

XP02401 (XP2401)

Silicon PNP epitaxial planar type

For general amplification

■ Features

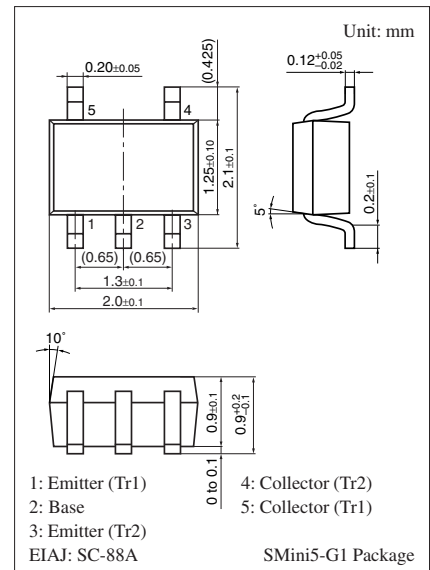
- Two elements incorporated into one package
(Base-coupled transistors)
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number

- 2SB0709A (2SB709A) × 2

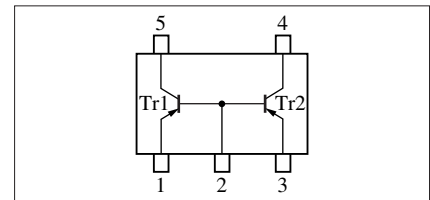
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-60	V
Collector-emitter voltage (Base open)	V_{CEO}	-50	V
Emitter-base voltage (Collector open)	V_{EBO}	-7	V
Collector current	I_{C}	-100	mA
Peak collector current	I_{CP}	-200	mA
Total power dissipation	P_{T}	150	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Marking Symbol: 7R

Internal Connection

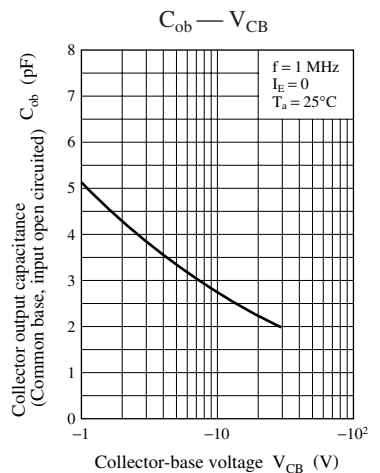
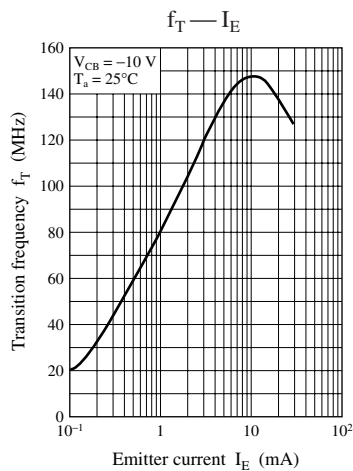
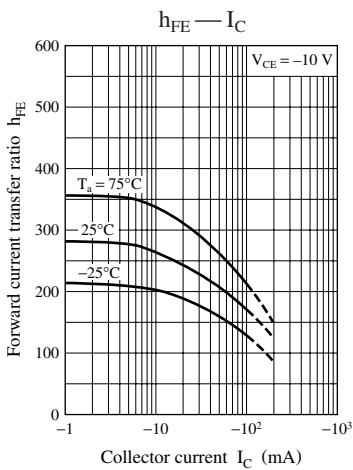
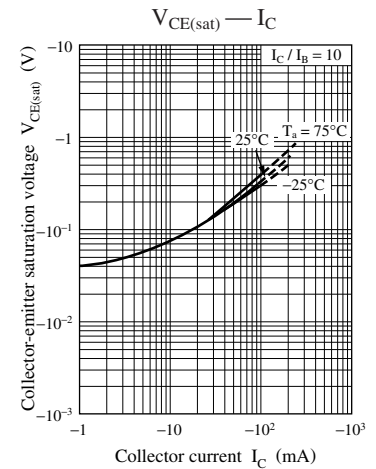
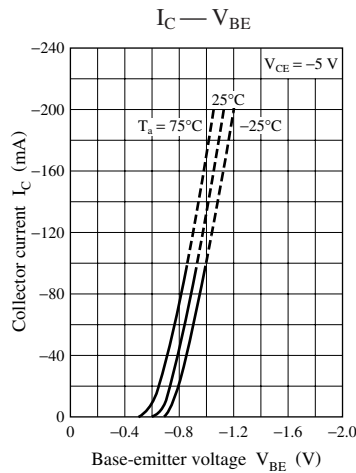
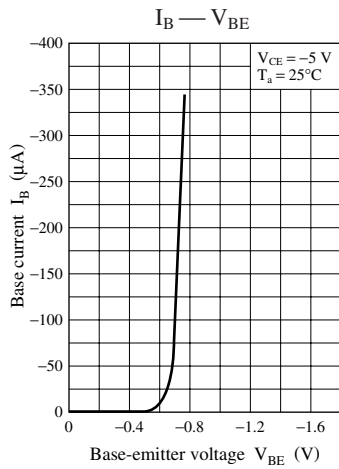
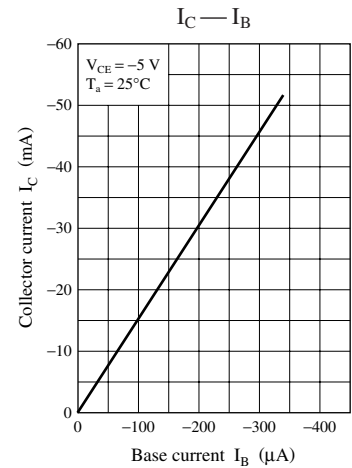
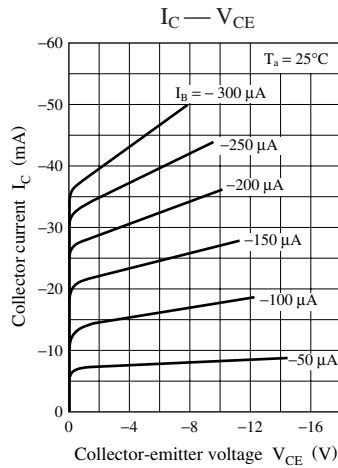
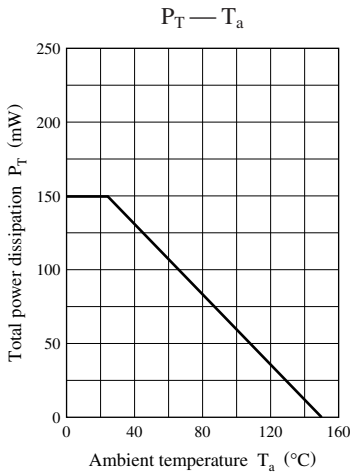


