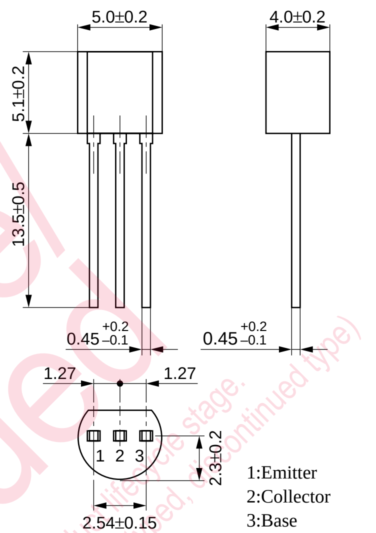
2SC1215

Silicon NPN epitaxial planer type

For high-frequency (VHF band) amplification and oscillation



■ Features

- 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}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

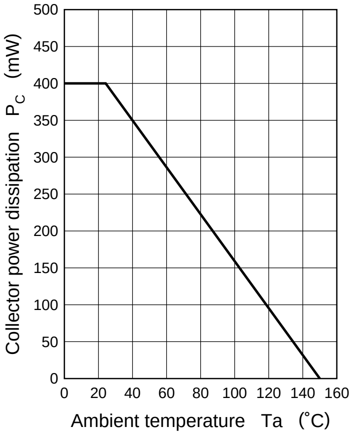
■ Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	I_C =100µA, 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} = 10V, I_E = –2mA	25			
Base to emitter voltage	V_{BE}	V_{CB} = 10V, I_E = –2mA		0.72		V
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA		0.1		V
Common emitter reverse transfer capacitance	C_{re}	V_{CE} = 10V, I_C = 1mA, f = 10.7MHz		1	1.5	pF
Transition frequency	f_T*	V_{CB} = 10V, I_E = –15mA, f = 100MHz	600	1200	1600	MHz
Power gain	PG	V_{CB} = 10V, I_E = –1mA, f = 100MHz		20		dB
Base time constant	$r_{bb}' \cdot C_C$	V_{CB} = 10V, I_E = –10mA, f = 450kHz			25	ps

