XN06543 (XN6543)

Silicon NPN epitaxial planer transistor

For low-noise amplification (2GHz band)

Features

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

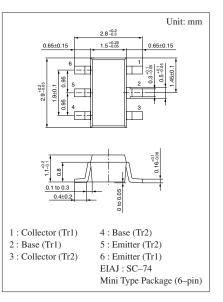
Basic Part Number of Element

• $2SC3904 \times 2$ elements

Parameter		Symbol	Ratings	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}	2	V
	Collector current	I _C	65	mA
Overall	Total power dissipation	P _T	200	mW
	Junction temperature	T_j	150	°C
	Storage temperature	T _{stg}	-55 to +150	°C

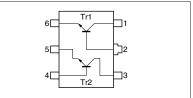
Absolute Maximum Ratings (Ta=25°C)

Electrical Characteristics (Ta=25°C)



Marking Symbol: 9Y

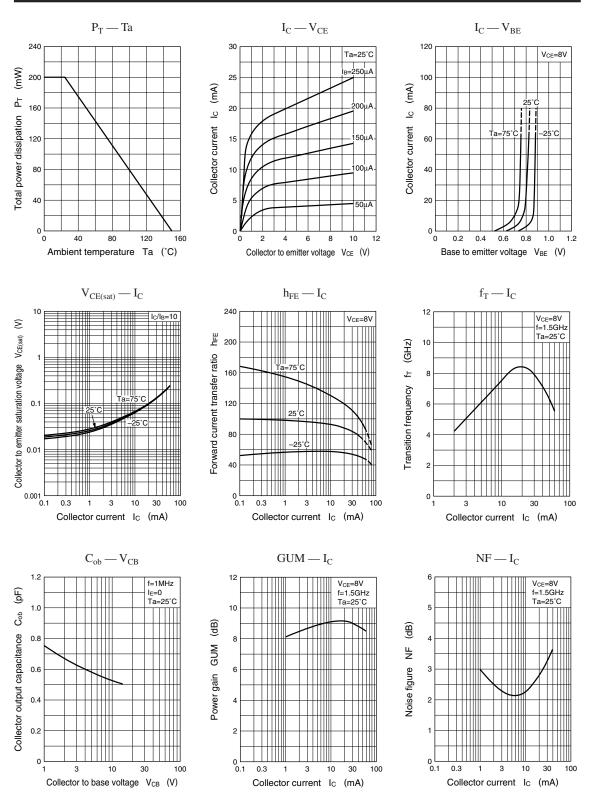
Internal Connection



Symbol Conditions Parameter min typ max Unit $V_{CB} = 10V, I_E = 0$ 1 Collector cutoff current I_{CBO} μΑ $V_{EB} = 1V, I_C = 0$ Emitter cutoff current 1 $I_{\rm EBO}$ μΑ Forward current transfer ratio $V_{CE} = 8V, I_C = 20mA$ 50 120 300 h_{FE} $V_{CE} = 8V, I_C = 20mA$ Forward current transfer h_{FE} ratio hFE (small/large)*1 0.5 0.99 Transition frequency \mathbf{f}_{T} $V_{CE} = 8V, I_C = 20mA$ 7.0 8.5 GHz $V_{CB} = 10V, I_E = 0, f = 1MHz$ 0.6 1.0 Collector output capacitance Cob pF Forward transfer gain | S_{21e} |² $V_{CE} = 8V, I_C = 20mA, f = 1.5GHz$ 7 9 dB $V_{CE} = 8V, I_C = 20mA, f = 1.5GHz$ Power gain GUM 10 dB NF $V_{CE} = 8V, I_{C} = 7mA, f = 1.5GHz$ Noise figure 2.2 3.0 dB

*1 Ratio between 2 elements

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



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