

SILICON POWER TRANSISTOR 2SC2690,2690A

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

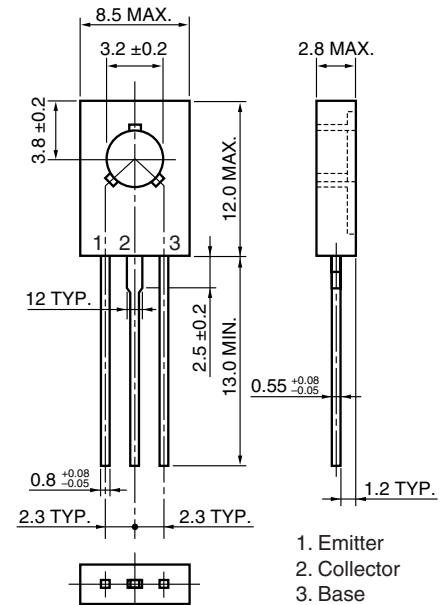
- Suitable for use in driver stage of 50 to 100 W audio amplifiers and output stage of TV vertical deflection circuit.
- High voltage and high f_r
 $V_{CEO} = 120 \text{ V (2SC2690) / 160 V (2SC2690A)}$
 $f_r = 175 \text{ MHz (} V_{CE} = 5.0 \text{ V, } I_C = 0.2 \text{ A)}$
- Complementary to the 2SA1220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

★ 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.)

★ PACKAGE DRAWING (Unit: mm)



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

		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 ($T_A = 25^\circ\text{C}$)	P_T	1.2		W
Total Power Dissipation ($T_C = 25^\circ\text{C}$)	P_T	20		W
Junction Temperature	T_j	150		$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

Note $PW \leq 10 \text{ ms, Duty Cycle} \leq 50\%$

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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

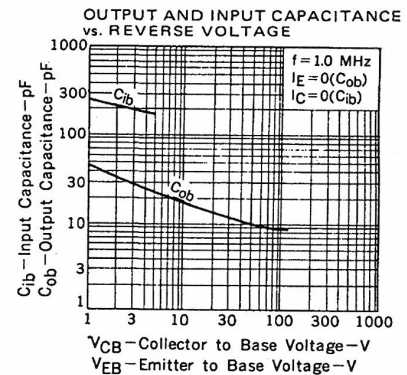
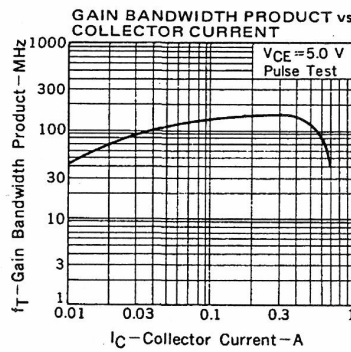
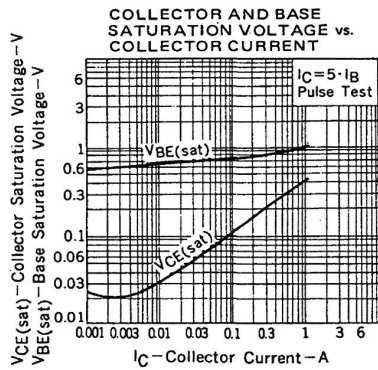
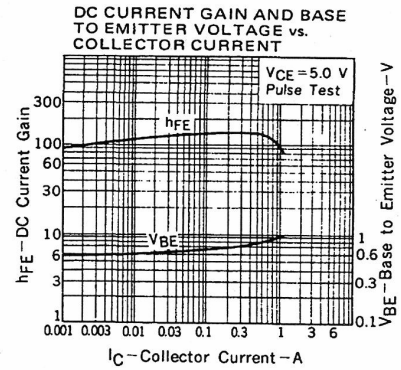
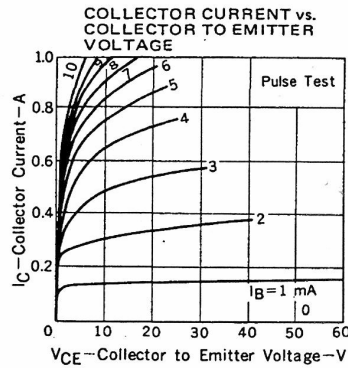
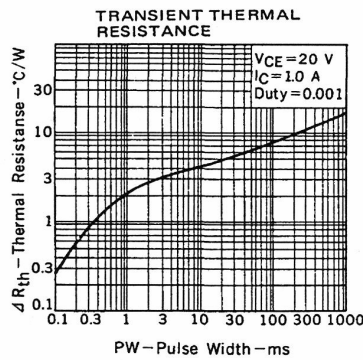
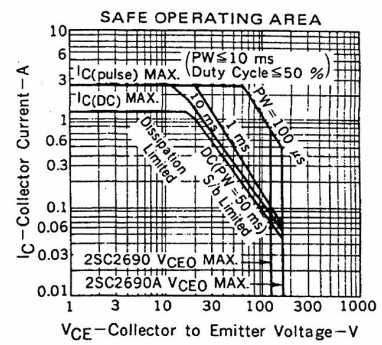
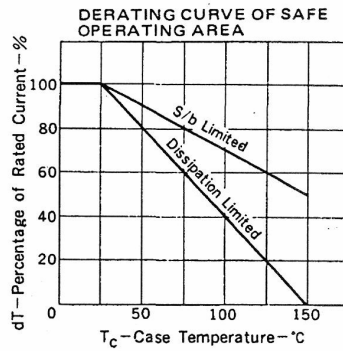
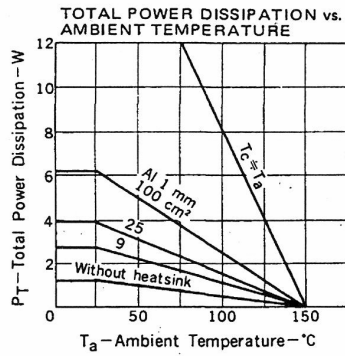
Note Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2%

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



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