

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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Phase-out/Discontinued

**NPN SILICON EPITAXIAL TRANSISTOR
 FOR LOW/HIGH FREQUENCY POWER AMPLIFICATION**

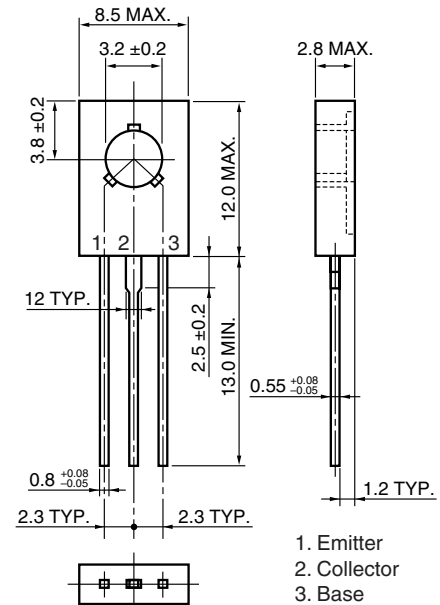
DESCRIPTION

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_r
 $V_{CE0} = 120\text{ V (2SC2690) / 160 V (2SC2690A)}$
 $f_r = 175\text{ MHz (}V_{CE} = 5.0\text{ V, }I_C = 0.2\text{ A)}$
- 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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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CB0}	V _{CB} = 120 V, I _E = 0			1.0	μA
Emitter Cut-off Current	I _{EB0}	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

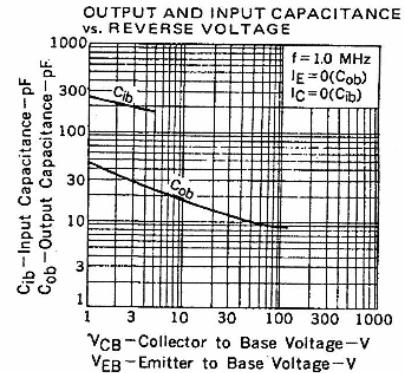
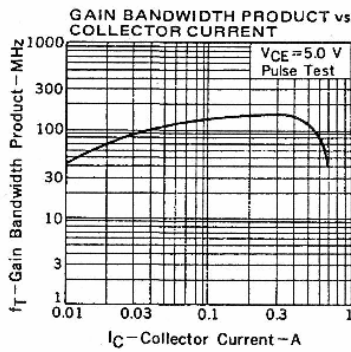
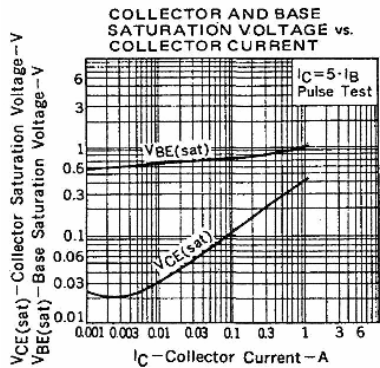
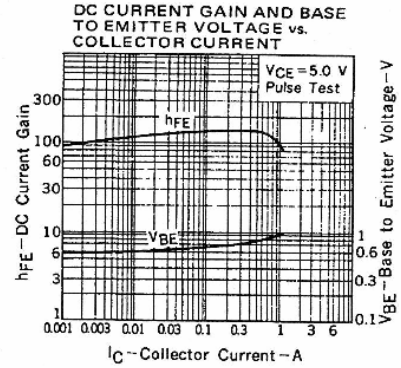
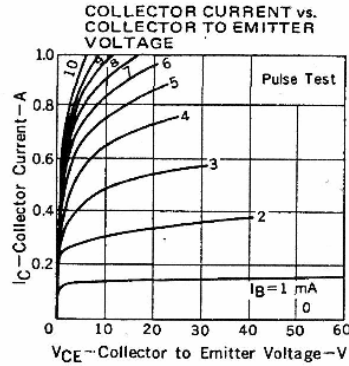
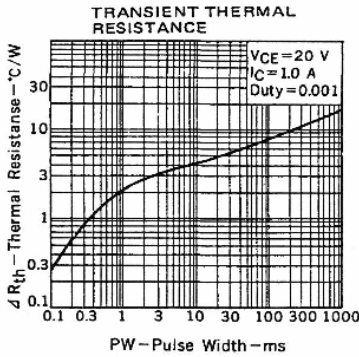
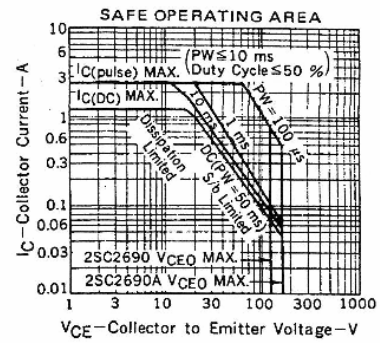
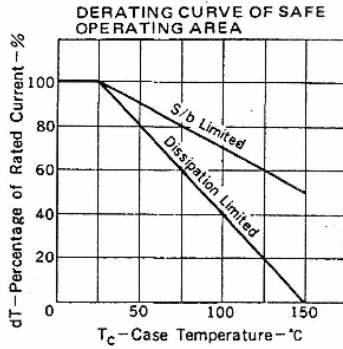
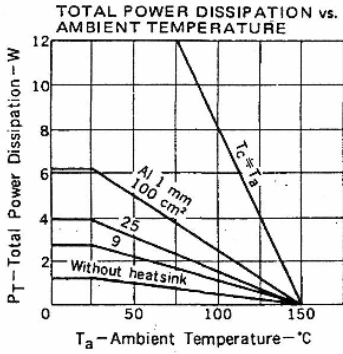
Note Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2%

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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