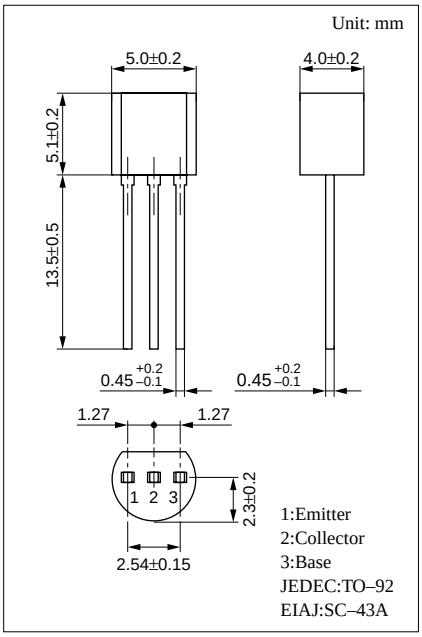
2SC1359

Silicon NPN epitaxial planer type

For high-frequency amplification
Complementary to 2SA838



Features

- Optimum for RF amplification of FM/AM radios.
- High transition frequency f_T.

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}	5	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

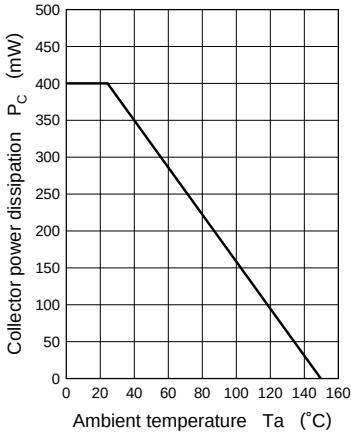
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10V, I_E = 0			0.1	μA
Forward current transfer ratio	h_{FE}*	V_{CB} = 10V, I_E = –1mA	70		220	
Transition frequency	f_T	V_{CB} = 10V, I_E = –1mA, f = 200MHz	150	250		MHz
Noise figure	NF	V_{CB} = 10V, I_E = –1mA, f = 5MHz		2.8	4	dB
Reverse transfer impedance	Z_{rb}	V_{CB} = 10V, I_E = –1mA, f = 2MHz		22	50	Ω
Common emitter reverse transfer capacitance	C_{re}	V_{CE} = 10V, I_C = 1mA, f = 10.7MHz		0.9	1.5	pF

