

2SC3904

Silicon NPN epitaxial planer type

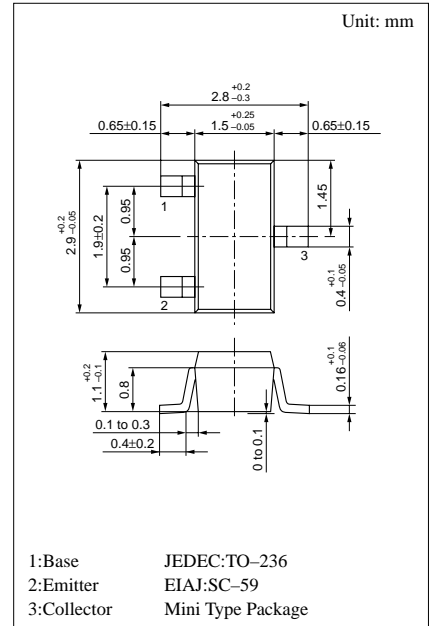
For 2GHz band low-noise amplification

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 (Ta=25°C)

Parameter	Symbol	Ratings	Unit
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
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

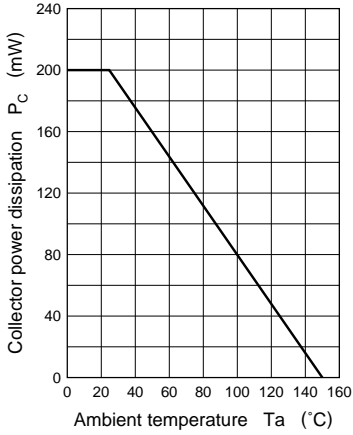


Marking symbol : 3S

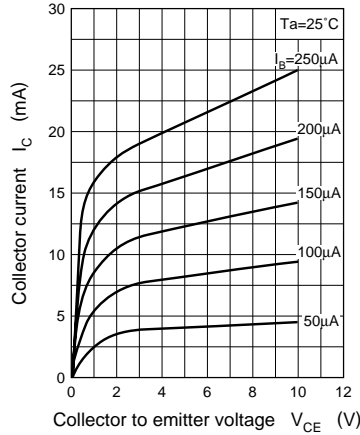
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 1V, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 8V, I_C = 20mA$	50	120	300	
Transition frequency	f_T	$V_{CE} = 8V, I_C = 20mA, f = 0.8GHz$	7.0	8.5		GHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		0.6	1	pF
Foward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8V, I_C = 20mA, f = 1.5GHz$	7	9		dB
Maximum unilateral power gain	GUM	$V_{CE} = 8V, I_C = 20mA, f = 1.5GHz$		10		dB
Noise figure	NF	$V_{CE} = 8V, I_C = 7mA, f = 1.5GHz$		2.2	3	dB

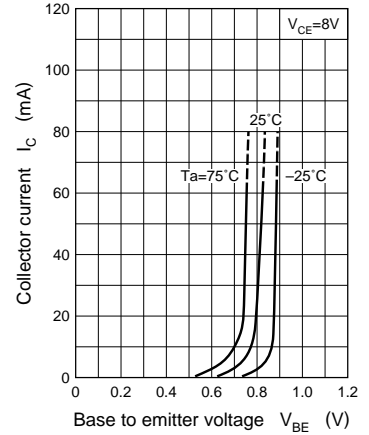
$P_C - T_a$



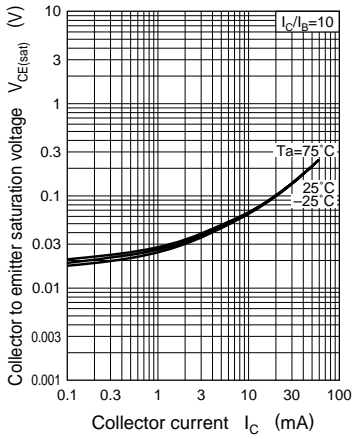
$I_C - V_{CE}$



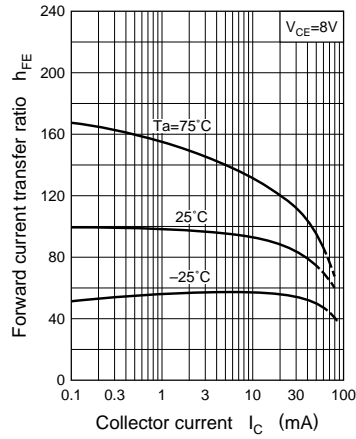
$I_C - V_{BE}$



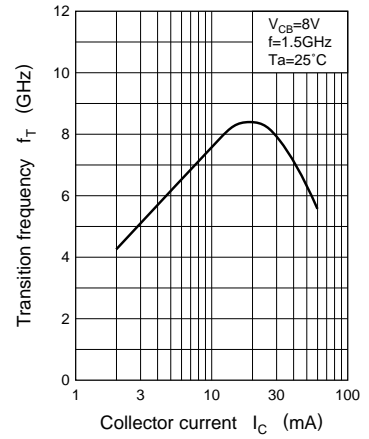
$V_{CE(sat)} - I_C$



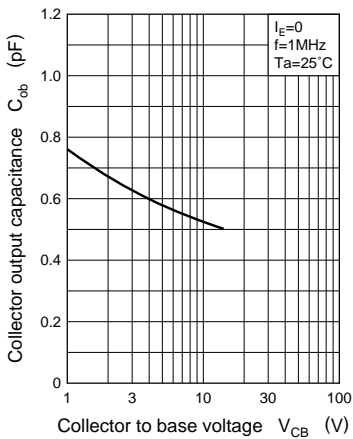
$h_{FE} - I_C$



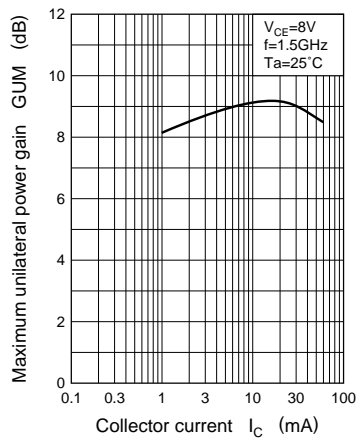
$f_T - I_C$



$C_{ob} - V_{CB}$



GUM - I_C



NF - I_C

