

2SC2671(F)

Silicon NPN epitaxial planer type

For UHF band low-noise amplification

Features

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

Absolute Maximum Ratings (Ta=25°C)

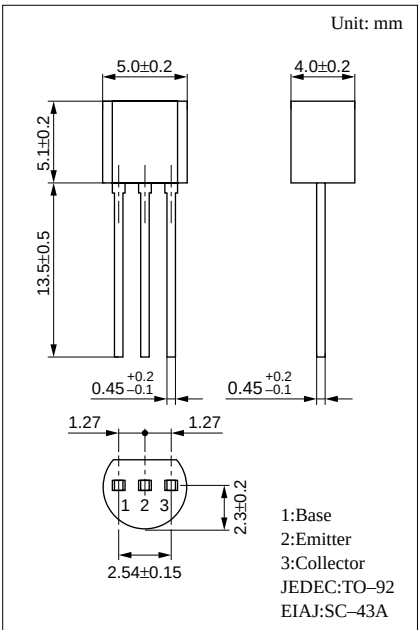
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CER}^*	14	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	80	mA
Collector power dissipation	P_C	600	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

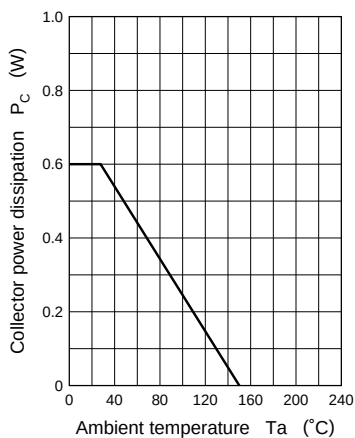
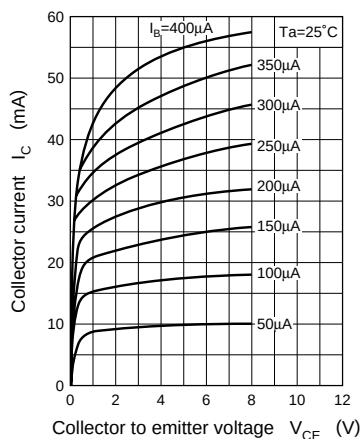
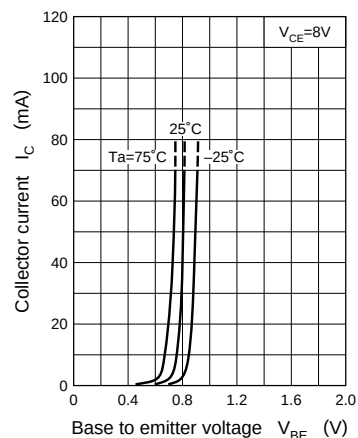
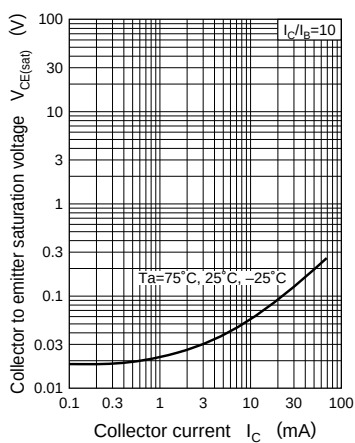
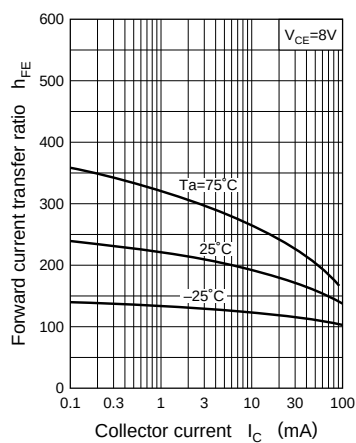
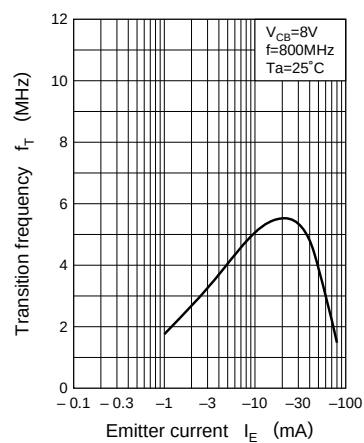
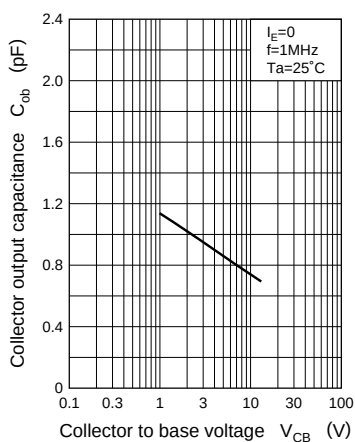
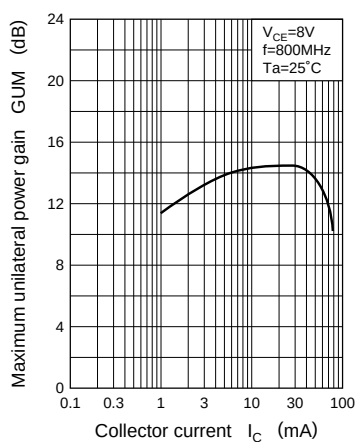
*REB = 1kΩ

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 1V, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 8V, I_C = 40mA$	50	150	300	
Transition frequency	f_T^*	$V_{CE} = 8V, I_C = 40mA, f = 800MHz$	3.5	5.5		GHz
Collector output capacitance	C_{ob}^*	$V_{CB} = 10V, I_E = 0, f = 1MHz$		0.8	1.5	pF
Foward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8V, I_C = 40mA, f = 800MHz$	9	12		dB
Maximum unilateral power gain	GUM*	$V_{CE} = 8V, I_C = 40mA, f = 800MHz$	10	13	15	dB
Noise figure	NF*	$V_{CE} = 8V, I_C = 40mA, f = 800MHz$		2.0	3.2	dB
Second inter modulation distortion	IM_2^*	$V_{CE} = 8V, I_C = 40mA, f_1 = 200MHz$ $f_2 = 500MHz, V_O = 100dBμ/75Ω$	50	60		dB
Third inter modulation distortion	IM_3^*	$V_{CE} = 8V, I_C = 40mA, f_1 = 600MHz$ $f_2 = 500MHz, V_O = 100dBμ/75Ω$	75	86		dB

*LTPD = 10%



$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ GUM — I_C NF — I_C 