

# XN01509 (XN1509)

## Silicon NPN epitaxial planer transistor

For high-frequency amplification

### ■ Features

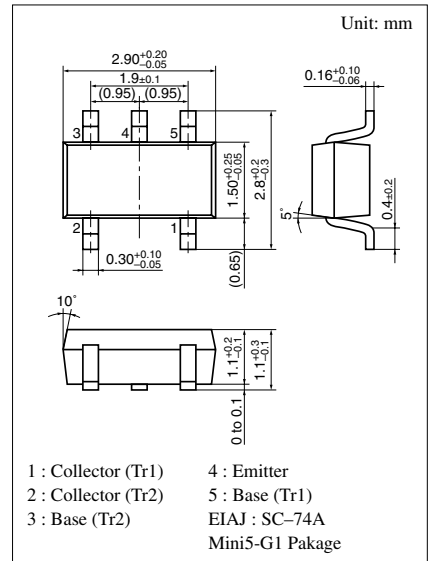
- Two elements incorporated into one package.  
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

### ■ Basic Part Number of Element

- 2SC4561 × 2 elements

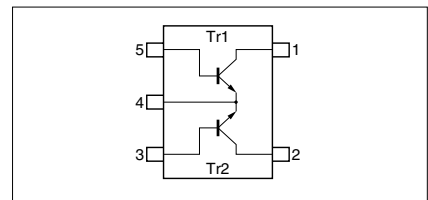
### ■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Rated Values	Unit
Rating of element	Collector to base voltage	$V_{CBO}$	50	V
	Collector to emitter voltage	$V_{CEO}$	50	V
	Emitter to base voltage	$V_{EBO}$	5	V
	Collector current	$I_C$	50	mA
Overall	Total power dissipation	$P_T$	200	mW
	Junction temperature	$T_j$	150	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C



Marking Symbol: AN

Internal Connection



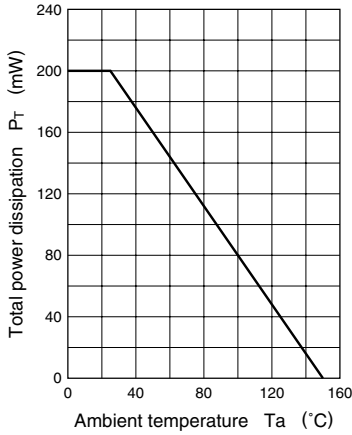
### ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	50			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 10V, I_E = 0$			0.1	$\mu A$
	$I_{CEO}$	$V_{CE} = 10V, I_B = 0$			100	$\mu A$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10V, I_C = 2mA$	200		500	
Forward current transfer $h_{FE}$ ratio	$h_{FE} (small/large)^{*1}$	$V_{CE} = 10V, I_C = 2mA$	0.5	0.99		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$		0.06	0.3	V
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -2mA, f = 200MHz$		250		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$		1.5		pF

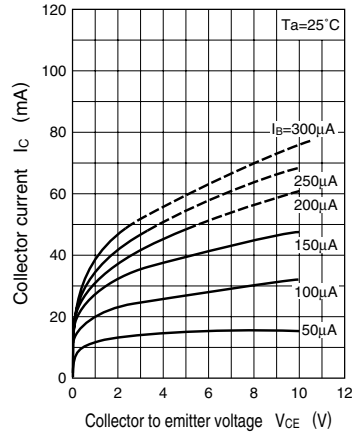
\*1 Ratio between 2 elements

Note) The Part number in the Parenthesis shows conventional part number.

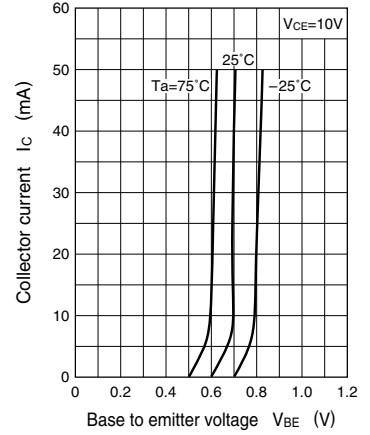
$P_T - T_a$



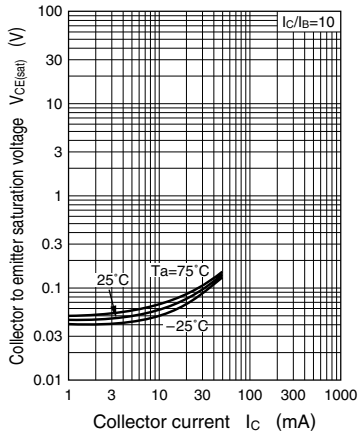
$I_C - V_{CE}$



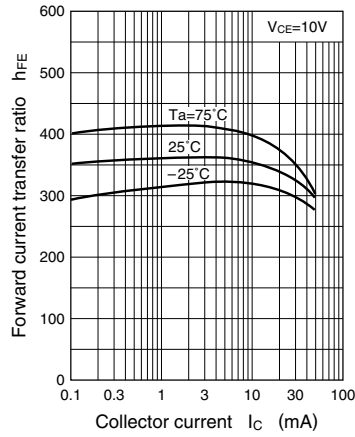
$I_C - V_{BE}$



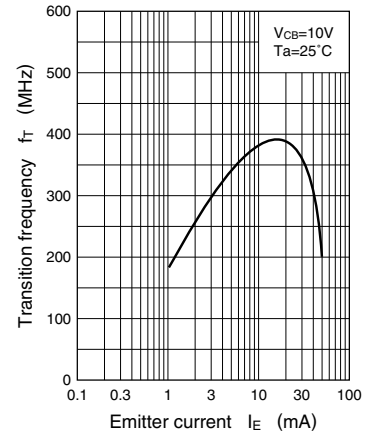
$V_{CE(sat)} - I_C$



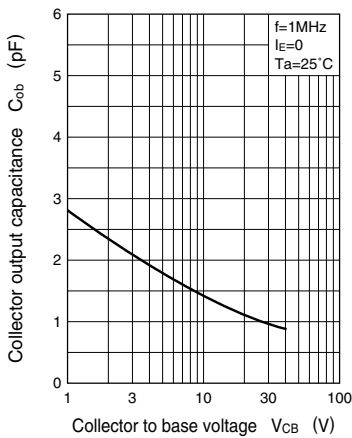
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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