

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.

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

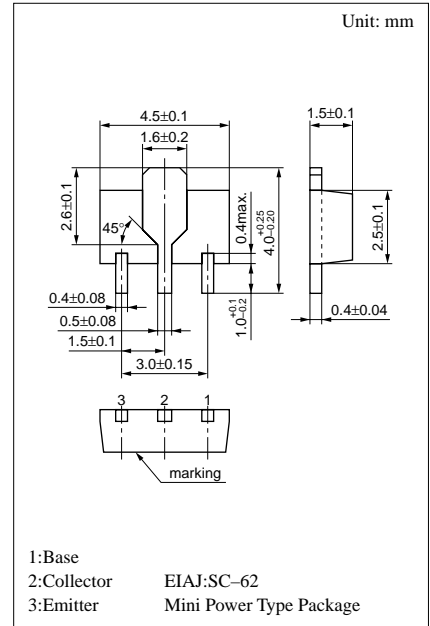
* Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

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

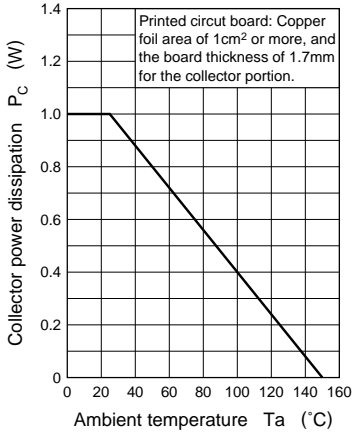
* h_{FE} Rank classification

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

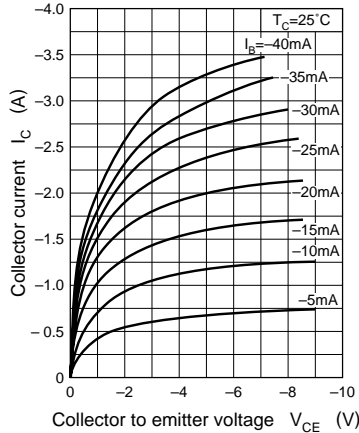


Marking symbol : 1X

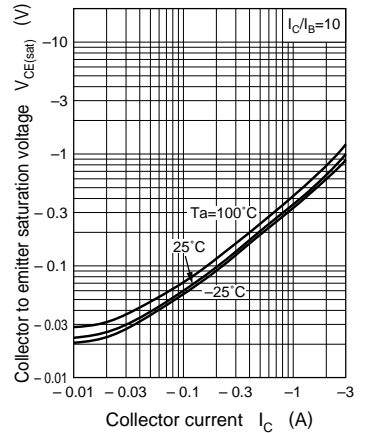
$P_C - T_a$



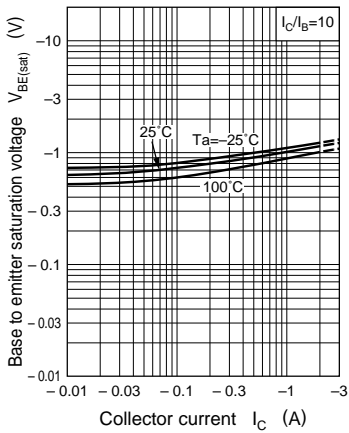
$I_C - V_{CE}$



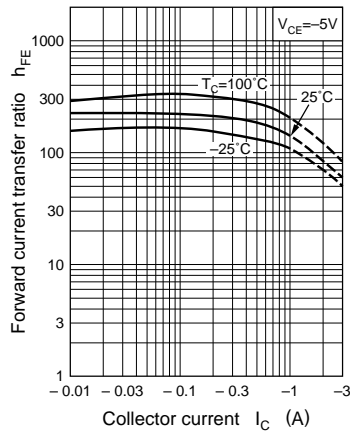
$V_{CE(sat)} - I_C$



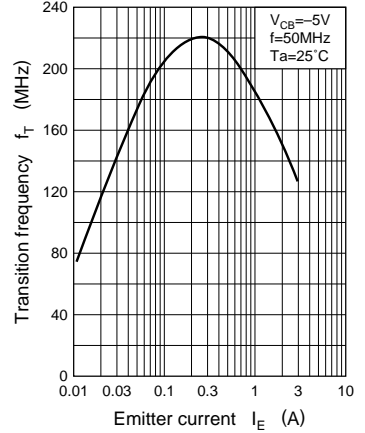
$V_{BE(sat)} - I_C$



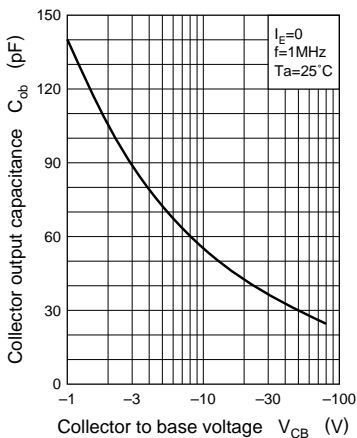
$h_{FE} - I_C$



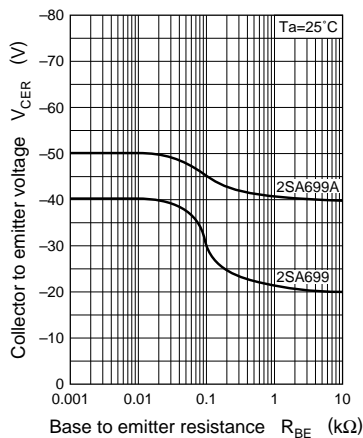
$f_T - I_E$



$C_{ob} - V_{CB}$



$V_{CER} - R_{BE}$



$I_{CEO} - T_a$