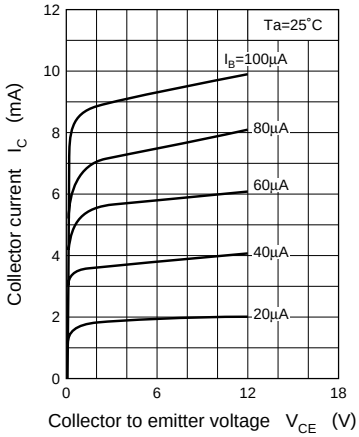
*h_{FE} Rank classification

Rank	B	C
h_{FE}	70 ~ 140	110 ~ 220

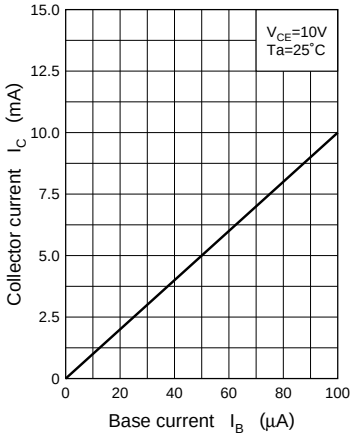
P_C — Ta



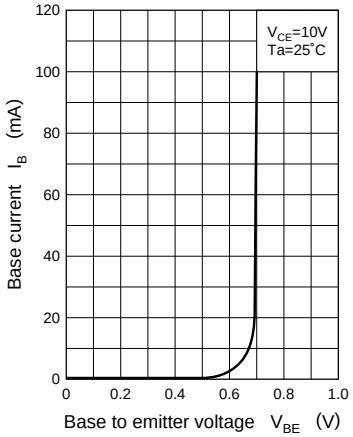
I_C — V_{CE}



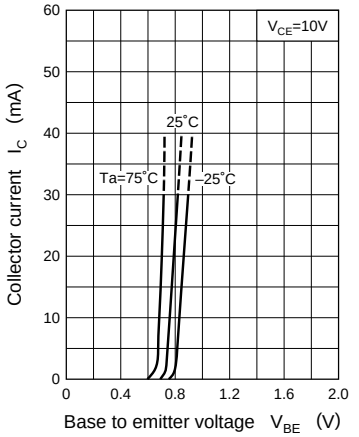
I_C — I_B



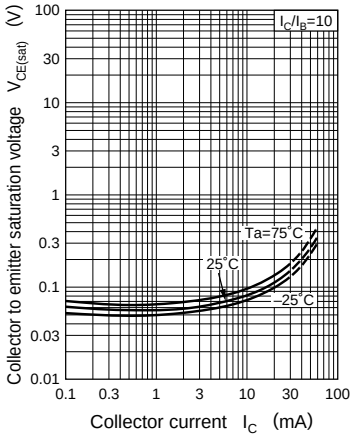
I_B — V_{BE}



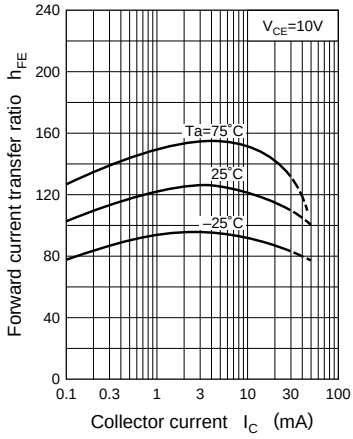
I_C — V_{BE}



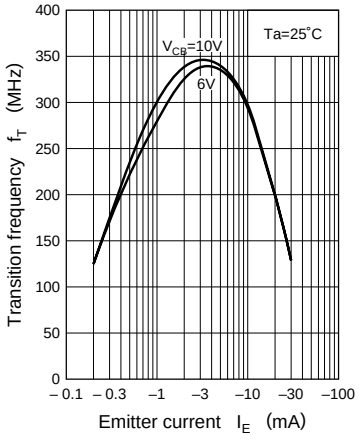
$V_{CE(sat)}$ — I_C



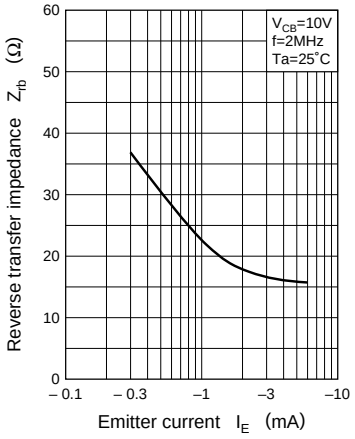
h_{FE} — I_C



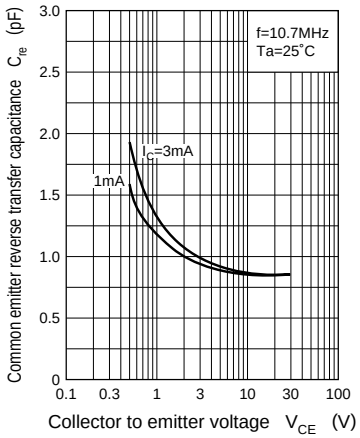
f_T — I_E



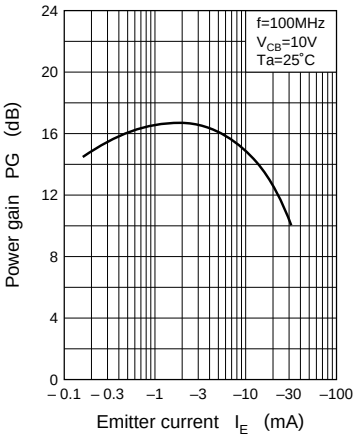
Z_{rb} — I_E



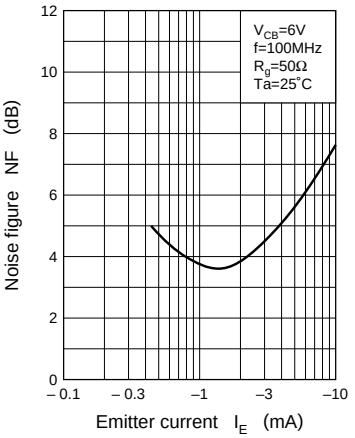
C_{re} — V_{CE}



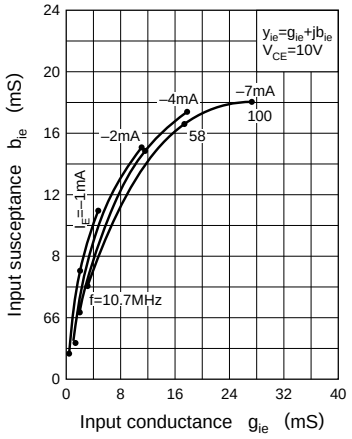
PG — I_E



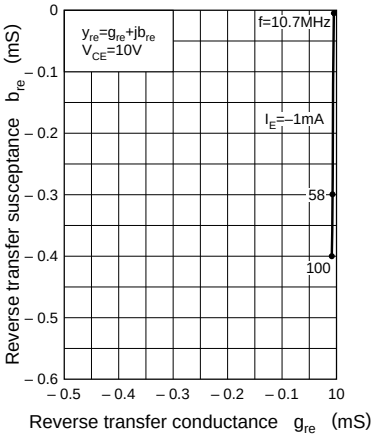
NF — I_E



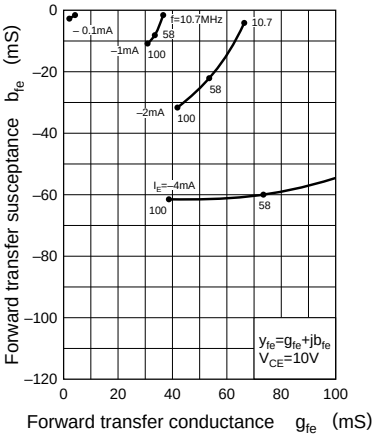
b_{ie} — g_{ie}



b_{re} — g_{re}



b_{fe} — g_{fe}



b_{oe} — g_{oe}