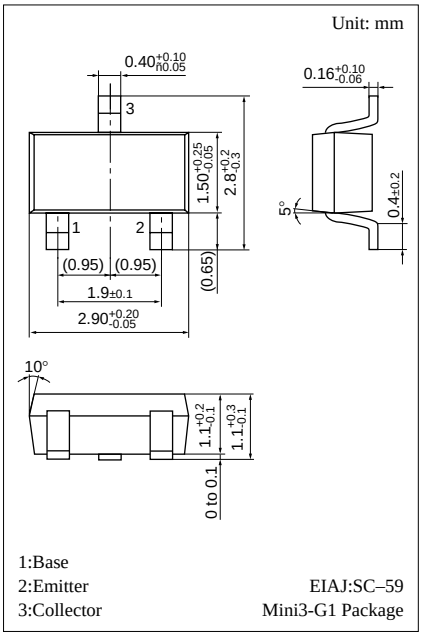
2SB0970 (2SB970)

Silicon PNP epitaxial planer type

For low-voltage output amplification



Marking symbol : 1R

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	–15	V
Collector to emitter voltage	V_{CEO}	–10	V
Emitter to base voltage	V_{EBO}	–7	V
Peak collector current	I_{CP}	–1	A
Collector current	I_C	– 0.5	A
Collector power dissipation	P_C	200	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			–100	nA
Collector to base voltage	V_{CBO}	I_C = –10μA, I_E = 0	–15			V
Collector to emitter voltage	V_{CEO}	I_C = –1mA, I_B = 0	–10			V
Emitter to base voltage	V_{EBO}	I_E = –10μA, I_C = 0	–7			V
Forward current transfer ratio	h_{FE1} *1	V_{CE} = –2V, I_C = –0.5A*2	130		350	
	h_{FE2}	V_{CE} = –2V, I_C = –1A*2	60			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –0.4A, I_B = –8mA		– 0.16	– 0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –0.4A, I_B = –8mA		– 0.8	–1.2	V
Transition frequency	f_T	V_{CB} = –10V, I_E = 50mA, f = 200MHz		130		MHz
Collector output capacitance	C_{ob}	V_{CB} = –10V, I_E = 0, f = 1MHz		22		pF

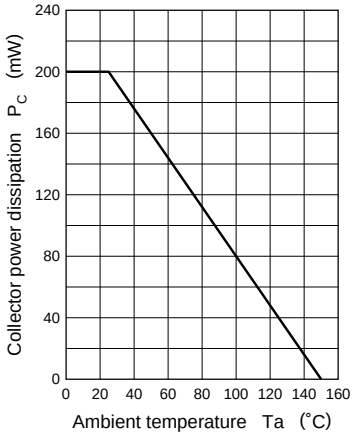
*2 Pulse measurement

*1h_{FE1} Rank classification

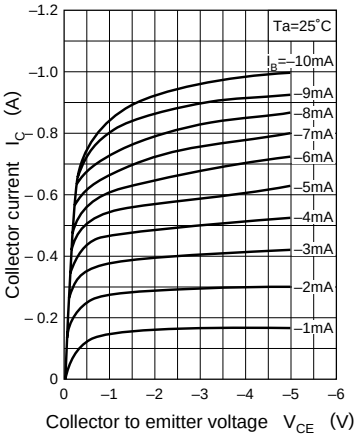
Rank	R	S
h_{FE1}	130 ~ 220	180 ~ 350
Marking Symbol	1RR	1RS

Note.) The Part number in the Parenthesis shows conventional part number.

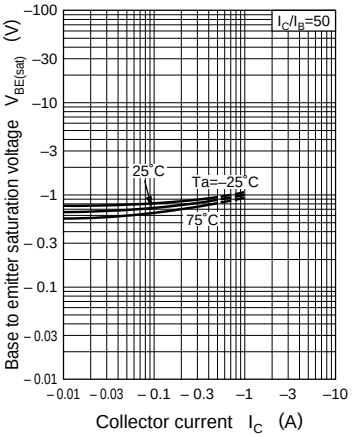
P_C — Ta



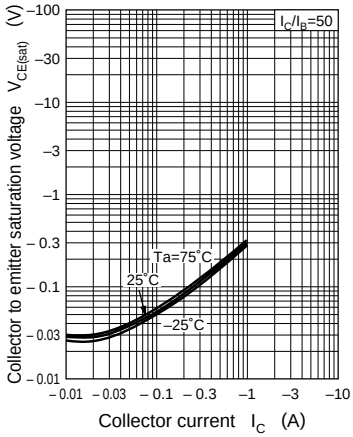
I_C — V_{CE}



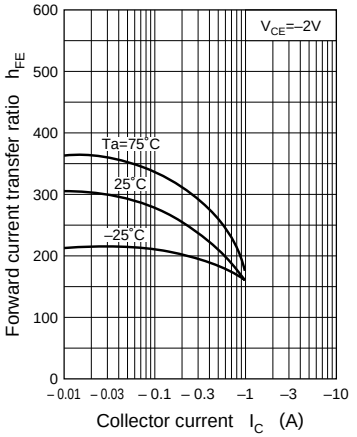
$V_{BE(sat)}$ — I_C



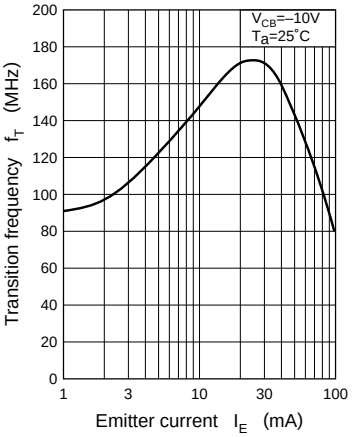
$V_{CE(sat)}$ — I_C



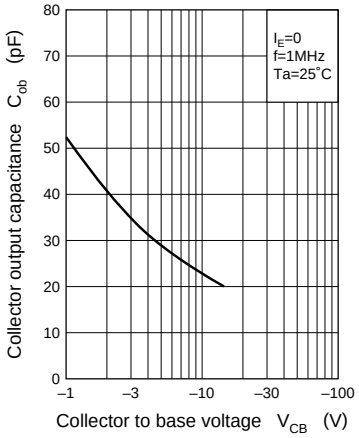
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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