2SB1599

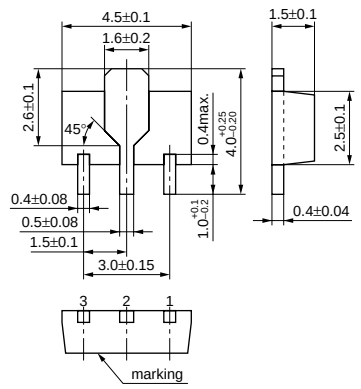
Silicon PNP epitaxial planer type

For power amplification
Complementary to 2SD2457

Features

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

Unit: mm



1:Base
2:Collector
3:Emitter

EIAJ:SC–62
Mini Power Type Package

Marking symbol : 1X

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
Base current	I_B	– 0.6	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

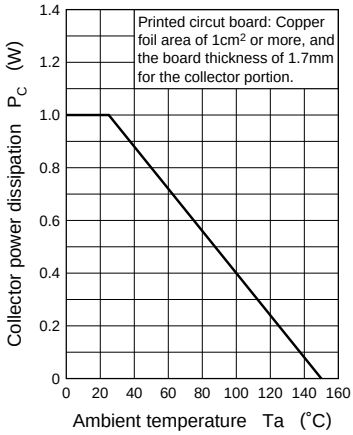
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –20V, I_E = 0			–1	µA
	I_{CEO}	V_{CE} = –12V, I_B = 0			–100	µA
Emitter cutoff current	I_{EBO}	V_{EB} = –5V, I_C = 0			–100	µA
Collector to base voltage	V_{CBO}	I_C = –1mA, I_E = 0	–50			V
Collector to emitter voltage	V_{CEO}	I_C = –10mA, I_B = 0	–40			V
Forward current transfer ratio	h_{FE}*	V_{CE} = –5V, I_C = –1A	50		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –1.5A, I_B = –0.15A		– 0.4	–1	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –2A, I_B = –0.2A			–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} = –5V, I_E = 0, f = 1MHz		70		pF

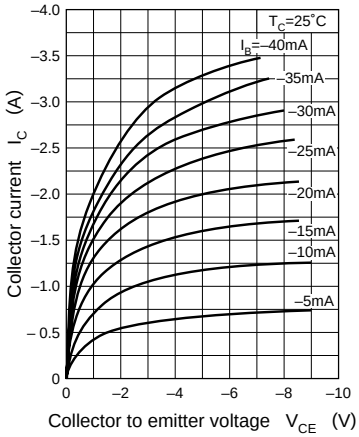
*h_{FE} Rank classification

Rank	P	Q	R
h_{FE}	50 ~ 100	80 ~ 160	100 ~ 220

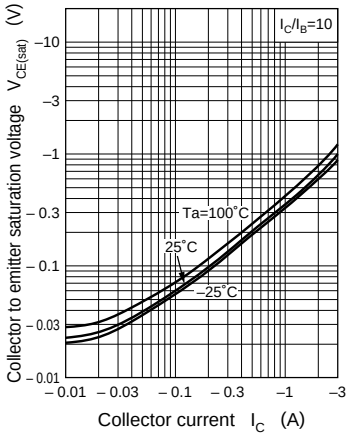
P_C — Ta



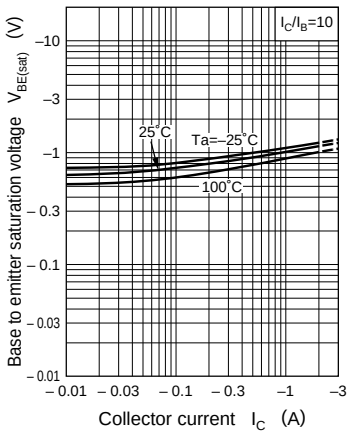
I_C — V_{CE}



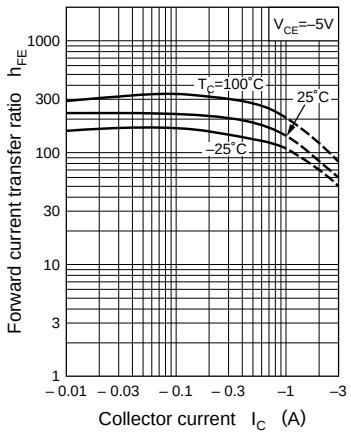
$V_{CE(sat)}$ — I_C



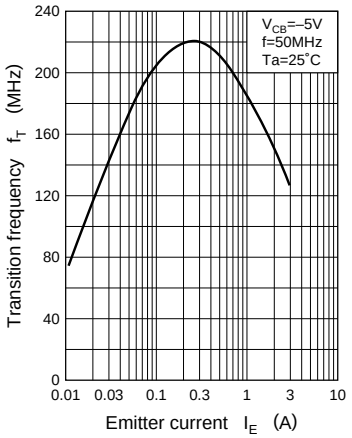
$V_{BE(sat)}$ — I_C



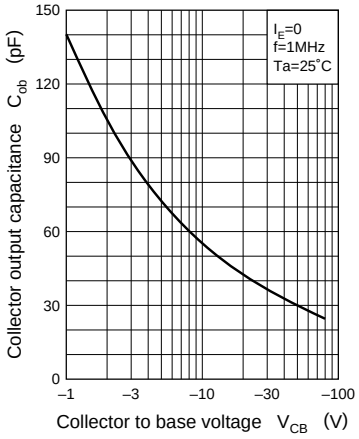
h_{FE} — I_C



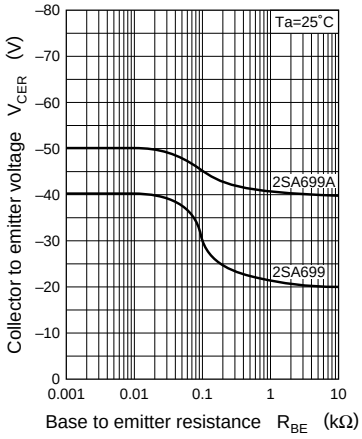
f_T — I_E



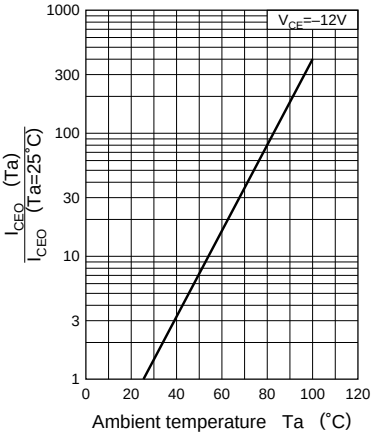
C_{ob} — V_{CB}



V_{CER} — R_{BE}



I_{CEO} — Ta



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