

XN1509

Silicon NPN epitaxial planer transistor

For high-frequency amplification

Features

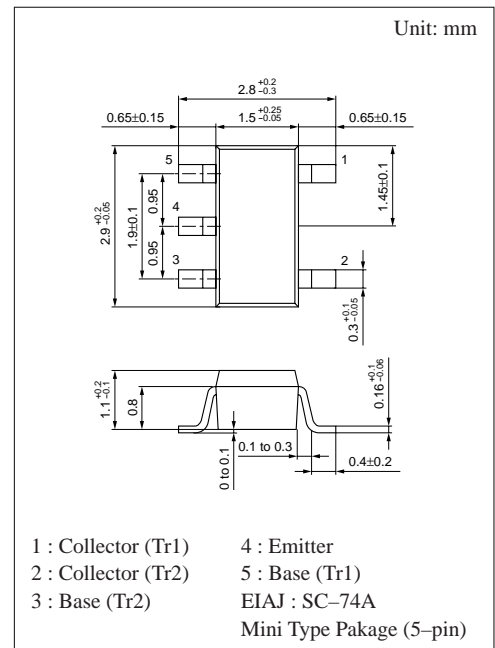
- Two elements incorporated into one package.
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

- 2SC4561 × 2 elements

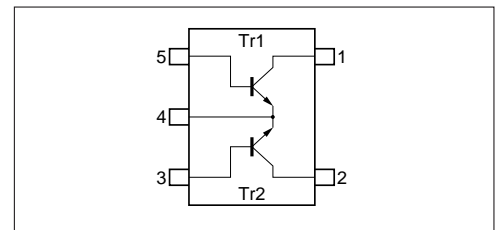
Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	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

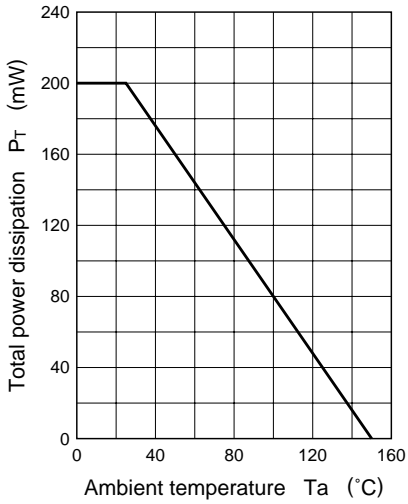


Electrical Characteristics (Ta=25°C)

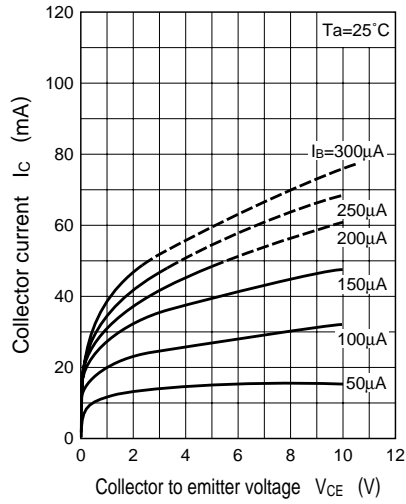
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	50			V
Collector to emitter voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			0.1	μA
	I_{CEO}	$V_{CE} = 10V, I_B = 0$			100	μA
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

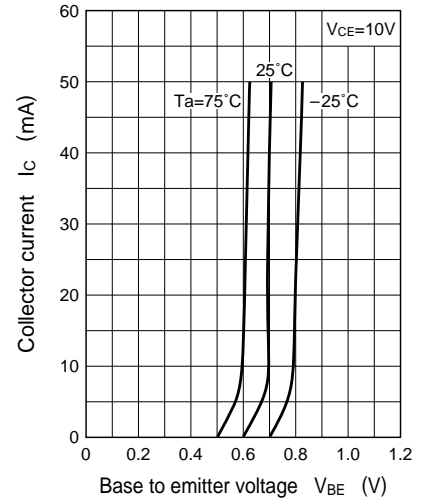
$P_T - T_a$



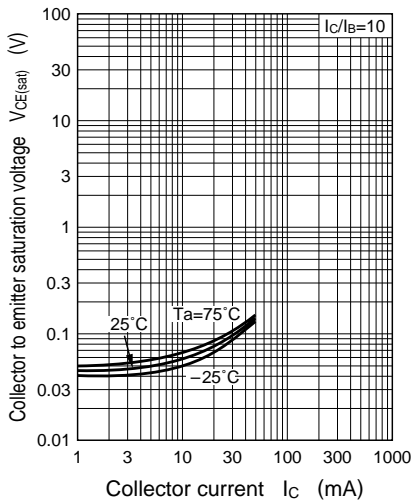
$I_C - V_{CE}$



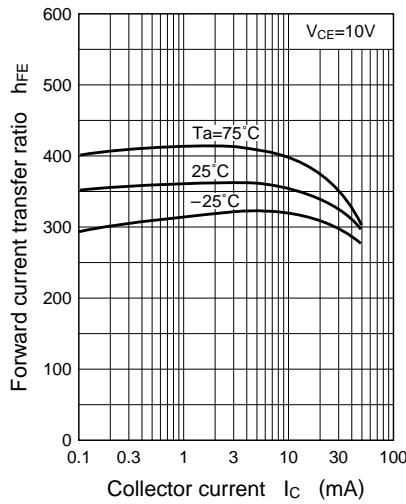
$I_C - V_{BE}$



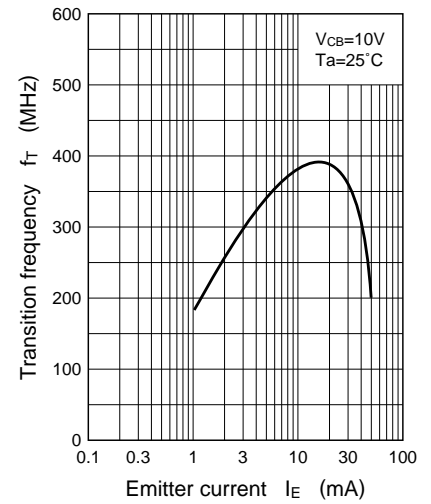
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

