

XN02531 (XN2531)

Silicon NPN epitaxial planer transistor

For high frequency, oscillation and mixing

Features

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

Basic Part Number of Element

- 2SC130 × 2 elements

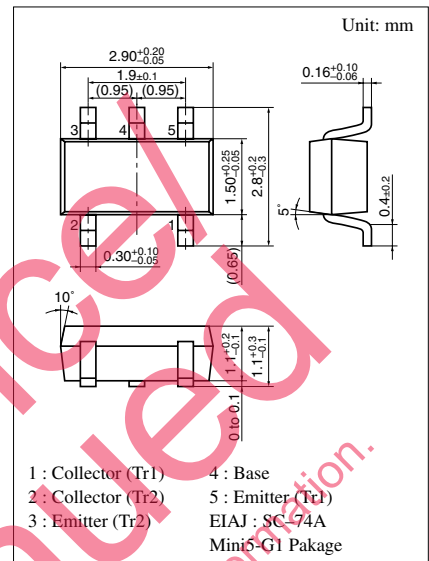
Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rated	Unit
Rating of element	Collector to base voltage	V_{CBO}	15	V
	Collector to emitter voltage	V_{CEO}	10	V
	Emitter to base voltage	V_{EBO}	3	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

Electrical Characteristics (Ta=25°C)

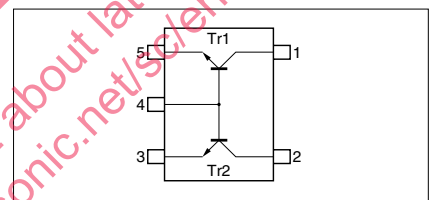
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V _{CEO}	I _C = 2mA, I _B = 0	10			V
Emitter to base voltage	V _{EBO}	I _E = 10μA, I _C = 0	3			V
Collector cutoff current	I _{CBO}	V _{CB} = 10V, I _E = 0			1	μA
	I _{CEO}	V _{CE} = 10V, I _B = 0			10	μA
Forward current transfer ratio	h _{FE1}	V _{CE} = 4V, I _C = 5mA	75	200	400	
Forward current transfer h _{FE} ratio	h _{FE} (small/large)*1	V _{CE} = 4V, I _C = 5mA	0.5	0.99		
h _{FE2} /h _{FE1} ratio	h _{FE2} /h _{FE1}	V _{CE} = 4V, I _C = 100μA	0.75		1.6	
		V _{CE} = 4V, I _C = 5mA				
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 20mA, I _B = 4mA			0.5	V
Collector output capacitance	C _{ob}	V _{CB} = 4V, I _E = 0, f = 1MHz		0.9	1.1	pF
Transition frequency	f _T	V _{CB} = 4V, I _E = -5mA, f = 200MHz	1.4	1.9	2.5	GHz
Collector to base parameter	r _{bb} · C _C	V _{CB} = 4V, I _E = -5mA, f = 30MHz		11.8	13.5	ps
Common base reverse transfer capacitance	C _{rb}	V _{CB} = 4V, I _E = 0, f = 1MHz		0.25	0.35	pF

*1 Ratio between 2 elements

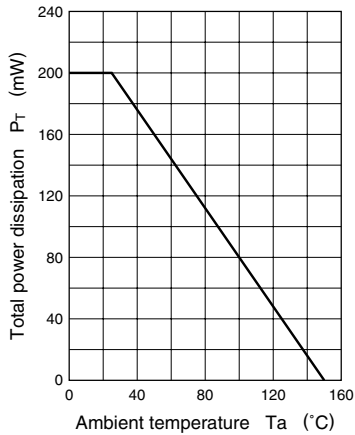
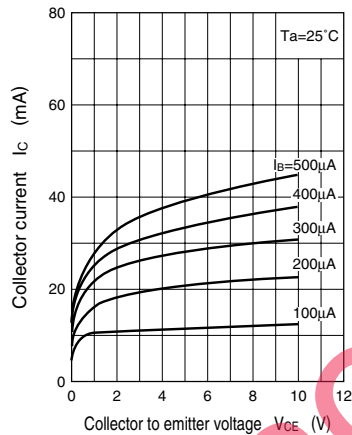
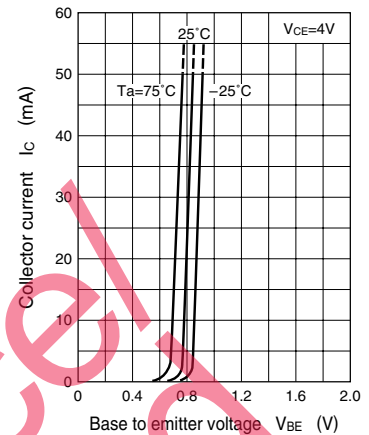
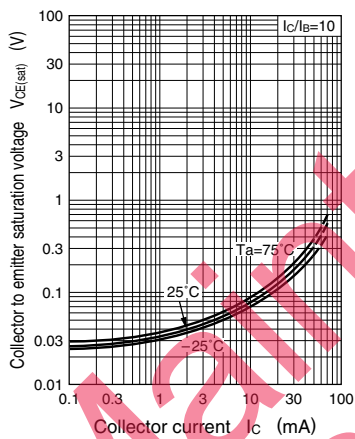
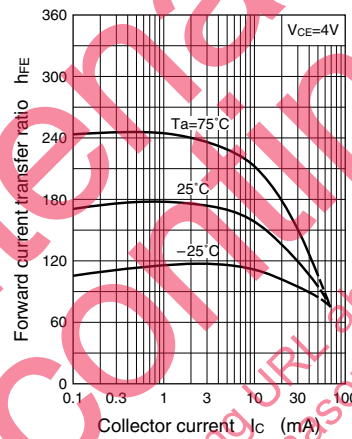
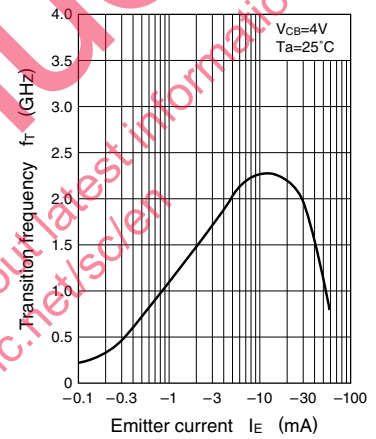
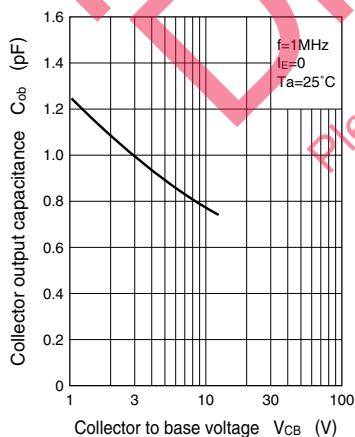


Marking Symbol: 9I

Internal Connection



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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