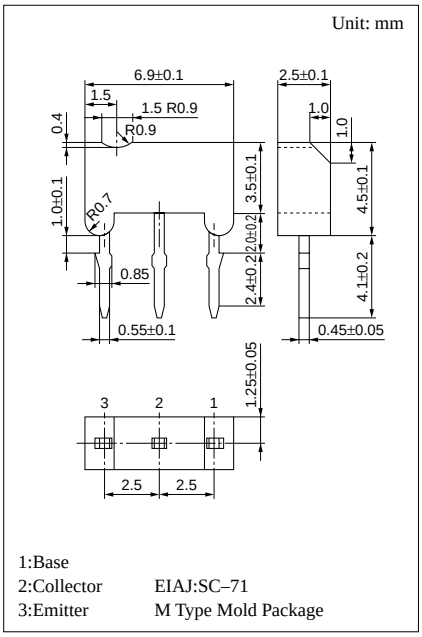
2SB819

Silicon PNP epitaxial planer type

For low-frequency output amplification
Complementary to 2SD1051



Features

- High collector to emitter voltage V_{CEO}.
- Large collector power dissipation P_C.
- 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}	–50	V
Collector to emitter voltage	V_{CEO}	–40	V
Emitter to base voltage	V_{EBO}	–5	V
Peak collector current	I_{CP}	–3	A
Collector current	I_C	–1.5	A
Collector power dissipation	P_C*	1	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25˚C)

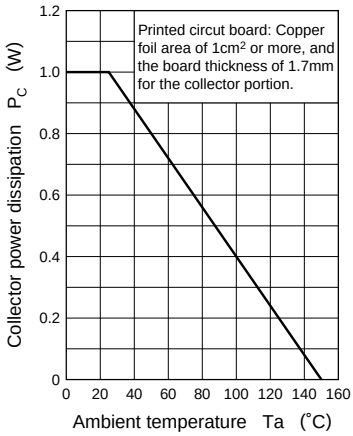
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –20V, I_E = 0			–1	µA
	I_{CEO}	V_{CE} = –10V, I_B = 0			–100	µA
Emitter cutoff current	I_{EBO}	V_{EB} = –5V, I_C = 0			–10	µA
Collector to base voltage	V_{CBO}	I_C = –1mA, I_E = 0	–50			V
Collector to emitter voltage	V_{CEO}	I_C = –2mA, I_B = 0	–40			V
Forward current transfer ratio	h_{FE}*1	V_{CE} = –5V, I_C = –1A*2	80		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –1.5A, I_B = –0.15A*2			–1	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –2A, I_B = –0.2A*2			–1.5	V
Transition frequency	f_T	V_{CB} = –5V, I_E = 0.5A, f = 200MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB} = –20V, I_E = 0, f = 1MHz		45		pF

*2 Pulse measurement

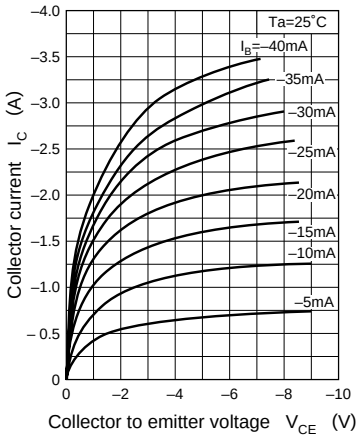
*1h_{FE} Rank classification

Rank	Q	R
h_{FE}	80 ~ 160	120 ~ 220

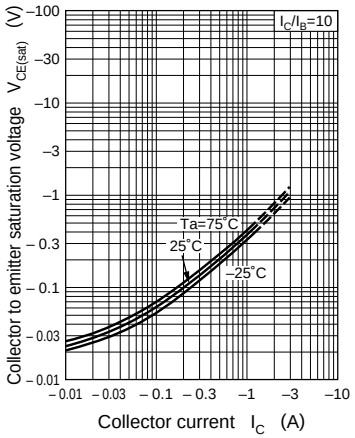
P_C — Ta



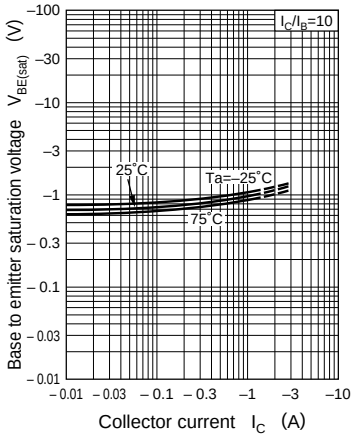
I_C — V_{CE}



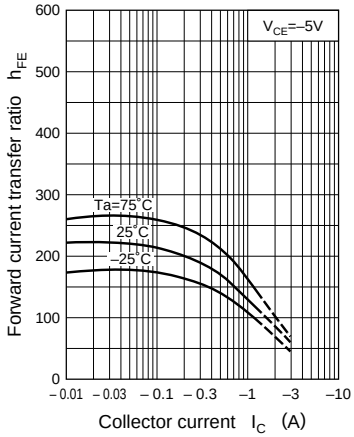
$V_{CE(sat)}$ — I_C



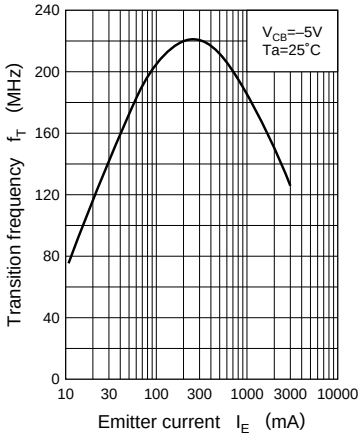
$V_{BE(sat)}$ — I_C



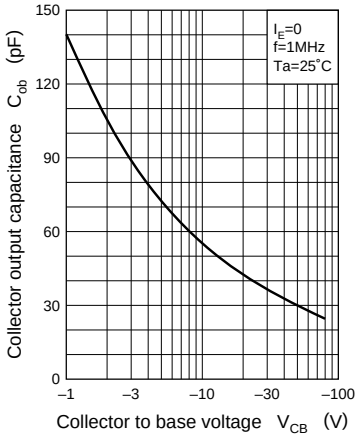
h_{FE} — I_C



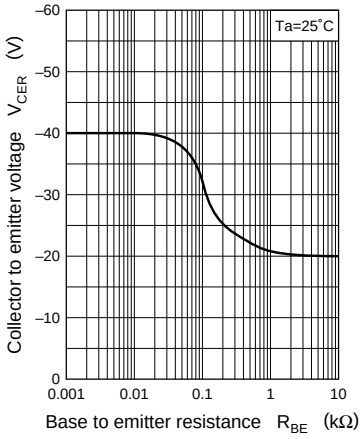
f_T — I_E



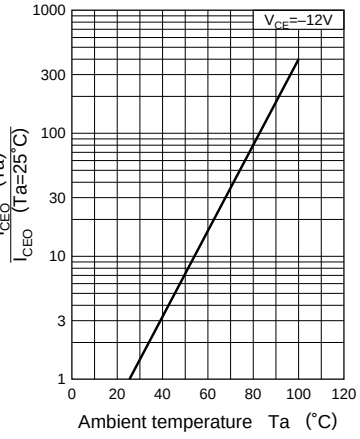
C_{ob} — V_{CB}



V_{CER} — R_{BE}



I_{CEO} — Ta



Area of safe operation (ASO)