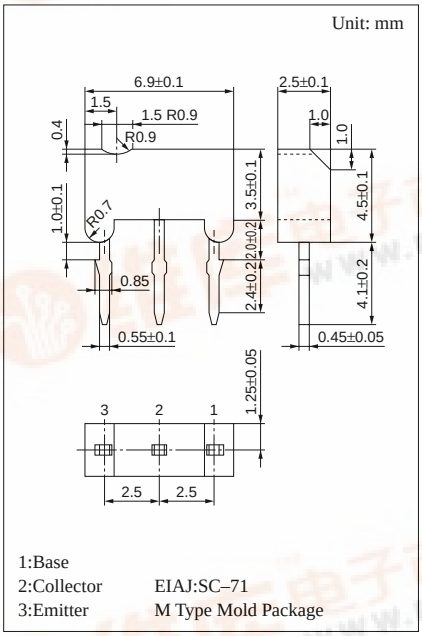
2SB642

Silicon PNP epitaxial planer type

For low-power general amplification



Features

- High foward current transfer ratio h_{FE}.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	–60	V
Collector to emitter voltage	V_{CEO}	–50	V
Emitter to base voltage	V_{EBO}	–7	V
Peak collector current	I_{CP}	–200	mA
Collector current	I_C	–100	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

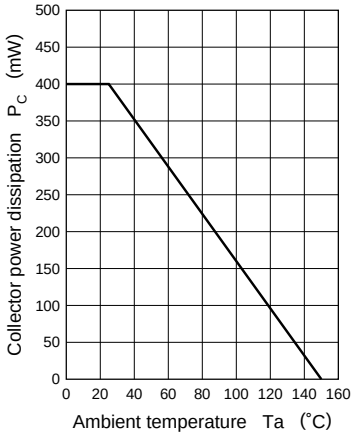
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –20V, I_E = 0			–1	nA
	I_{CEO}	V_{CE} = –20V, I_B = 0			–1	µA
Collector to base voltage	V_{CBO}	I_C = –10µA, I_E = 0	–60			V
Collector to emitter voltage	V_{CEO}	I_C = –2mA, I_B = 0	–50			V
Emitter to base voltage	V_{EBO}	I_E = –10µA, I_C = 0	–7			V
Forward current transfer ratio	h_{FE}*	V_{CE} = –10V, I_C = –2mA	160		460	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –100mA, I_B = –10mA			–1	V
Transition frequency	f_T	V_{CB} = –10V, I_E = 2mA, f = 200MHz		80		MHz
Collector output capacitance	C_{ob}	V_{CB} = –10V, I_E = 0, f = 1MHz		3.5		pF

