

# XN04482 (XN4482)

Silicon PNP epitaxial planar type

For general amplification

### ■ Features

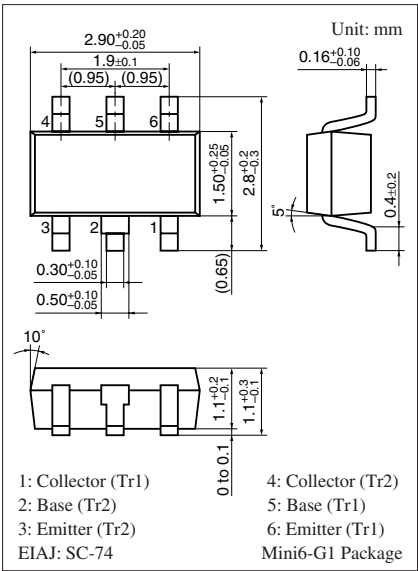
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

### ■ Basic Part Number

- 2SB0709A (2SB709A) + 2SB0710 (2SB710)

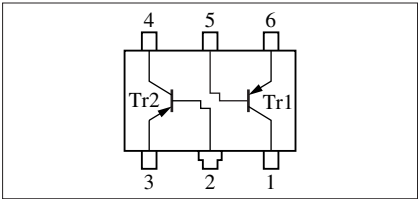
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

	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)	$V_{EBO}$	-5	V
	Collector current	$I_C$	-500	mA
	Peak collector current	$I_{CP}$	-1	A
Overall	Total power dissipation	$P_T$	300	mW
	Junction temperature	$T_j$	150	$^\circ\text{C}$
	Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



Marking Symbol: ON

Internal Connection



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

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

## • Tr1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = -10\ \mu\text{A}$ , $I_E = 0$	-60			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -2\ \text{mA}$ , $I_B = 0$	-50			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = -10\ \mu\text{A}$ , $I_C = 0$	-7			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -20\ \text{V}$ , $I_E = 0$			-0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -10\ \text{V}$ , $I_B = 0$			-100	$\mu\text{A}$
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 (Common base, input open circuited)	$C_{ob}$	$V_{CB} = -10\ \text{V}$ , $I_E = 0$ , $f = 1\ \text{MHz}$		2.7		pF

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

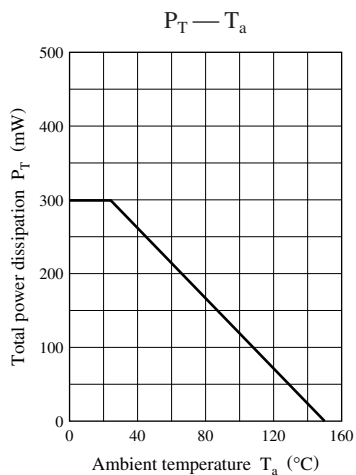
## • Tr2

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = -10\ \mu\text{A}$ , $I_E = 0$	-60			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -2\ \text{mA}$ , $I_B = 0$	-50			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = -10\ \mu\text{A}$ , $I_C = 0$	-5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -20\ \text{V}$ , $I_E = 0$			-0.1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = -10\ \text{V}$ , $I_C = -150\ \text{mA}$	85		340	—
	$h_{FE2}^*$	$V_{CE} = -10\ \text{V}$ , $I_C = -500\ \text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -300\ \text{mA}$ , $I_B = -30\ \text{mA}$		-0.35	-0.60	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -300\ \text{mA}$ , $I_B = -30\ \text{mA}$		-1.1	-1.5	V
Transition frequency	$f_T$	$V_{CB} = -10\ \text{V}$ , $I_E = 1\ \text{mA}$ , $f = 200\ \text{MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = -10\ \text{V}$ , $I_E = 0$ , $f = 1\ \text{MHz}$		6	15	pF

