XN06543 (XN6543)

Silicon NPN epitaxial planar type

For low-noise amplification (2 GHz band)

■ Features

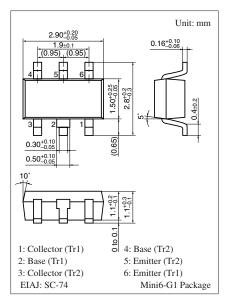
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number

• 2SC3904 × 2

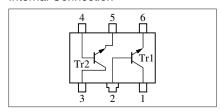
■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V _{CBO}	15	V	
Collector-emitter voltage (Base open)	V _{CEO}	10	V	
Emitter-base voltage (Collector open)	V_{EBO}	2	V	
Collector current	I_C	65	mA	
Total power dissipation	P_{T}	200	mW	
Junction temperature	T _j	150	°C	
Storage temperature	T_{stg}	-55 to +150	°C	



Marking Symbol: 9Y

Internal Connection



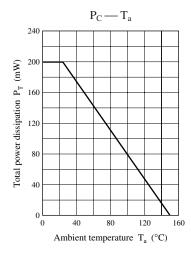
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

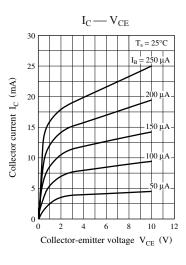
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10 \text{ V}, I_E = 0$			1	μА
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 1 \text{ V}, I_C = 0$			1	μΑ
Forward current transfer ratio	h_{FE}	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}$	50	120	300	_
h _{FE} ratio *	h _{FE(Small}	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}$	0.50	0.99		_
	/Large)					
Transition frequency	f_T	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}, f = 200 \text{ MHz}$	7.0	8.5		GHz
Noise figure	NF	$V_{CE} = 8 \text{ V}, I_{C} = 7 \text{ mA}, f = 1.5 \text{ GHz}$		2.2	3.0	dB
Collector output capacitance	C _{ob}	$V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$		0.6	1.0	pF
(Common base, input open circuited)						
Forward transfer gain	S _{21e} 2	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}, f = 1.5 \text{ GHz}$	7	9		dB
Maximum unilateral power gain	G _{UM}	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}, f = 1.5 \text{ GHz}$		10		dB

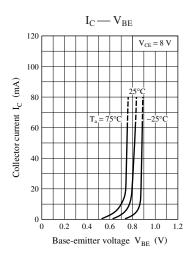
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

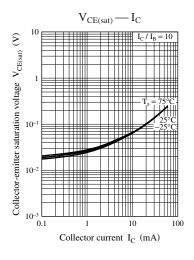
2. *: Ratio between 2 elements

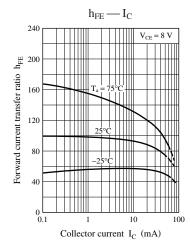
Note) The part number in the parenthesis shows conventional part number.

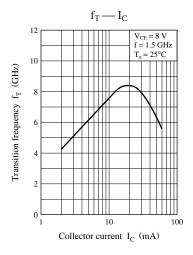


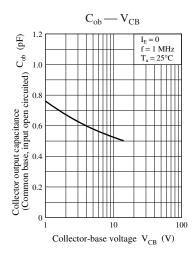


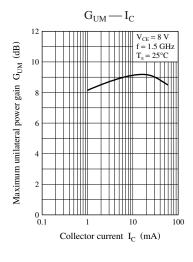


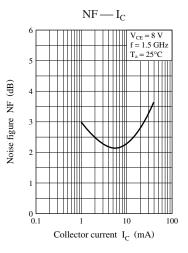












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