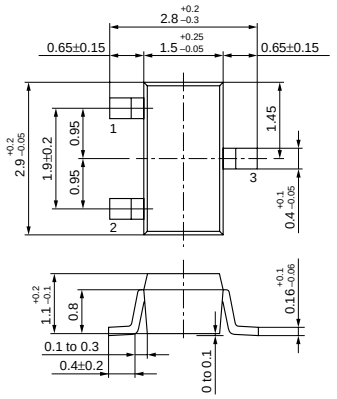
2SC3707

Silicon NPN epitaxial planer type

For UHF amplification

Unit: mm



1:Bae JEDEC:TO–236
2:Emitter EIAJ:SC–59
3:Collector Mini Type Package

Marking symbol : 2X

Features

- Possible with the small current and low voltage.
- 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)

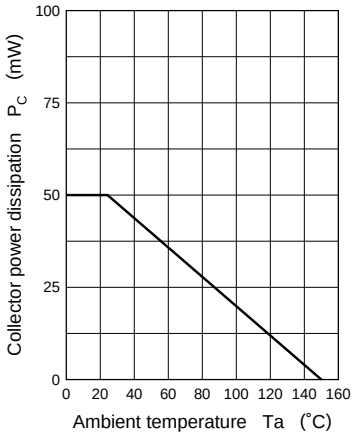
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	10	V
Collector to emitter voltage	V_{CEO}	7	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	10	mA
Collector power dissipation	P_C	50	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

Electrical Characteristics (Ta=25˚C)

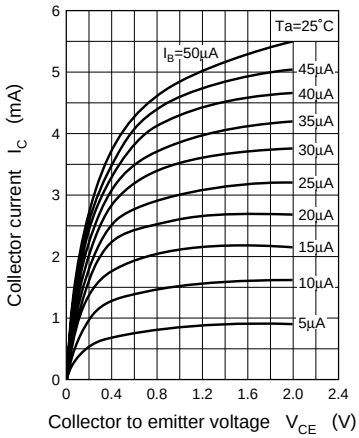
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10V, I_E = 0			1	nA
Emitter cutoff current	I_{EBO}	V_{EB} = 1.5V, I_C = 0			1	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 1V, I_C = 1mA	50	100	150	
Transition frequency	f_T	V_{CE} = 1V, I_C = 1mA, f = 800MHz		4		GHz
Collector output capacitance	C_{ob}	V_{CB} = 1V, I_E = 0, f = 1MHz		0.4		pF
Foward transfer gain	$\|S_{21e}\|^2$	V_{CE} = 1V, I_C = 1mA, f = 800MHz		6		dB
Maximum unilateral power gain	GUM	V_{CE} = 1V, I_C = 1mA, f = 800MHz		15		dB
Noise figure	NF	V_{CE} = 1V, I_C = 1mA, f = 800MHz		3.5		dB

Note: Handle the product with care because this is sensitive to the electrostatic breakdown by its structure.

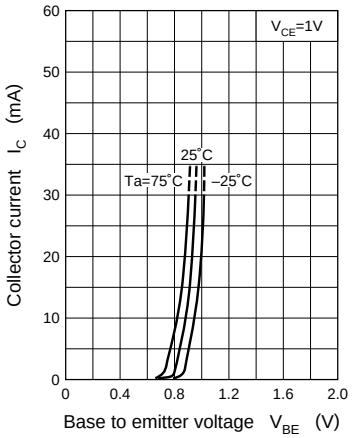
P_C — Ta



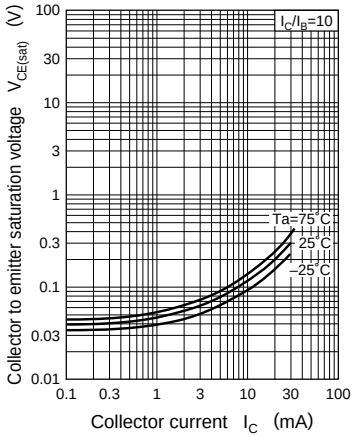
I_C — V_{CE}



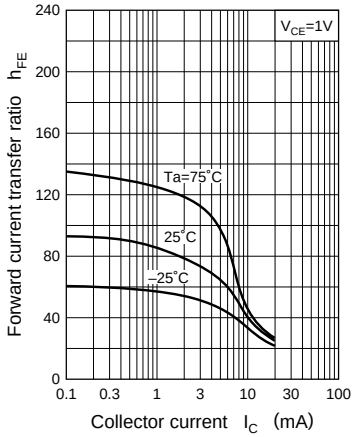
I_C — V_{BE}



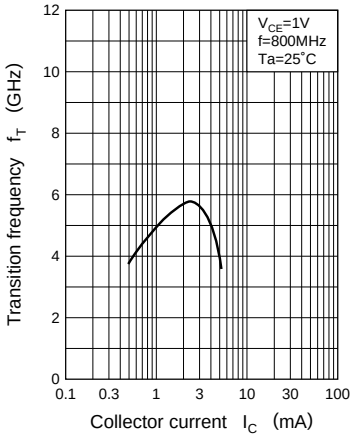
$V_{CE(sat)}$ — I_C



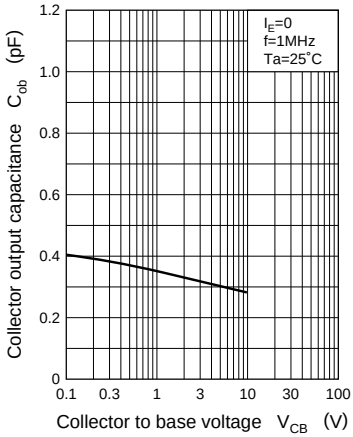
h_{FE} — I_C



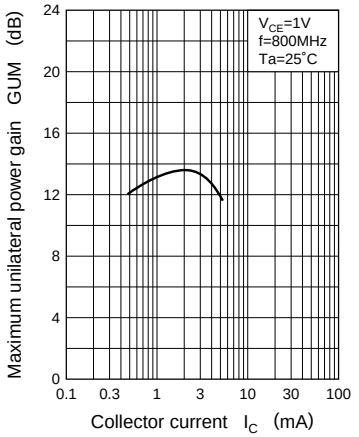
f_T — I_C



C_{ob} — V_{CB}



GUM — I_C



NF — I_C