

2SC4805G

Silicon NPN epitaxial planar type

For 2 GHz band low-noise amplification

■ Features

- High transition frequency f_T
- S-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}	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	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Package

- Code
SMini3-F2
- Marking Symbol: 3S
- Pin Name
1: Base
2: Emitter
3: Collector

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

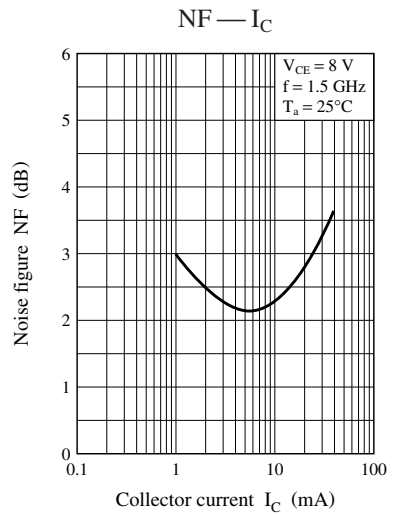
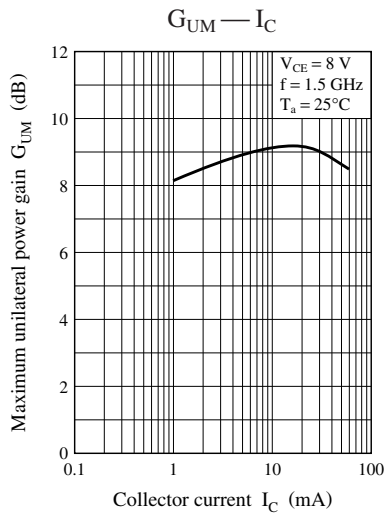
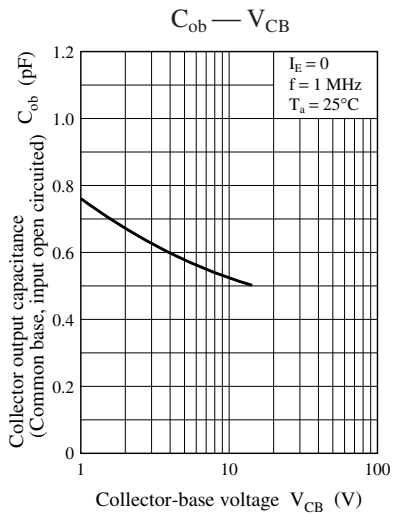
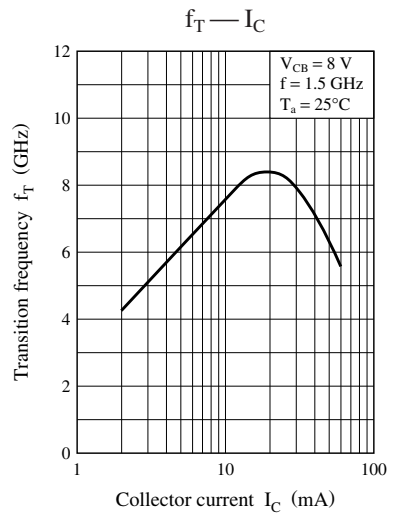
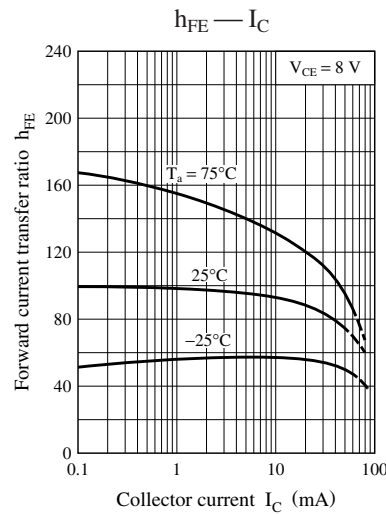
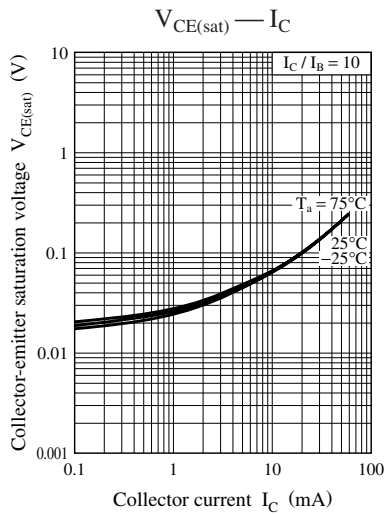
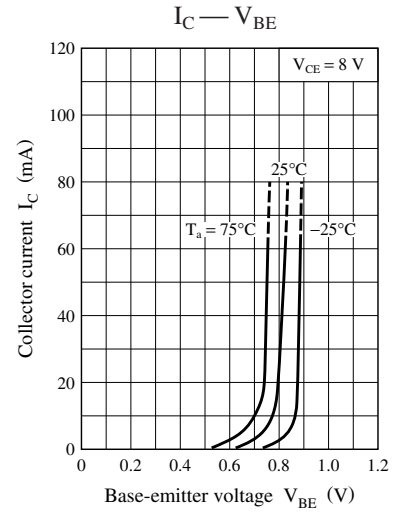
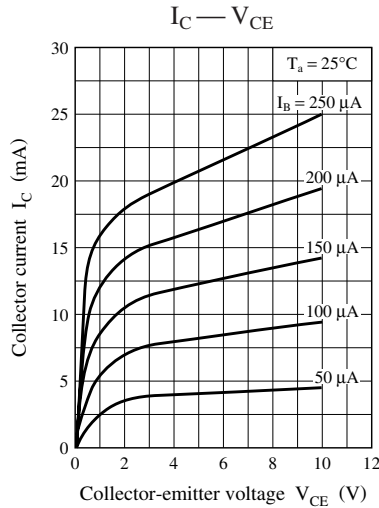
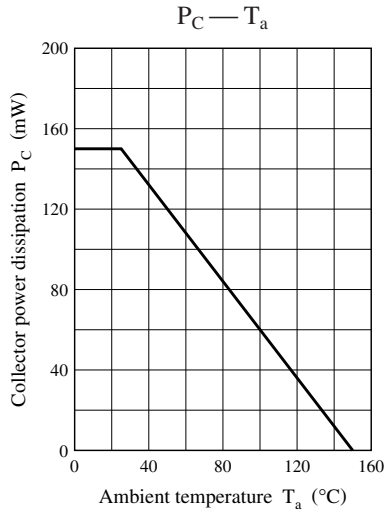
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10\text{ V}, I_E = 0$			1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 1\text{ V}, I_C = 0$			1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}$	50		300	—
Transition frequency	f_T	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$	7.0	8.5		GHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.6	1.0	pF
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$	7	9		dB
Maximum unilateral power gain	G_{UM}	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$		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) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

