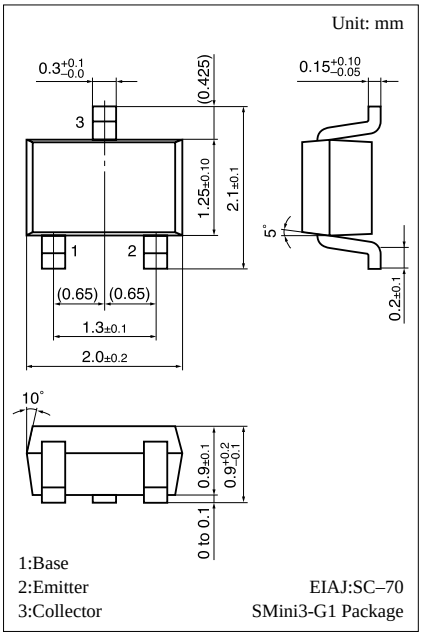
2SC3931

Silicon NPN epitaxial planer type

For high-frequency amplification

Features

- Optimum for RF amplification of FM/AM radios.
- 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.



Marking symbol : U

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	15	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

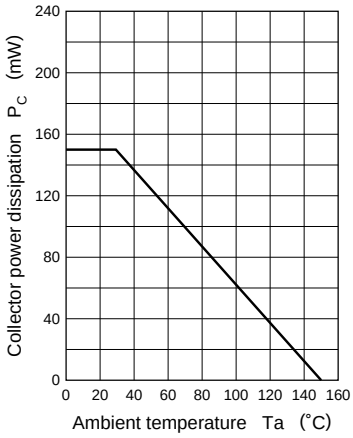
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	I_C = 10μA, I_E = 0	30			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	3			V
Forward current transfer ratio	h_{FE}*	V_{CB} = 6V, I_E = –1mA	65		260	
Base to emitter voltage	V_{BE}	V_{CB} = 6V, I_E = 1mA		0.72		V
Transition frequency	f_T	V_{CB} = 6V, I_E = –1mA, f = 200MHz	450	650		MHz
Common emitter reverse transfer capacitance	C_{re}	V_{CE} = 6V, I_C = 1mA, f = 10.7MHz		0.8	1	pF
Power gain	PG	V_{CB} = 6V, I_E = –1mA, f = 100MHz		24		dB
Noise figure	NF	V_{CB} = 6V, I_E = –1mA, f = 100MHz		3.3		dB