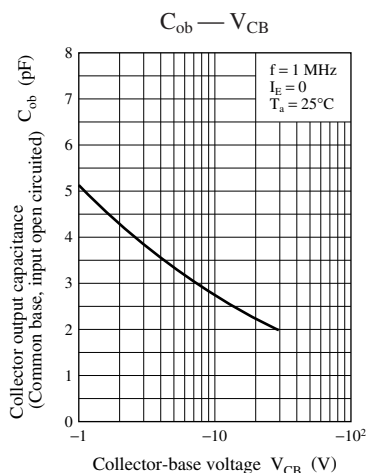
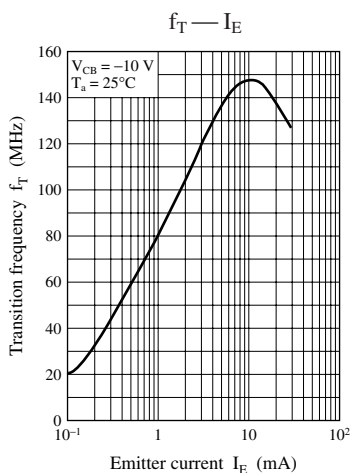
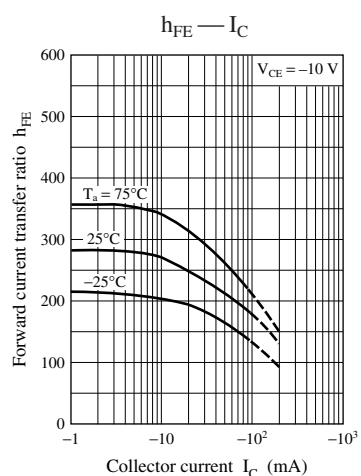
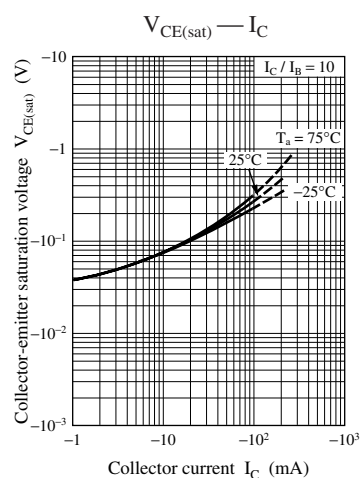
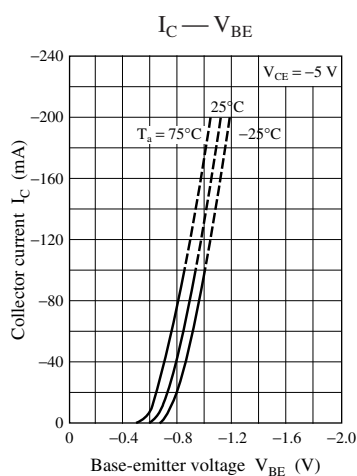
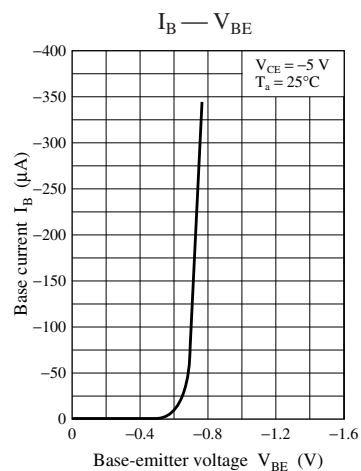
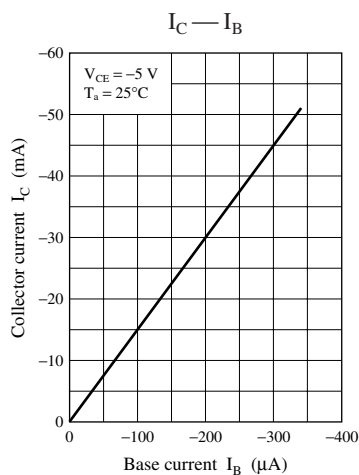
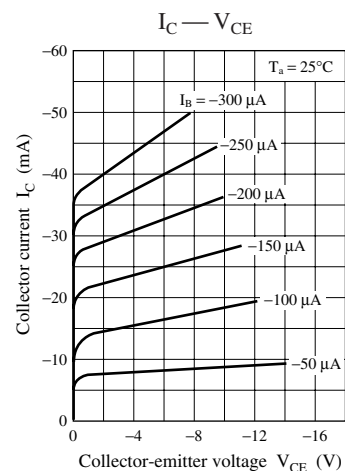
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Pulse measurement