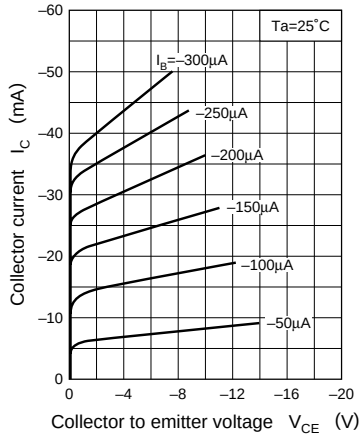
*h_{FE} Rank classification

Rank	Q	R	S
h_{FE}	160 ~ 260	210 ~ 340	290 ~ 460

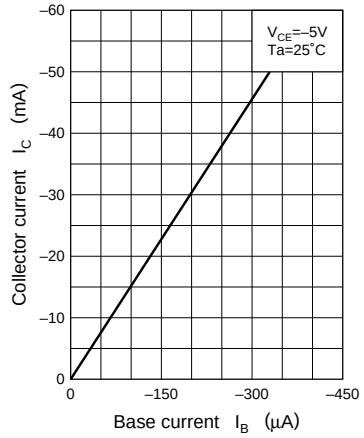
P_C — Ta



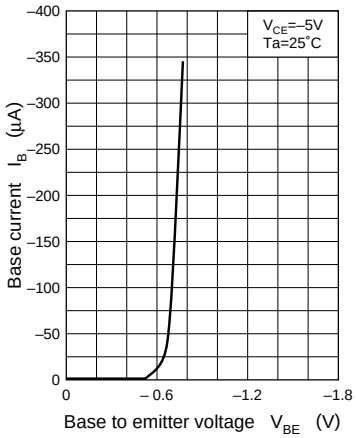
I_C — V_{CE}



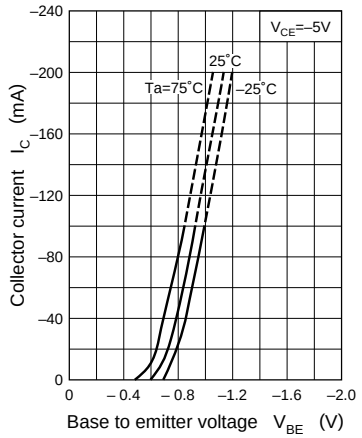
I_C — I_B



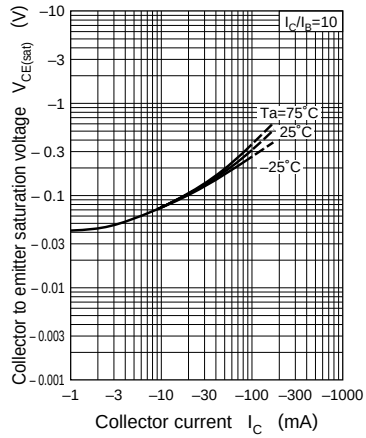
I_B — V_{BE}



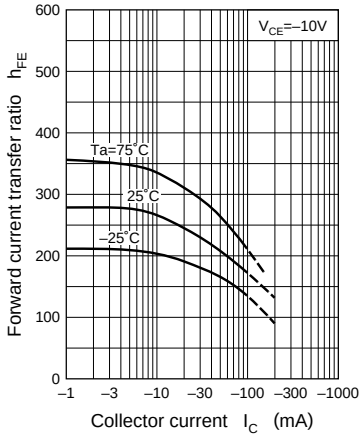
I_C — V_{BE}



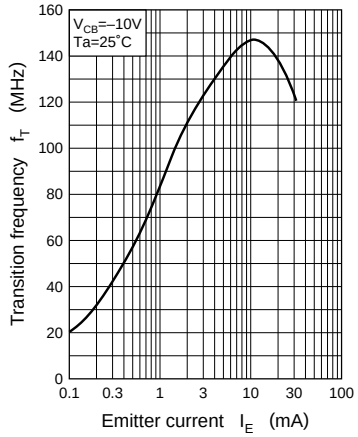
$V_{CE(sat)}$ — I_C



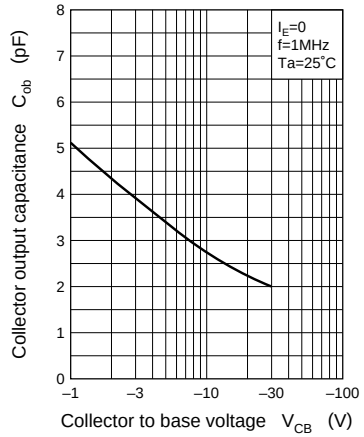
h_{FE} — I_C



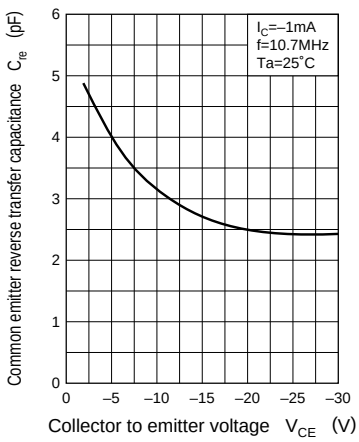
f_T — I_E



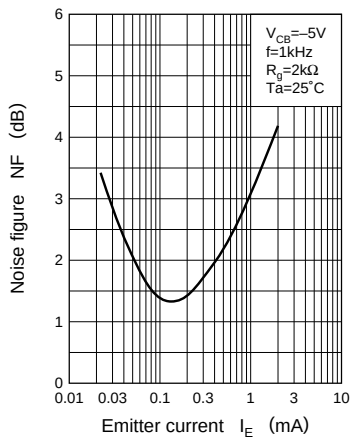
C_{ob} — V_{CB}



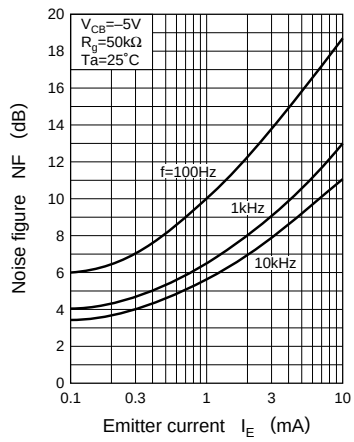
C_{re} — V_{CE}



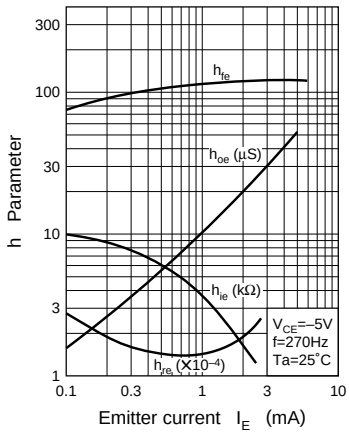
NF — I_E



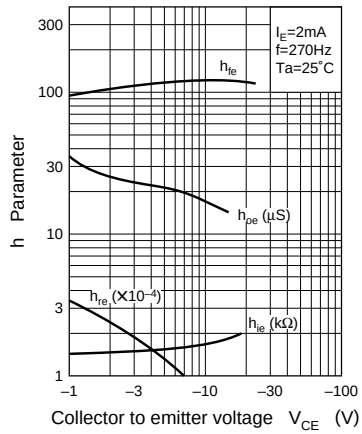
NF — I_E



h Parameter — I_E



h Parameter — V_{CE}



I_{CBO} — Ta