

# 2SB1599

## Silicon PNP epitaxial planar 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
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

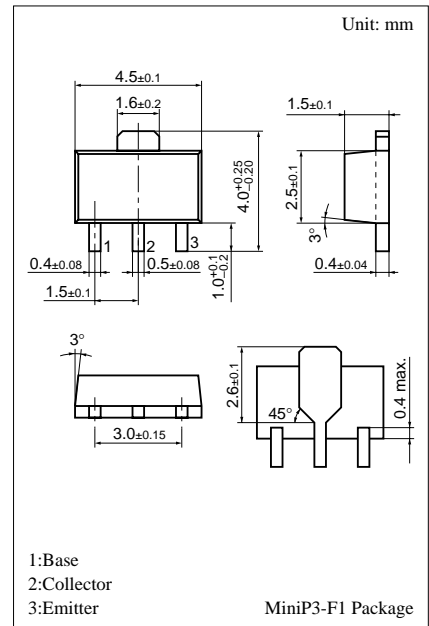
\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

### Electrical Characteristics (Ta=25°C)

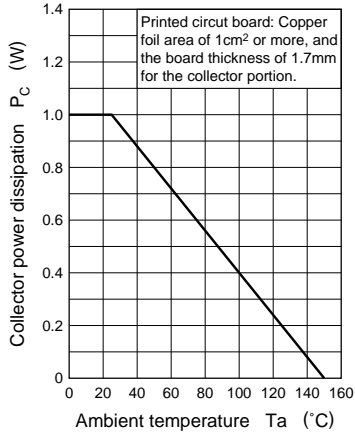
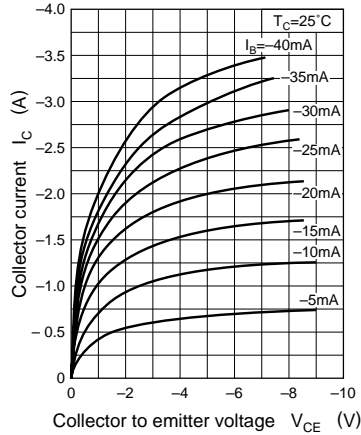
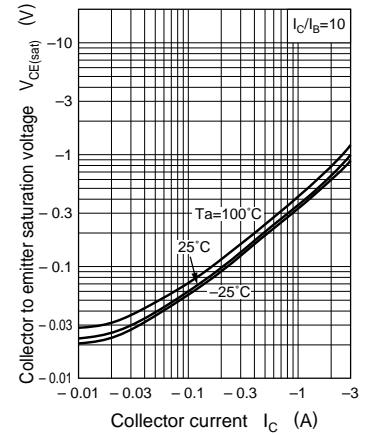
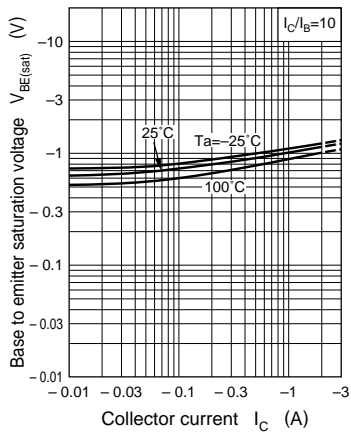
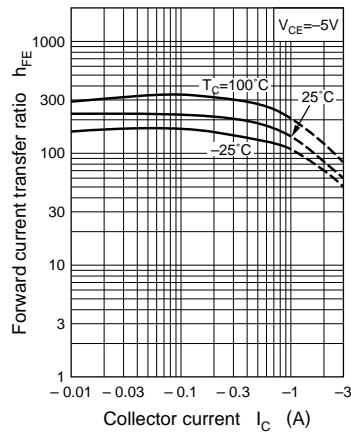
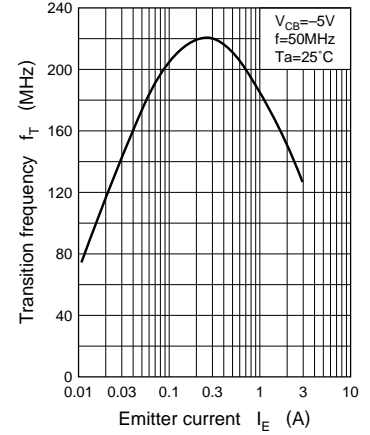
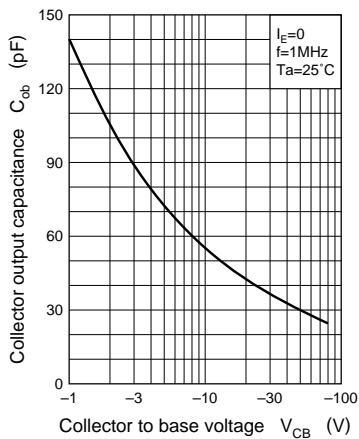
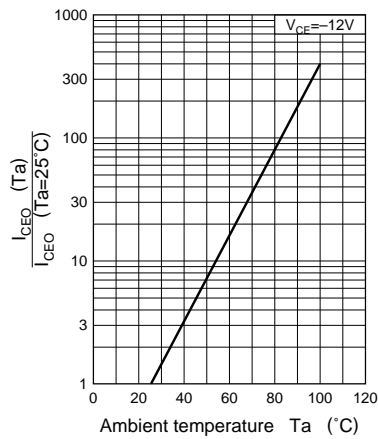
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -20V, I_E = 0$			-1	μA
	$I_{CEO}$	$V_{CE} = -12V, I_B = 0$			-100	μA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-100	μA
Collector to base voltage	$V_{CBO}$	$I_C = -1mA, I_E = 0$	-50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = -10mA, I_B = 0$	-40			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CE} = -5V, I_C = -1A$	80		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	Q	R
$h_{FE}$	80 ~ 160	100 ~ 220



Marking symbol : 1X

$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $I_{CEO} - T_a$ 

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