

XN04602

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

For general amplification

■ Features

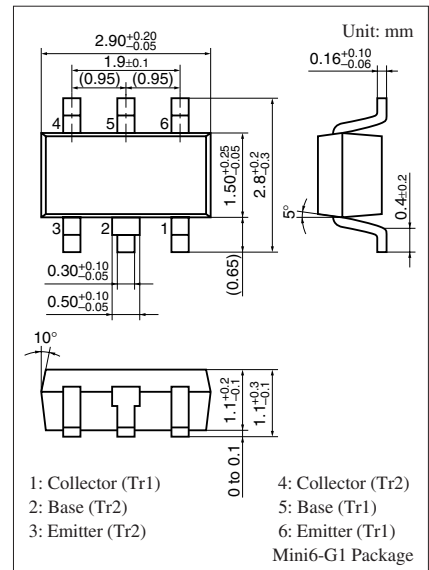
- Two elements incorporated into one package (Each transistor is separated)
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number of Element

- 2SA0719 (2SA719) + 2SC1317

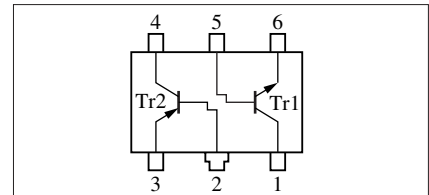
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

	Parameter	Symbol	Rating	Unit
Tr1	Collector to base voltage	V_{CBO}	60	V
	Collector to emitter voltage	V_{CEO}	50	V
	Emitter to base voltage	V_{EBO}	5	V
	Collector current	I_C	0.5	A
	Peak collector current	I_{CP}	1	A
Tr2	Collector to base voltage	V_{CBO}	-60	V
	Collector to emitter voltage	V_{CEO}	-50	V
	Emitter to base voltage	V_{EBO}	-5	V
	Collector current	I_C	-0.5	A
	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: 4A

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 to base voltage	V_{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	60			V
Collector to emitter voltage	V_{CEO}	$I_C = 10 \text{mA}, I_B = 0$	50			
Emitter to base voltage	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 20 \text{V}, I_E = 0$			0.1	μA
DC current gain *	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 to emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$		0.35	0.6	V
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		6	15	pF
Gain bandwidth product	f_T	$V_{CB} = 10 \text{V}, I_E = -50 \text{mA}, f = 200 \text{MHz}$		200		MHz

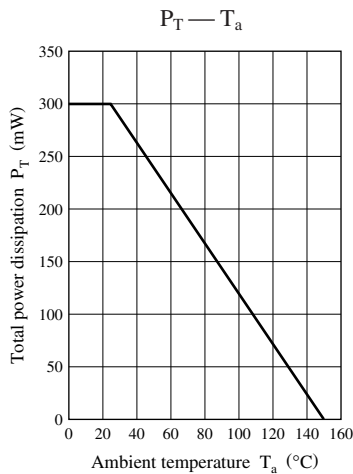
Note) *: Pulse measurement

• Tr2

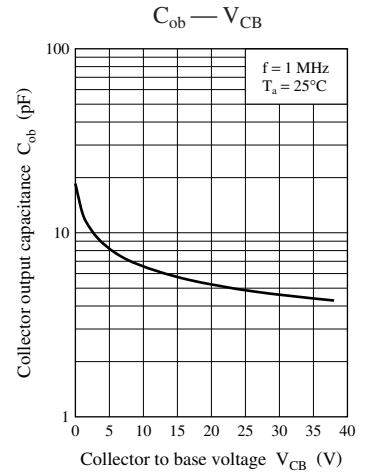
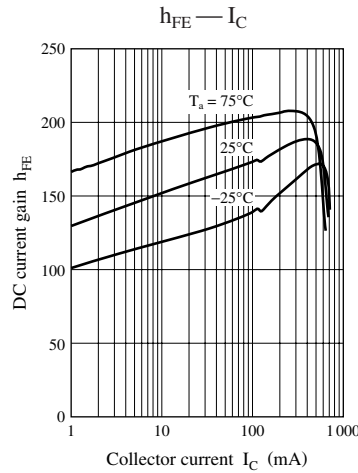
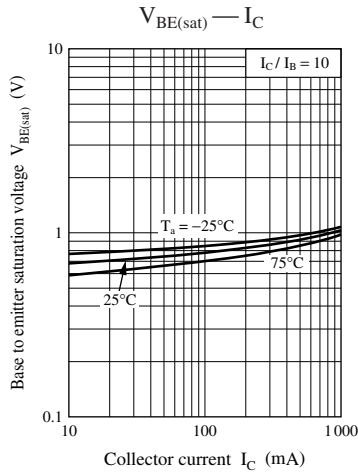
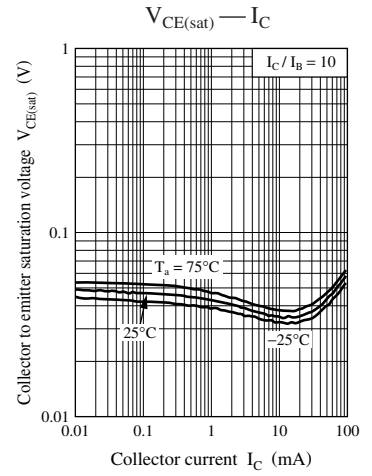
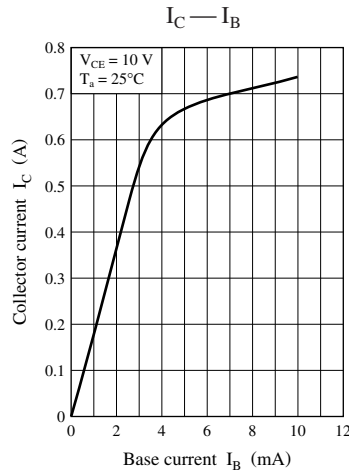
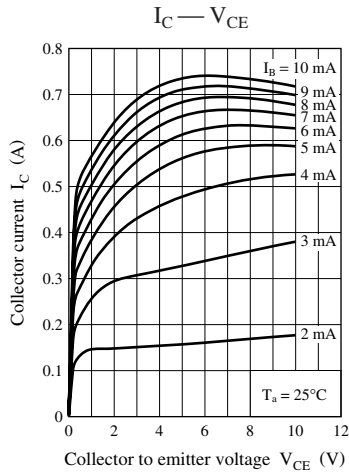
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	V_{CBO}	$I_C = -10 \mu\text{A}, I_E = 0$	-60			V
Collector to emitter voltage	V_{CEO}	$I_C = -10 \text{mA}, I_B = 0$	-50			
Emitter to base voltage	V_{EBO}	$I_E = -10 \mu\text{A}, I_C = 0$	-5			V
Collector cutoff current	I_{CBO}	$V_{CB} = -20 \text{V}, I_E = 0$			-0.1	μA
DC current gain *	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 to emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -300 \text{mA}, I_B = -30 \text{mA}$		-0.35	-0.6	V
Base to emitter saturation voltage *	$V_{BE(sat)}$	$I_C = -300 \text{mA}, I_B = -30 \text{mA}$		-1.1	-1.5	V
Collector output capacitance	C_{ob}	$V_{CB} = -10 \text{V}, I_E = 0, f = 1 \text{MHz}$		6	15	pF
Gain bandwidth product	f_T	$V_{CB} = -10 \text{V}, I_E = 50 \text{mA}, f = 200 \text{MHz}$		200		MHz