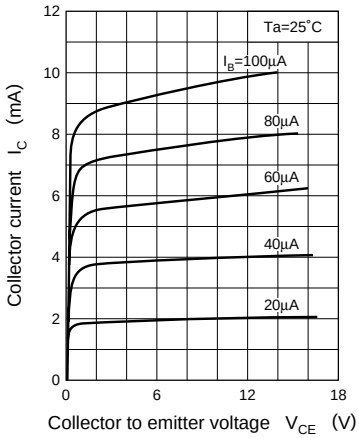
*h_{FE} Rank classification

Rank	C	D
h_{FE}	65 ~ 160	100 ~ 260
Marking Symbol	UC	UD

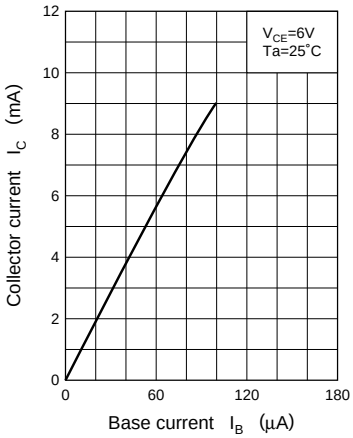
P_C — Ta



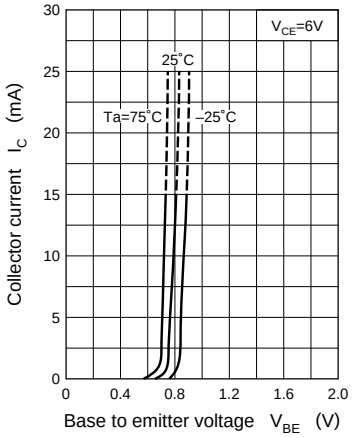
I_C — V_{CE}



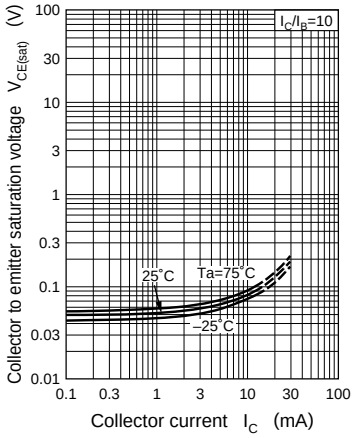
I_C — I_B



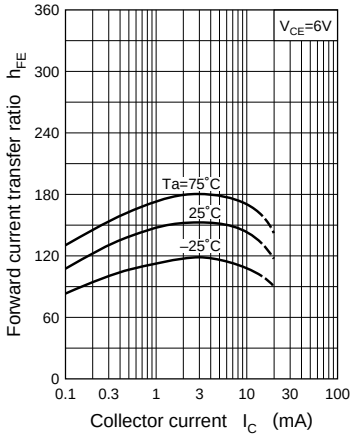
I_C — V_{BE}



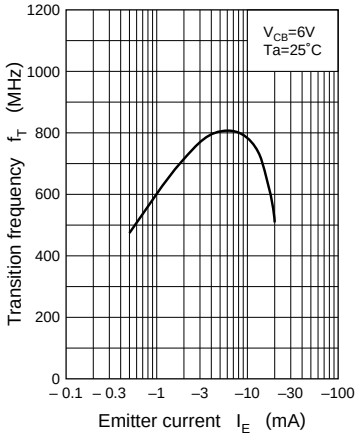
$V_{CE(sat)}$ — I_C



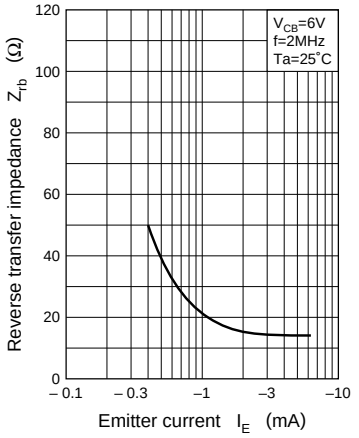
h_{FE} — I_C



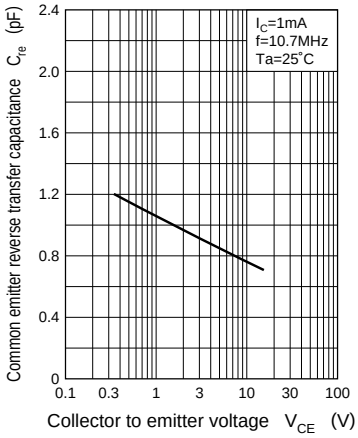
f_T — I_E



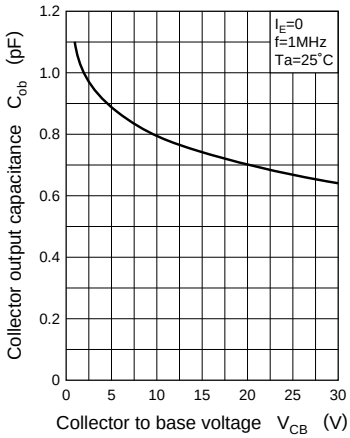
Z_{rb} — I_E



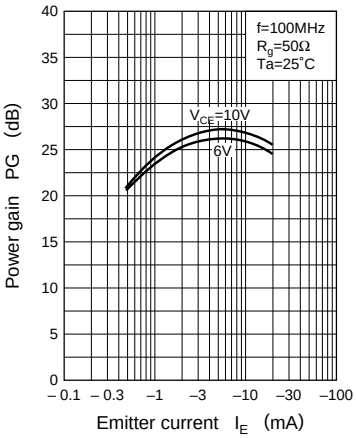
C_{re} — V_{CE}



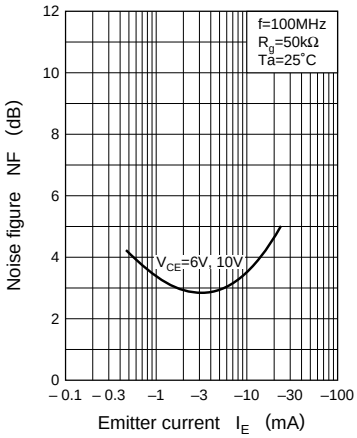
C_{ob} — V_{CB}



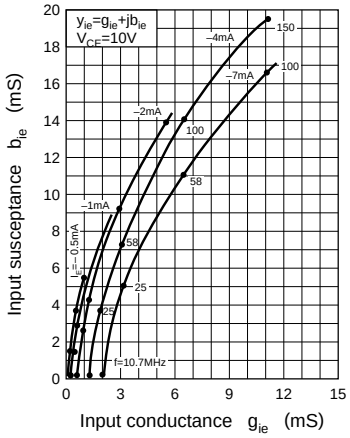
PG — I_E



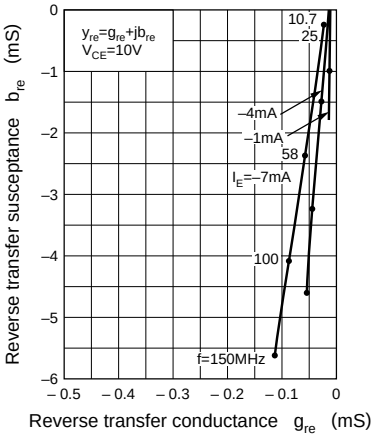
NF — I_E



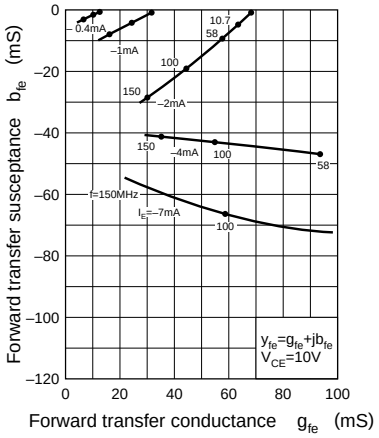
b_{ie} — g_{ie}



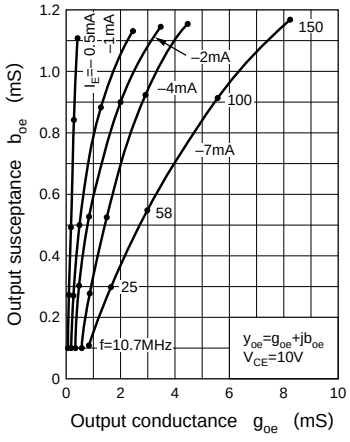
b_{re} — g_{re}



b_{fe} — g_{fe}



b_{oe} — g_{oe}



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