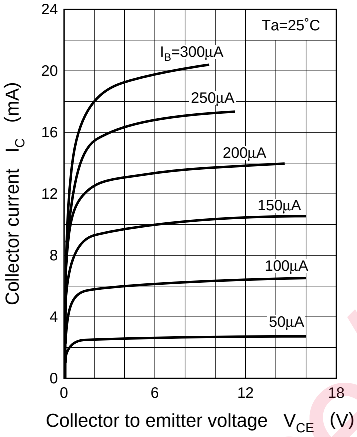
*f_T Rank classification

Rank	T	S
f_T(MHz)	600 ~ 1300	900 ~ 1600

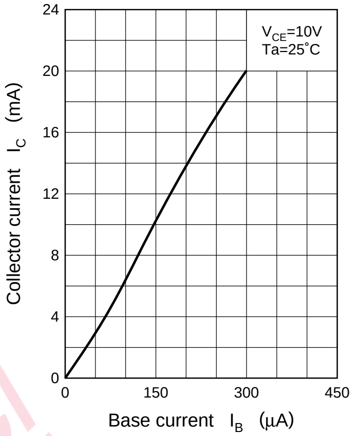
P_C — Ta



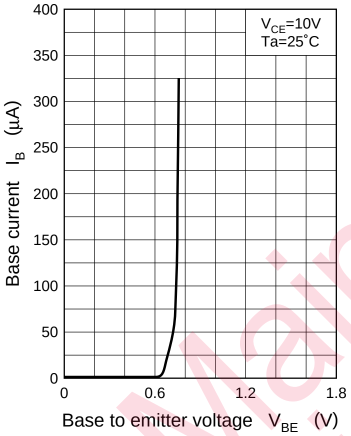
I_C — V_{CE}



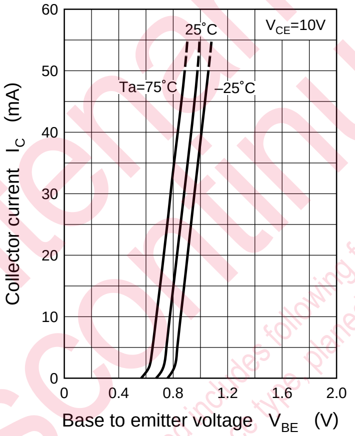
I_C — I_B



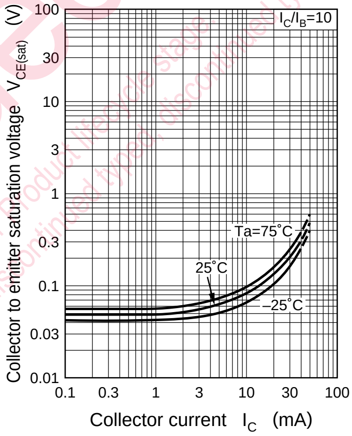
I_B — V_{BE}



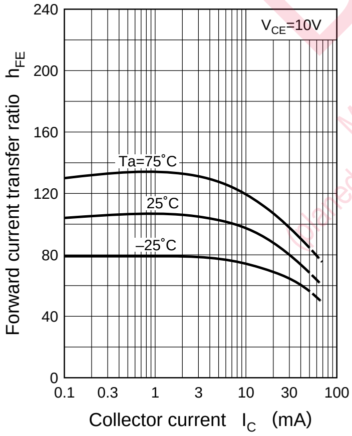
I_C — V_{BE}



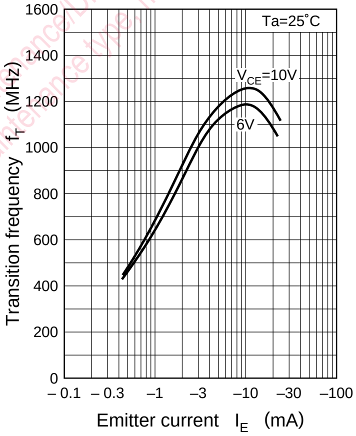
$V_{CE(sat)}$ — I_C



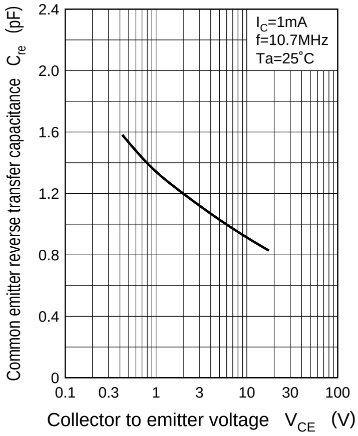
h_{FE} — I_C



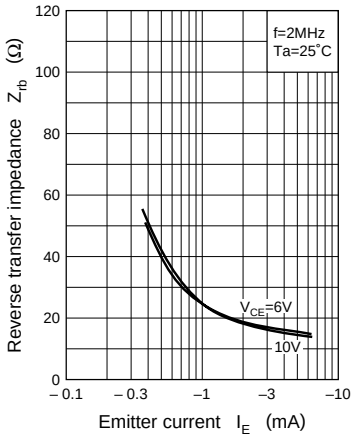
f_T — I_E



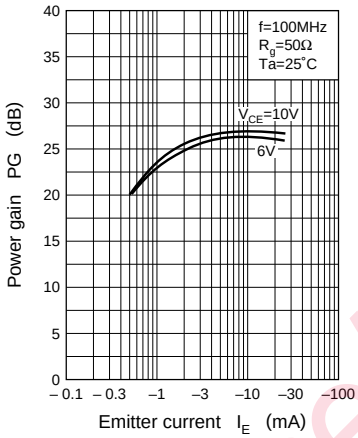
C_{re} — V_{CE}



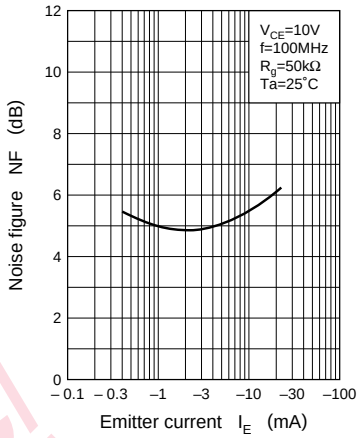
Z_{rb} — I_E



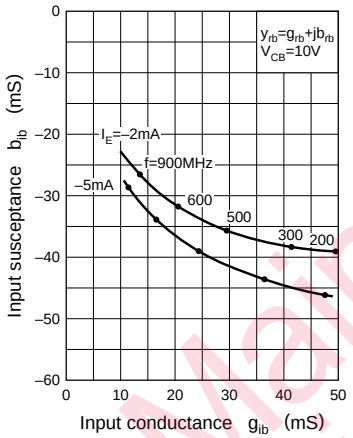
PG — I_E



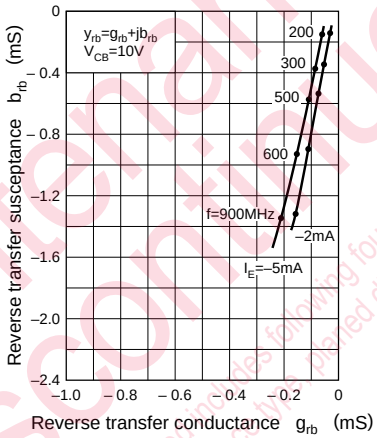
NF — I_E



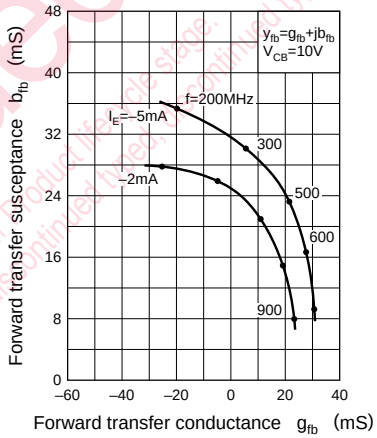
b_{ib} — g_{ib}



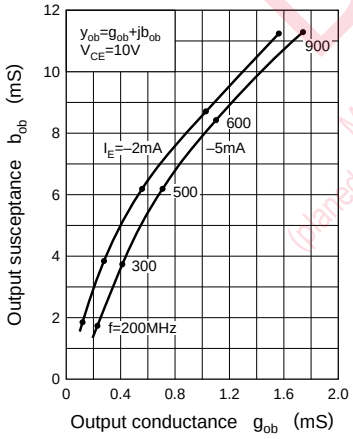
b_{rb} — g_{rb}



b_{fb} — g_{fb}



b_{ob} — g_{ob}



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