XP0C301 (XP1C301)

Silicon PNP epitaxial planar type (Tr1) Silicon NPN epitaxial planar type (Tr2)

For general amplification

■ Features

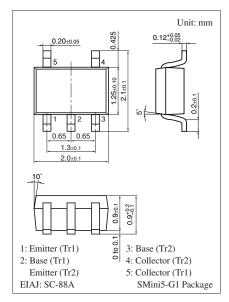
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number

• 2SB0709A (2SB709A) + 2SD0601A (2SD601A)

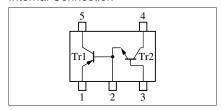
■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter		Symbol	Rating	Unit	
Tr1	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	
Tr2	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	
Overall	Total power dissipation	P _T	150	mW	
	Junction temperature	T_{j}	150	°C	
	Storage temperature	T _{stg}	-55 to +150	°C	



Marking Symbol: 4R

Internal Connection





■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

• Tr1

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	$I_C = -10 \ \mu A, I_E = 0$	-60			V
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = -2 \text{ mA}, I_B = 0$	-50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10 \ \mu A, \ I_C = 0$	-7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -20 \text{ V}, I_E = 0$			- 0.1	μΑ
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -10 \text{ V}, I_B = 0$			-100	μΑ
Forward current transfer ratio	h _{FE}	$V_{CE} = -10 \text{ V}, I_{C} = -2 \text{ mA}$	160		460	_
Collector-emitter saturation voltage	V _{CE(sat)}	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$		- 0.3	- 0.5	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 1 \text{ mA}, f = 200 \text{ MHz}$		80		MHz
Collector output capacitance	Cob	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		2.7		pF
(Common base, input open circuited)						

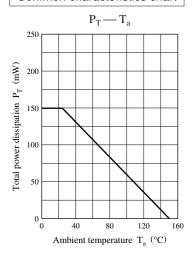
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

• Tr2

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	$I_C = 10 \ \mu A, I_E = 0$	60			V
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \ \mu A, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20 \text{ V}, I_{E} = 0$			0.1	μΑ
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 10 \text{ V}, I_{B} = 0$			100	μΑ
Forward current transfer ratio	h_{FE}	$V_{CE} = 10 \text{ V}, I_{C} = 2 \text{ mA}$	160		460	_
Collector-emitter saturation voltage	V _{CE(sat)}	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.1	0.3	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C _{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		3.5		pF

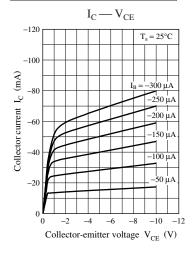
 $Note)\ Measuring\ methods\ are\ based\ on\ JAPANESE\ INDUSTRIAL\ STANDARD\ JIS\ C\ 7030\ measuring\ methods\ for\ transistors.$

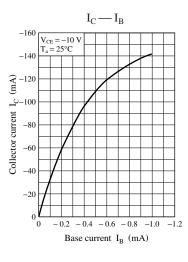
Common characteristics chart

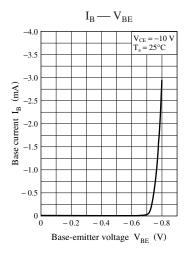


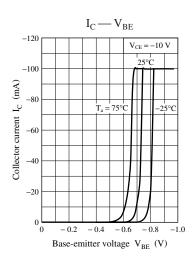
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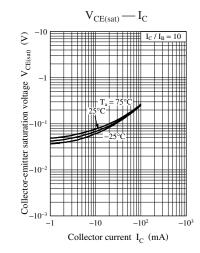
Characteristics charts of Tr1

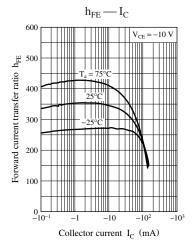


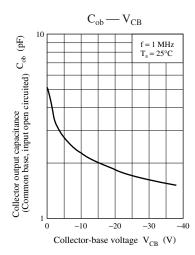






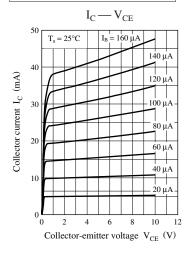


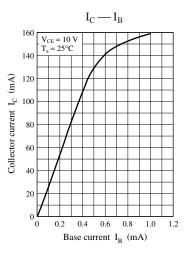


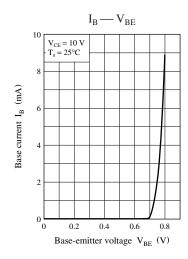


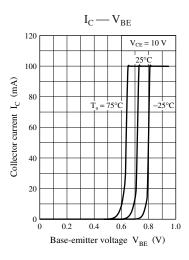
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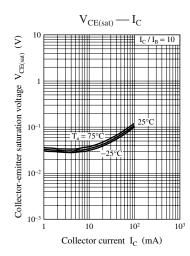
Characteristics charts of Tr2

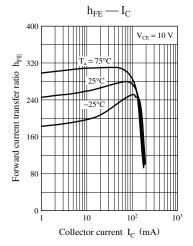


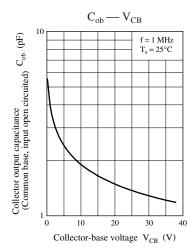












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