

2SC2671(F)

Silicon NPN epitaxial planar type

For UHF band low-noise amplification

■ Features

- Low noise figure NF
- High gain
- High transition frequency f_T

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

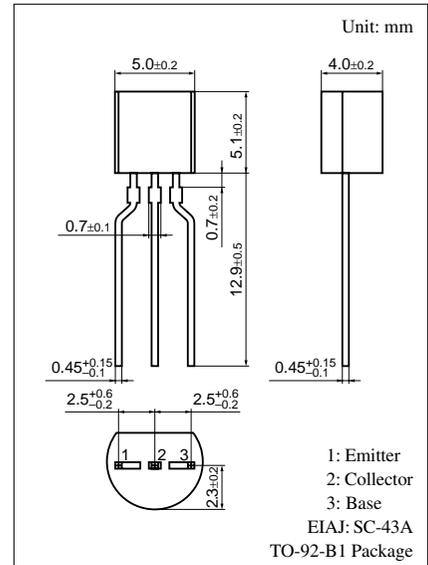
Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage *	V_{CER}	14	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	80	mA
Collector power dissipation	P_C	600	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

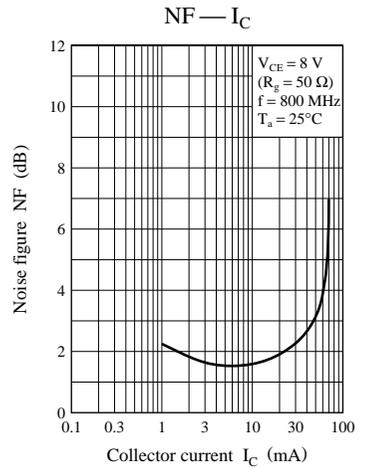
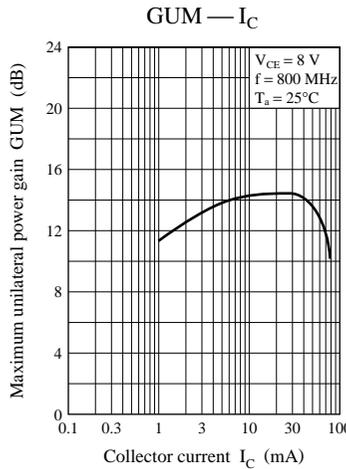
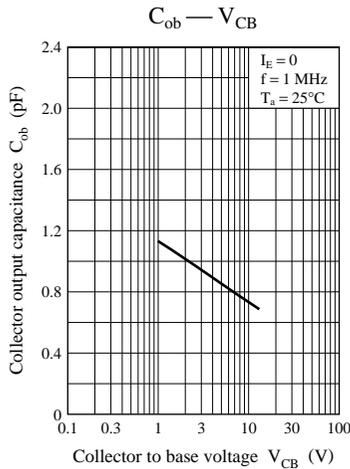
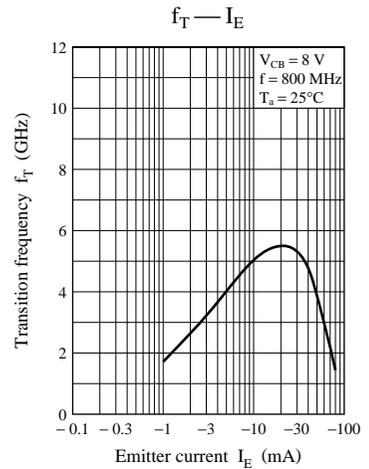
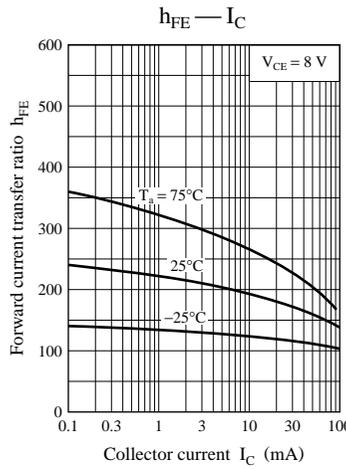
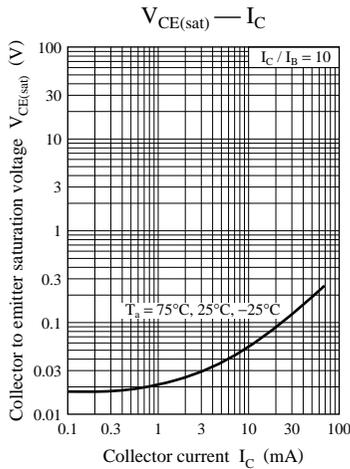
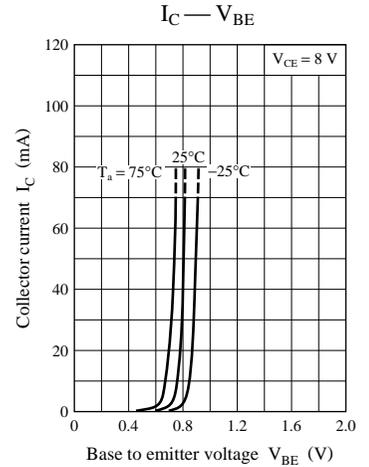
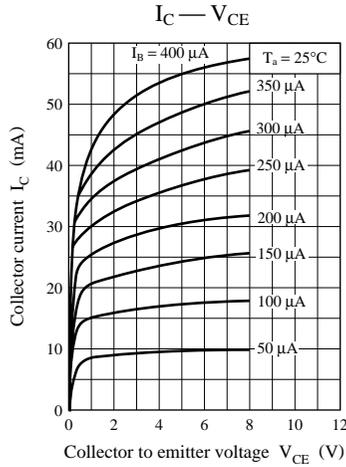
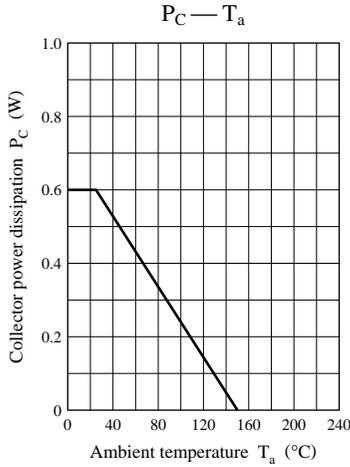
Note) *: REB = 1 k Ω

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10\text{ V}, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 1\text{ V}, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}$	50	150	300	
Transition frequency *	f_T	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f = 800\text{ MHz}$	3.5	5.5		GHz
Collector output capacitance *	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.8	1.5	pF
Foward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f = 800\text{ MHz}$	9	12		dB
Maximum unilateral power gain *	GUM	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f = 800\text{ MHz}$	10	13	15	dB
Noise figure *	NF	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f = 800\text{ MHz}$		2.0	3.2	dB
Second inter modulation distortion *	IM ₂	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f_1 = 200\text{ MHz}$ $f_2 = 500\text{ MHz}, V_O = 100\text{ dB}\mu/75\ \Omega$	50	60		dB
Third inter modulation distortion *	IM ₃	$V_{CE} = 8\text{ V}, I_C = 40\text{ mA}, f_1 = 600\text{ MHz}$ $f_2 = 500\text{ MHz}, V_O = 100\text{ dB}\mu/75\ \Omega$	75	86		dB

Note) *: LTPD = 10%





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