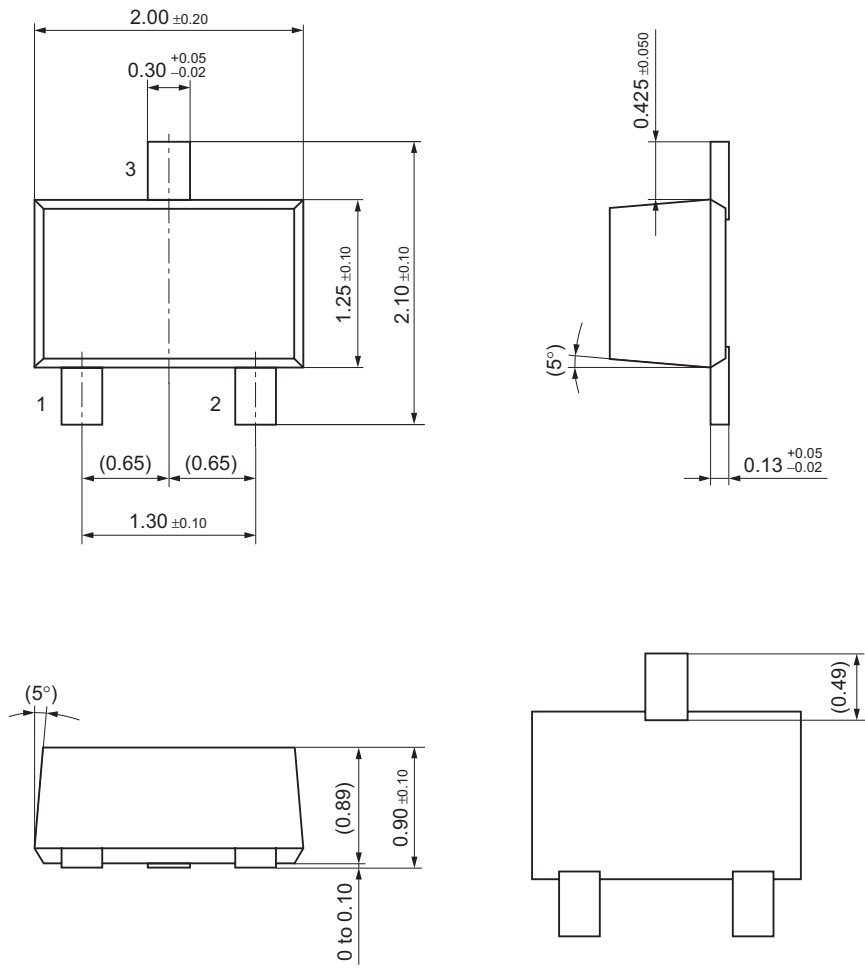
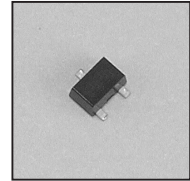
Rank	Q	R	S	No-rank
h_{FE}	50 to 120	100 to 170	150 to 300	50 to 300
Marking symbol	3SQ	3SR	3SS	3S

Product of no-rank is not classified and have no indication for rank.



SMini3-F2

Unit: mm



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