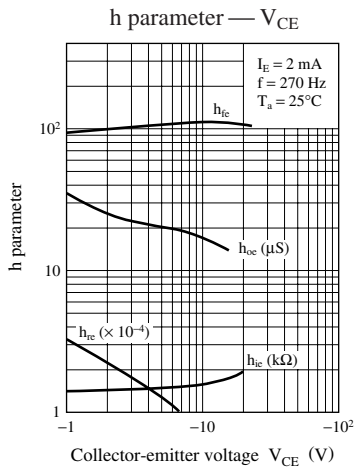
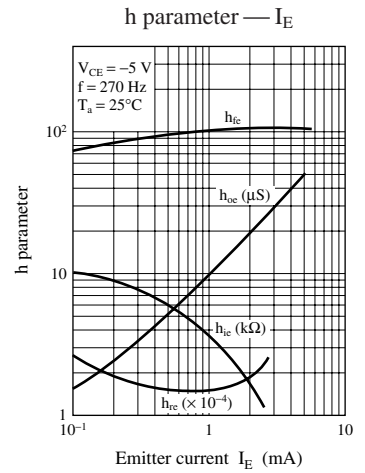
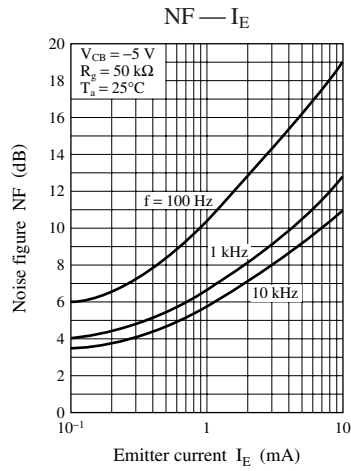
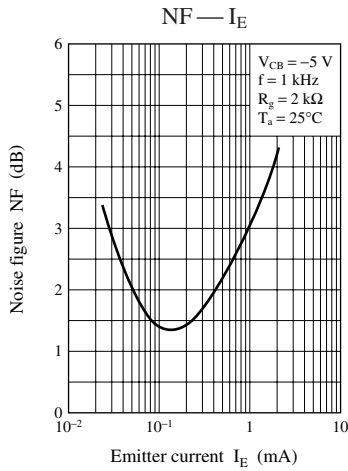
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_{\text{C}} = -10 \mu\text{A}$, $I_{\text{E}} = 0$	-60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_{\text{C}} = -2 \text{ mA}$, $I_{\text{B}} = 0$	-50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_{\text{E}} = -10 \mu\text{A}$, $I_{\text{C}} = 0$	-7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = -20 \text{ V}$, $I_{\text{E}} = 0$			-0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = -10 \text{ V}$, $I_{\text{B}} = 0$			-100	μA
Forward current transfer ratio	h_{FE}	$V_{\text{CE}} = -10 \text{ V}$, $I_{\text{C}} = -2 \text{ mA}$	160		460	—
h_{FE} ratio *	$h_{\text{FE}}(\text{Small/Large})$	$V_{\text{CE}} = -10 \text{ V}$, $I_{\text{C}} = -2 \text{ mA}$	0.50	0.99		—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -100 \text{ mA}$, $I_{\text{B}} = -10 \text{ mA}$		-0.3	-0.5	V
Transition frequency	f_{T}	$V_{\text{CB}} = -10 \text{ V}$, $I_{\text{E}} = 1 \text{ mA}$, $f = 200 \text{ MHz}$		80		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{\text{CB}} = -10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$		2.7		pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Ratio between 2 elements

Note) The part number in the parenthesis shows conventional part number.





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