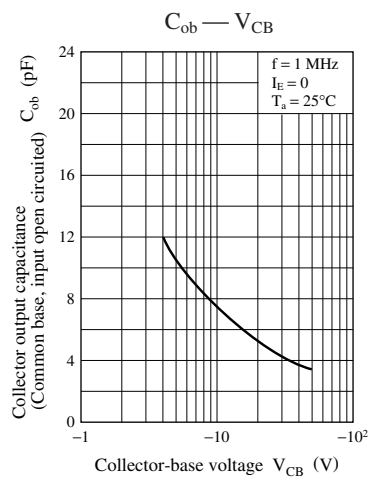
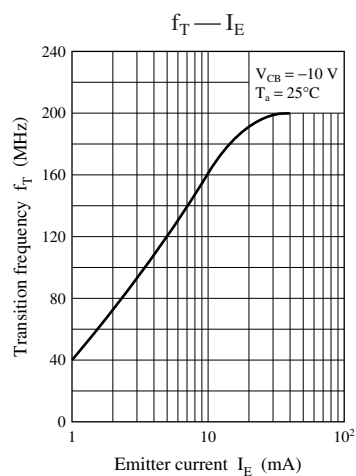
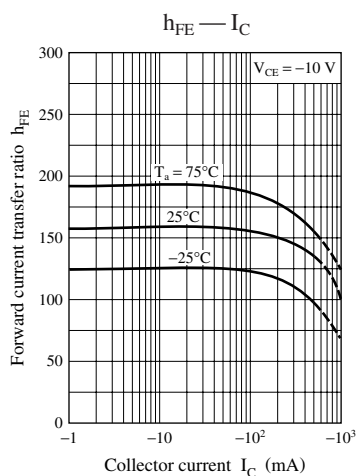
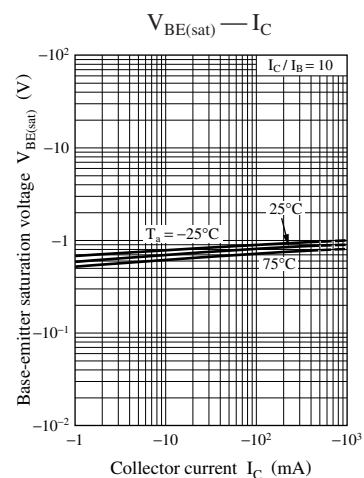
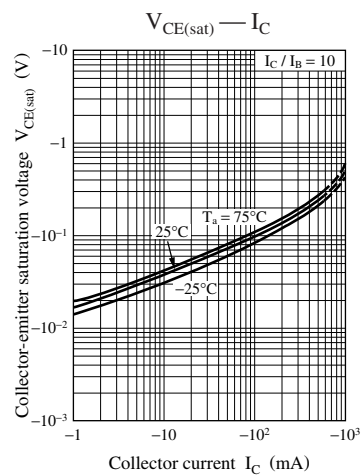
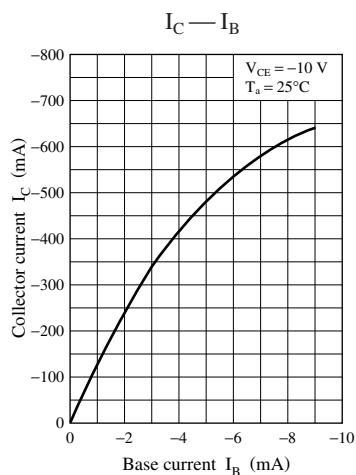
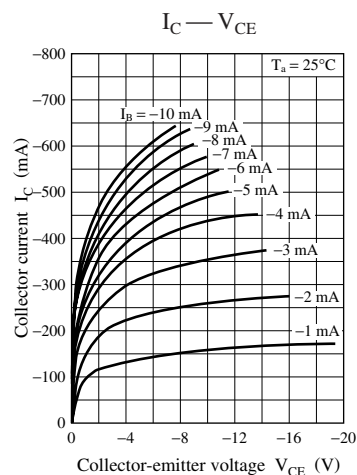
Common characteristics chart



## Characteristics charts of Tr1



Characteristics charts of Tr2



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