

2SC5557

Silicon NPN epitaxial planar type

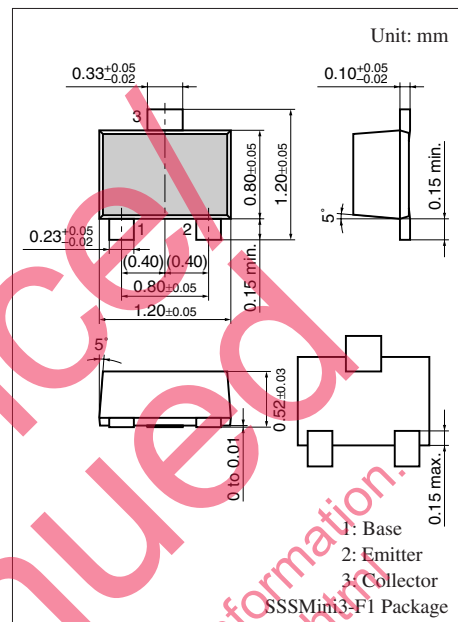
For low-noise RF amplifier

■ Features

- High transition frequency f_T
- High gain of 8.2 dB and low noise of 1.8 dB at 3 V
- Optimum for RF amplification of a portable telephone and pager

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

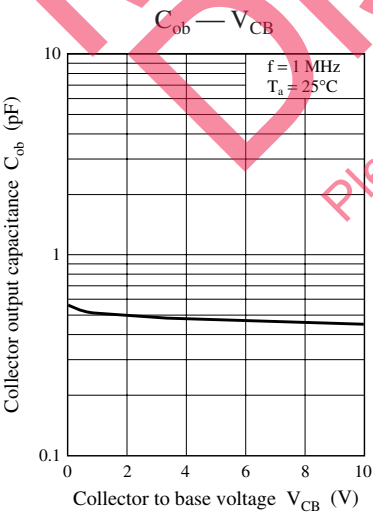
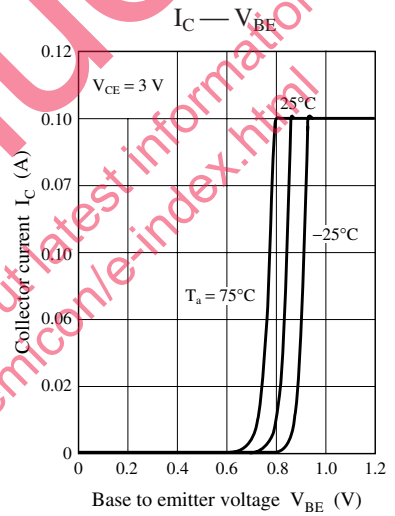
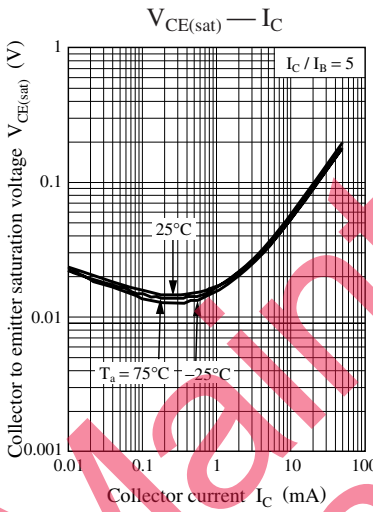
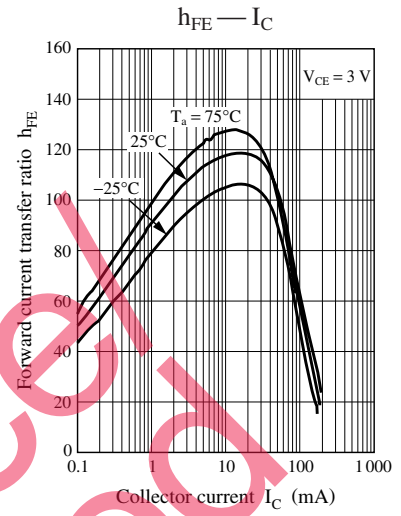
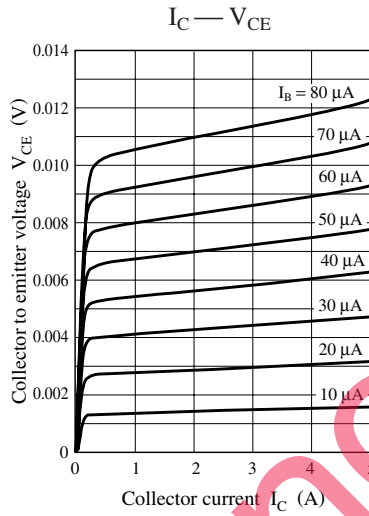
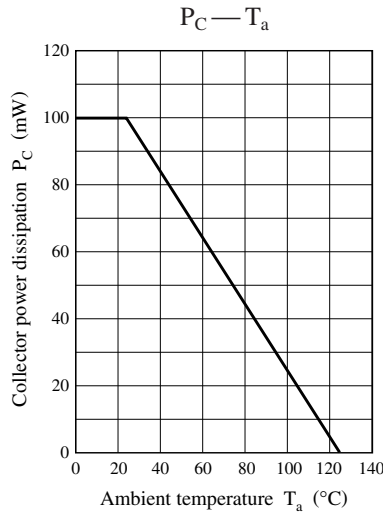
Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	9	V
Collector to emitter voltage	V_{CEO}	6	V
Emitter to base voltage	V_{EBO}	1	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$



Marking symbol: 5A

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 9\text{ V}, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 1\text{ V}, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 3\text{ V}, I_C = 10\text{ mA}$	100		160	—
Forward transfer gain	$ S_{21c} ^2$	$V_{CE} = 3\text{ V}, I_C = 10\text{ mA}, f = 2\text{ GHz}$	7.0	9.0		dB
Noise figure	NF	$V_{CE} = 3\text{ V}, I_C = 3\text{ mA}, f = 1.5\text{ GHz}$		2.0	4.0	dB
Collector output capacitance	C_{ob}	$V_{CB} = 3\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.6	0.9	pF
Gain bandwidth product	f_T	$V_{CE} = 3\text{ V}, I_C = 10\text{ mA}, f = 2\text{ GHz}$		12.5		GHz



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