# XN02401 (XN2401)

# Silicon PNP epitaxial planer transistor

### For general amplification

#### Features

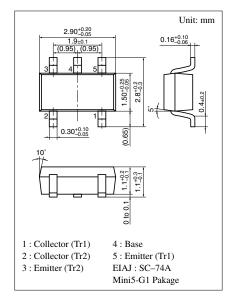
- Two elements incorporated into one package. (Base-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

### Basic Part Number of Element

•  $2SB0709A(2SB709A) \times 2$  elements

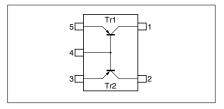
## Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit	
Rating of element	Collector to base voltage	$V_{CBO}$	-60	V	
	Collector to emitter voltage	$V_{CEO}$	-50	V	
	Emitter to base voltage	$V_{EBO}$	<b>-7</b>	V	
	Collector current	$I_{C}$	-100	mA	
	Peak collector current	$I_{CP}$	-200	mA	
Overall	Total power dissipation	$P_{T}$	300	mW	
	Junction temperature	$T_{j}$	150	°C	
	Storage temperature	$T_{stg}$	-55 to +150	°C	



#### Marking Symbol: 7R

#### Internal Connection

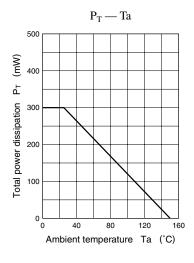


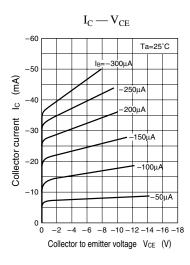
#### Electrical Characteristics (Ta=25°C)

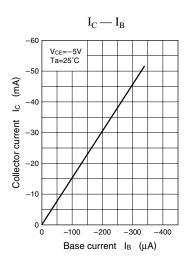
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	$V_{CBO}$	$I_{\rm C} = -10\mu{\rm A},\ I_{\rm E} = 0$	-60			V
Collector to emitter voltage	V <sub>CEO</sub>	$I_{\rm C} = -2mA$ , $I_{\rm B} = 0$	-50			V
Emitter to base voltage	V <sub>EBO</sub>	$I_E = -10\mu A, I_C = 0$	-7			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = -20V, I_E = 0$			- 0.1	μΑ
Collector cutoff current	I <sub>CEO</sub>	$V_{CE} = -10V, I_B = 0$			-100	μА
Forward current transfer ratio	h <sub>FE</sub>	$V_{CE} = -10V, I_{C} = -2mA$	160		460	
Forward current transfer h <sub>FE</sub> ratio	h <sub>FE</sub> (small/large)*1	$V_{CE} = -10V, I_{C} = -2mA$	0.5	0.99		
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = -100 \text{mA}, I_B = -10 \text{mA}$		- 0.3	- 0.5	V
Transition frequency	$f_T$	$V_{CB} = -10V$ , $I_E = 1mA$ , $f = 200MHz$		80		MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$		2.7		pF

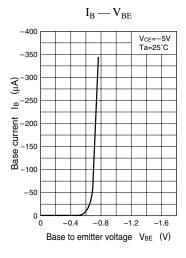
<sup>\*1</sup> Ratio between 2 elements

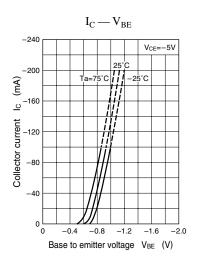
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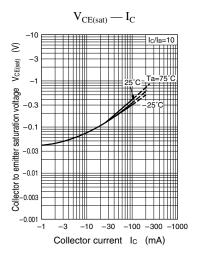


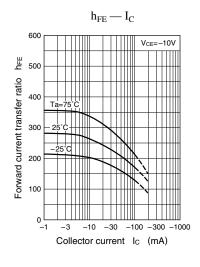


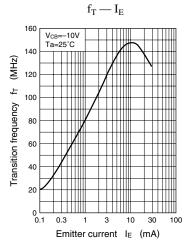


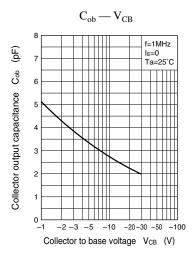




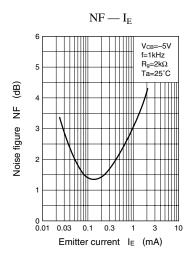


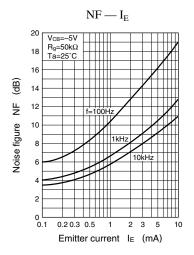


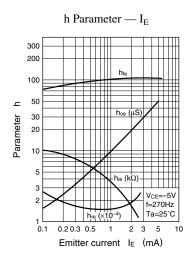


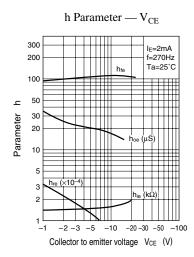


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