2SC3904

Silicon NPN epitaxial planar type

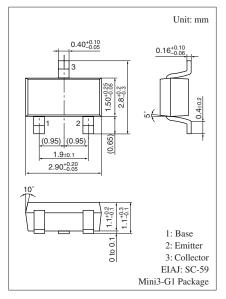
For 2 GHz band low-noise amplification

■ Features

- High transition frequency f_T
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

■ 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	
Collector power dissipation	P _C	200	mW	
Junction temperature	T_{j}	150	°C	
Storage temperature	T_{stg}	-55 to +150	°C	

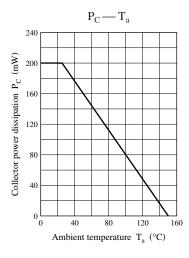


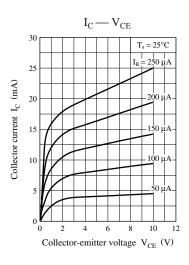
Marking Symbol: 3S

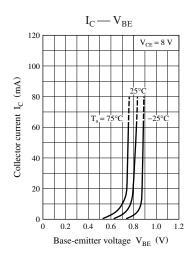
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

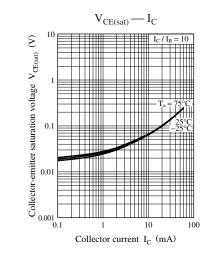
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10 \text{ V}, I_{E} = 0$			1	μΑ
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 1 \text{ V}, I_C = 0$			1	μΑ
Forward current transfer ratio	h _{FE}	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}$	50	120	300	_
Transition frequency	f_T	$V_{CE} = 8 \text{ V}, I_{C} = 20 \text{ mA}, f = 0.8 \text{ GHz}$	7.0	8.5		GHz
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
Noise figure	NF	$V_{CE} = 8 \text{ V}, I_{C} = 7 \text{ mA}, f = 1.5 \text{ GHz}$		2.2	3.0	dB

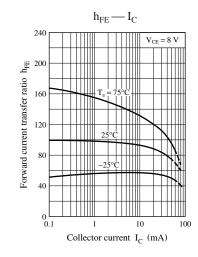
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

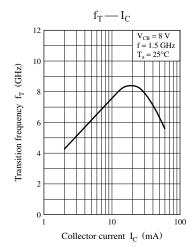


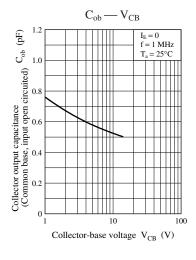


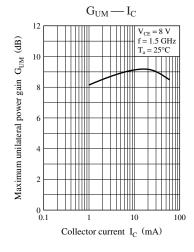


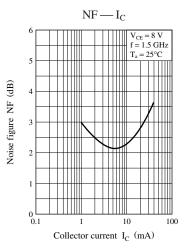












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