Note) *: Pulse measurement

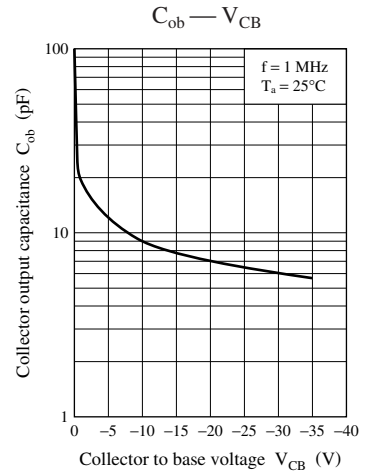
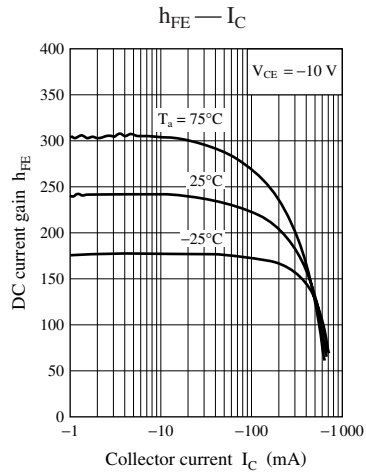
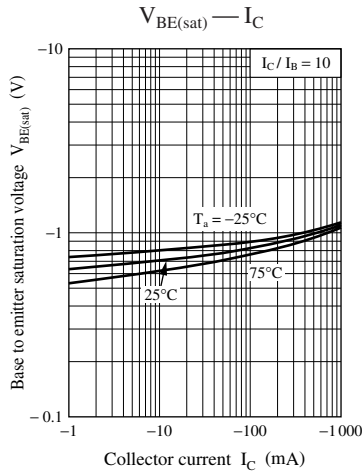
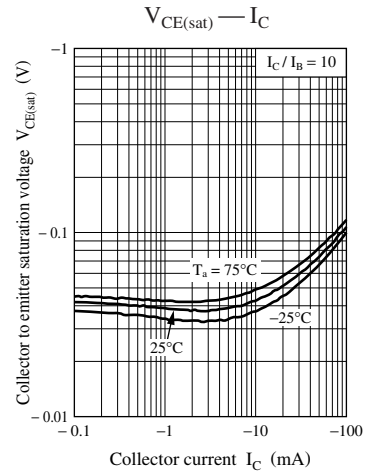
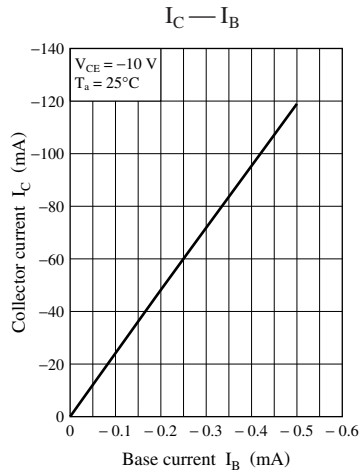
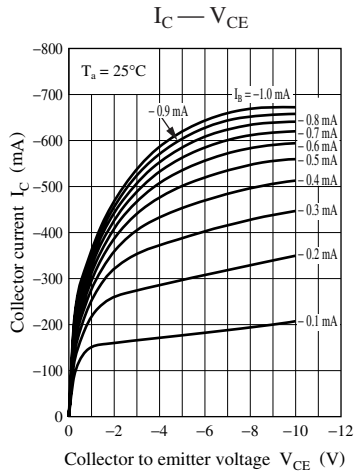
Common characteristics chart



Characteristics charts of Tr1



Characteristics charts of Tr2



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