

# 2SC3707

## Silicon NPN epitaxial planar type

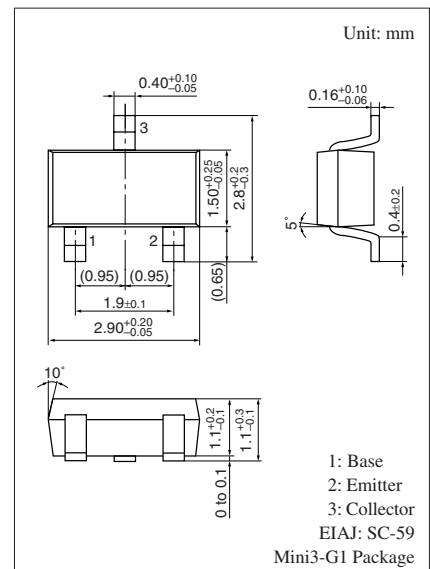
For UHF amplification

### ■ 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	10	V
Collector-emitter voltage (Base open)	$V_{CEO}$	7	V
Emitter-base voltage (Collector open)	$V_{EBO}$	2	V
Collector current	$I_C$	10	mA
Collector power dissipation	$P_C$	50	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



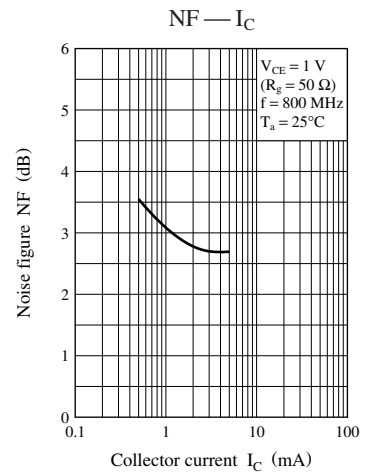
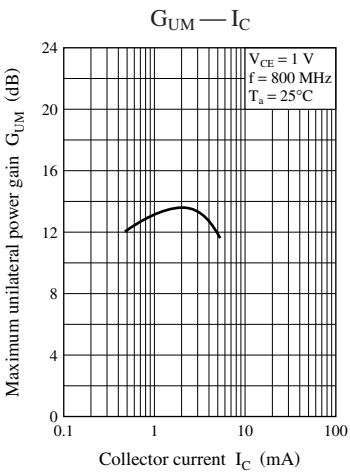
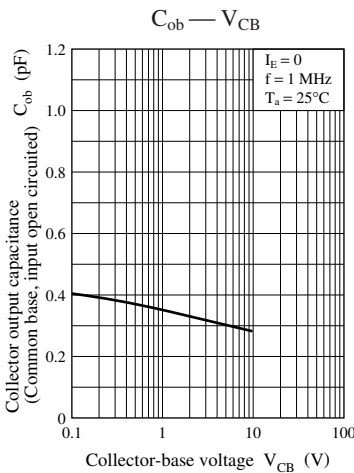
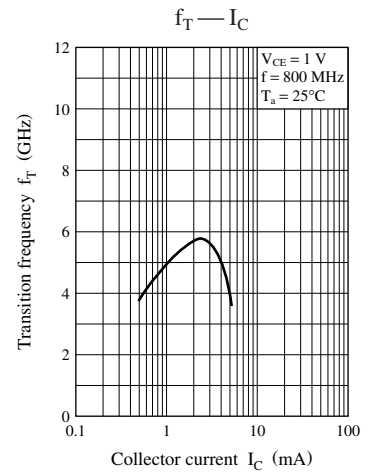
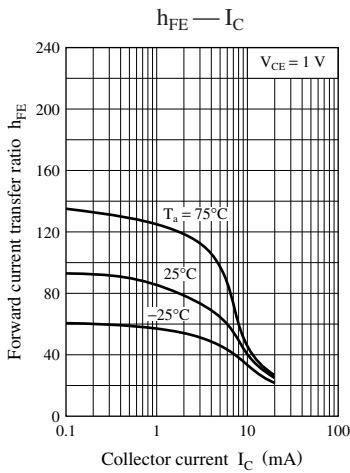
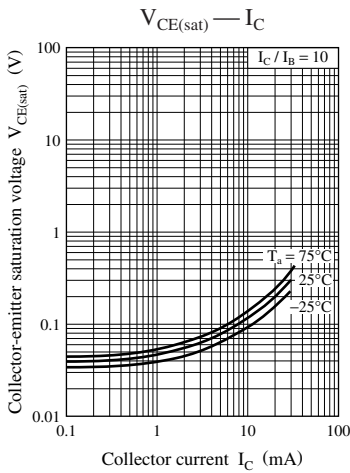
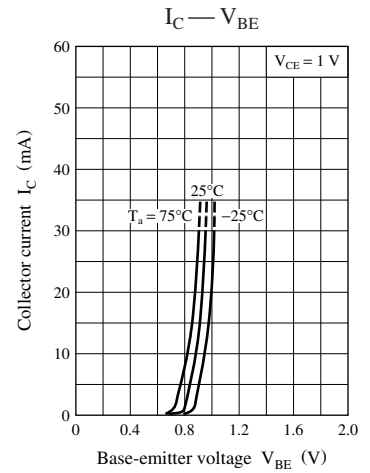
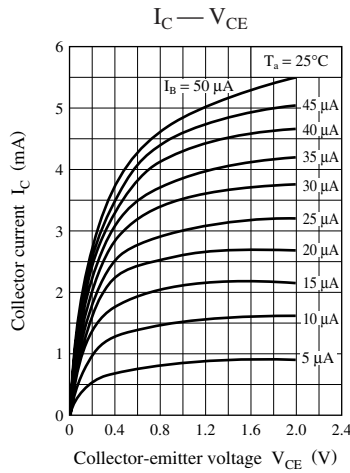
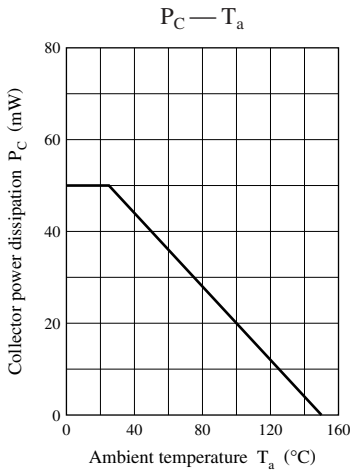
Marking Symbol: 2X

### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10\text{ V}, I_E = 0$			1	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 1.5\text{ V}, I_C = 0$			1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 1\text{ V}, I_C = 1\text{ mA}$	50		150	—
Transition frequency	$f_T$	$V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$		4		GHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 1\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.4		pF
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$		6.0		dB
Maximum unilateral power gain	$G_{UM}$	$V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$		15		dB
Noise figure	NF	$V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$		3.5		dB

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

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



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