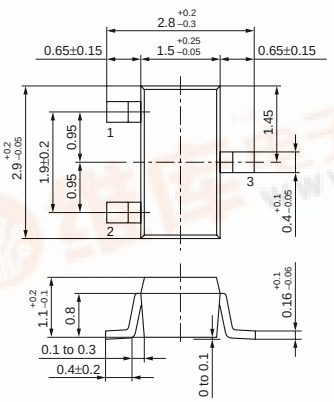
2SC3704

Silicon NPN epitaxial planer type

For UHF band low-noise amplification

Unit: mm



1:Bae
2:Emitter
3:Collector

JEDEC:TO–236
EIAJ:SC–59
Mini Type Package

Marking symbol :2W

Features

- Low noise figure NF.
- High gain.
- High transition frequency f_T.
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

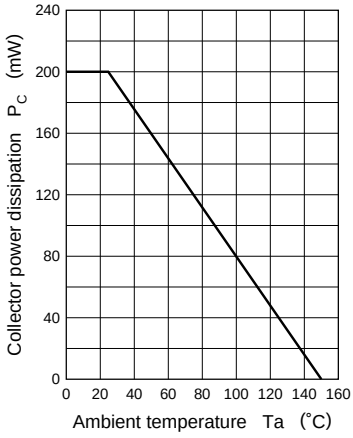
Absolute Maximum Ratings (Ta=25˚C)

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	80	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

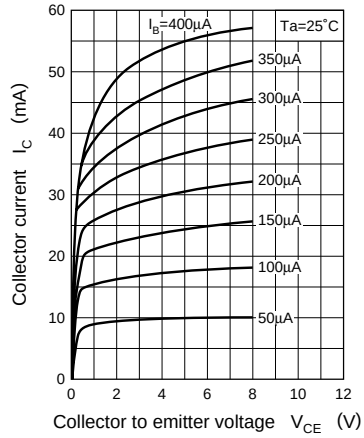
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 15V, I_E = 0			1	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 1V, I_C = 0			1	µA
Forward current transfer ratio	h_{FE1}	V_{CE} = 8V, I_C = 20mA	50	150	300	
	h_{FE2}	V_{CE} = 1V, I_C = 3mA	80		280	
Transition frequency	f_T	V_{CE} = 8V, I_C = 20mA, f = 0.8GHz		6		GHz
Collector output capacitance	C_{ob}	V_{CE} = 10V, I_E = 0, f = 1MHz		0.7	1.2	pF
Noise figure	NF	V_{CE} = 8V, I_C = 7mA, f = 800MHz		1.0	1.7	dB
Maximum unilateral power gain	GUM	V_{CE} = 8V, I_C = 20mA, f = 800MHz		14		dB
Foward transfer gain	$\|S_{21e}\|^2$	V_{CE} = 8V, I_C = 20mA, f = 800MHz		13		dB

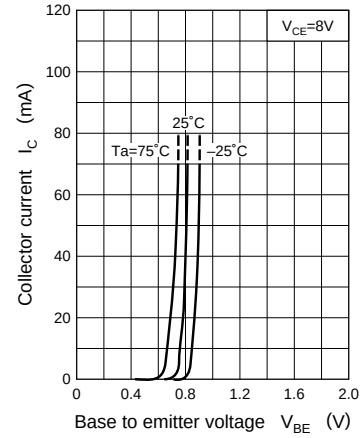
P_C — Ta



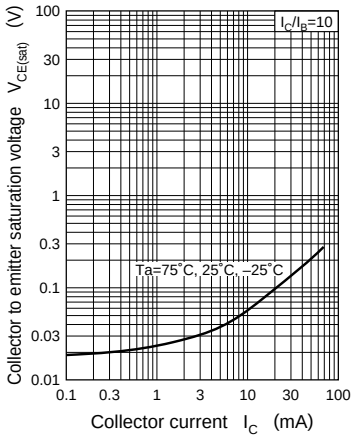
I_C — V_{CE}



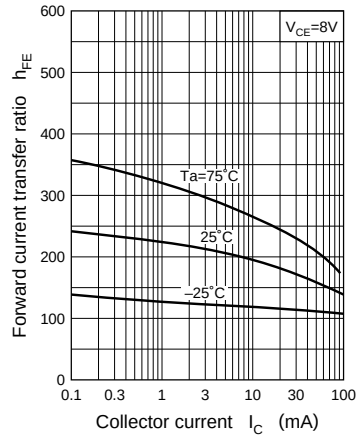
I_C — V_{BE}



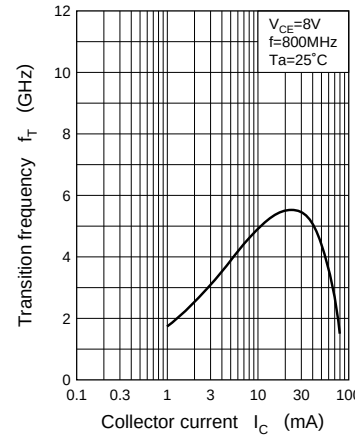
$V_{CE(sat)}$ — I_C



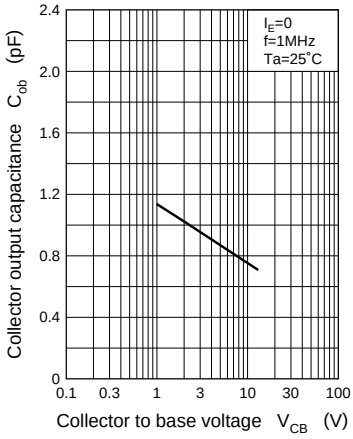
h_{FE} — I_C



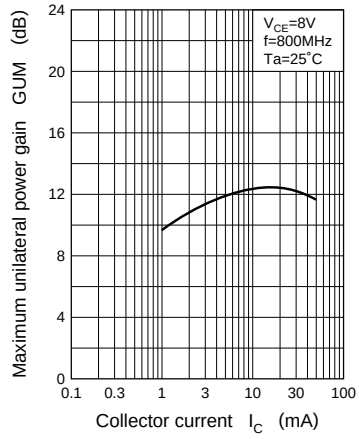
f_T — I_C



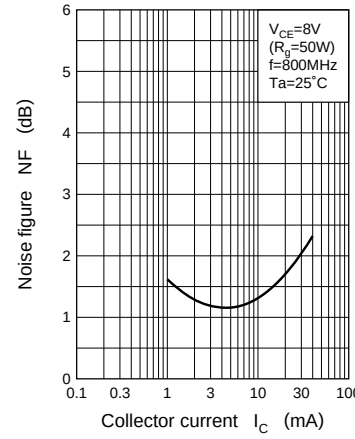
C_{ob} — V_{CB}



GUM — I_C



NF — I_C



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