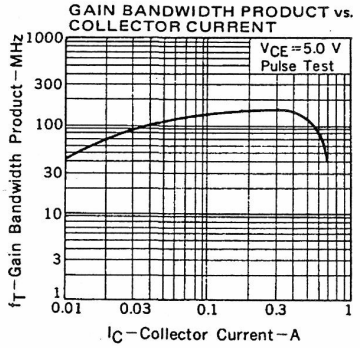


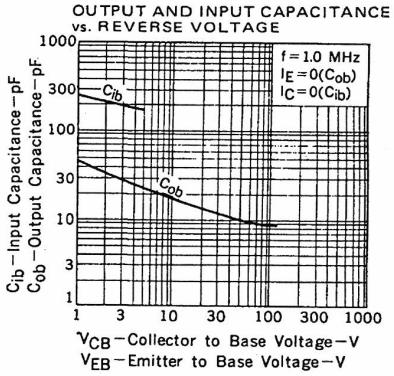












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