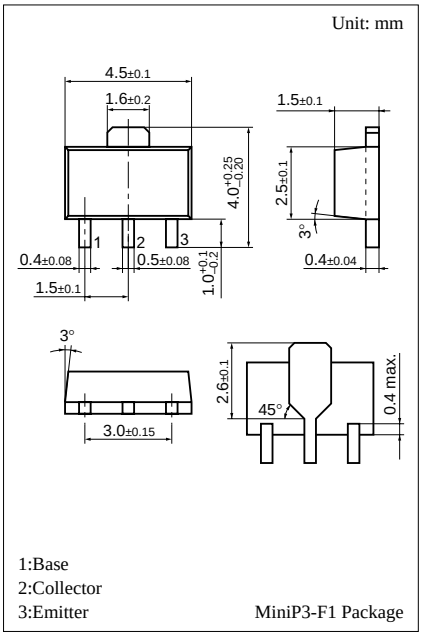
2SB1589

Silicon PNP epitaxial planar type

For low-frequency output amplification



Marking symbol : 1U

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Large collector power dissipation P_C.
- Mini Power 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}	–10	V
Collector to emitter voltage	V_{CEO}	–10	V
Emitter to base voltage	V_{EBO}	–7	V
Peak collector current	I_{CP}	–2	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

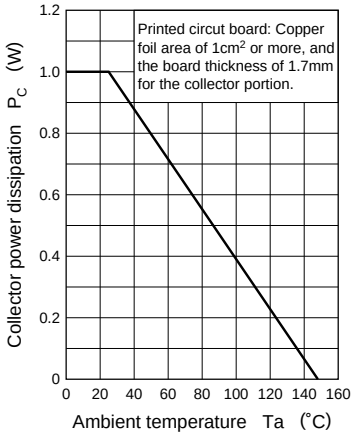
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –7V, I_E = 0			–1	μA
Collector to base voltage	V_{CBO}	I_C = –10μA, I_E = 0	–10			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_{FE}	V_{CE} = –1V, I_C = –400mA*2	200		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –1A, I_B = –25mA*2		– 0.24	– 0.35	V
Transition frequency	f_T	V_{CB} = –6V, I_E = 50mA, f = 200MHz		190		MHz
Collector output capacitance	C_{ob}	V_{CB} = –10V, I_E = 0, f = 1MHz		65		pF
Forward voltage	V_F*1	I_F = –500mA			–1.3	V

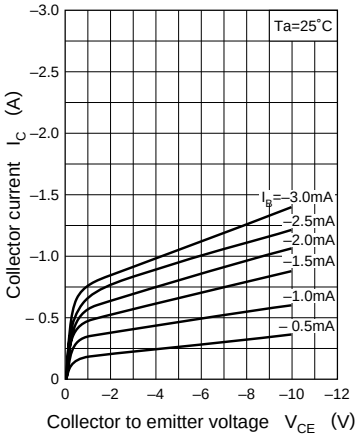
*1 Applicable to the built-in diode.

*2 Pulse measurement

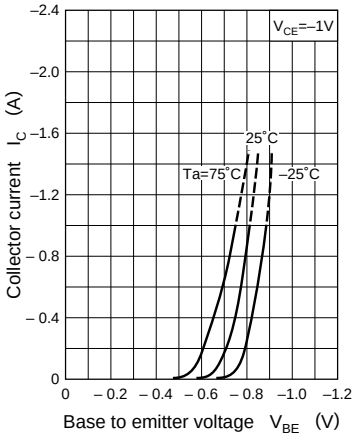
P_C — Ta



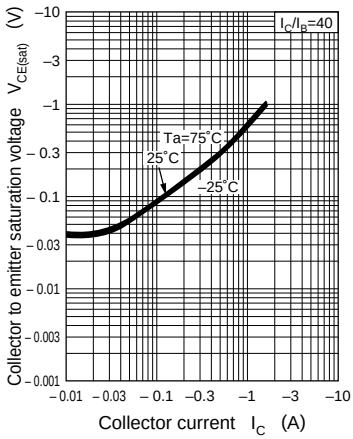
I_C — V_{CE}



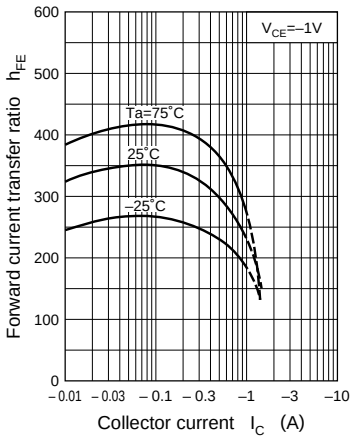
I_C — V_{BE}



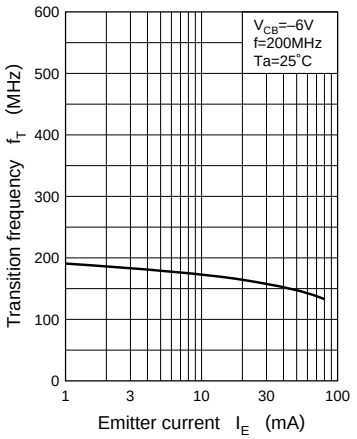
$V_{CE(sat)}$ — I_C



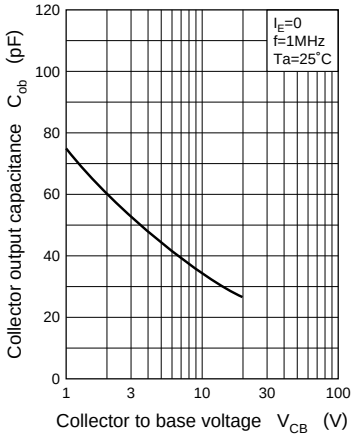
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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