

# 2SB1440

## Silicon PNP epitaxial planer type

For low-frequency output amplification

Complementary to 2SD2185

### ■ 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	$V_{CEO}$	-50	V
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-3	A
Collector current	$I_C$	-2	A
Collector power dissipation	$P_C$	1*	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C

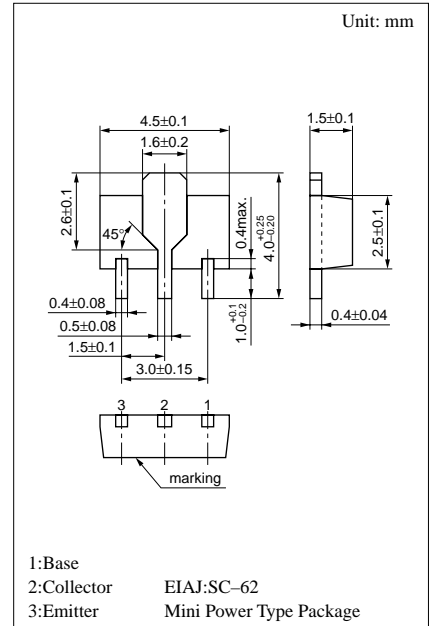
\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	$V_{CBO}$	$I_C = -10\mu A, I_E = 0$	-50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = -1mA, I_B = 0$	-50			V
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -2V, I_C = -200mA$	120		340	
	$h_{FE2}$	$V_{CE} = -2V, I_C = -1A$	60			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -50mA$		-0.2	-0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -50mA$		-0.85	-1.2	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$		45	60	pF

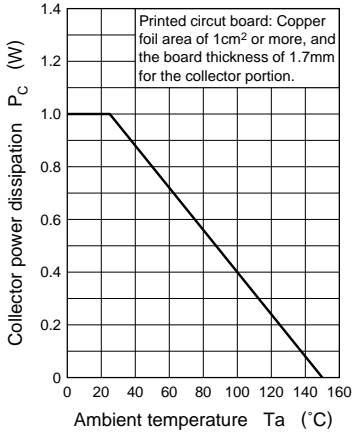
\* $h_{FE1}$  Rank classification

Rank	R	S
$h_{FE1}$	120 ~ 240	170 ~ 340

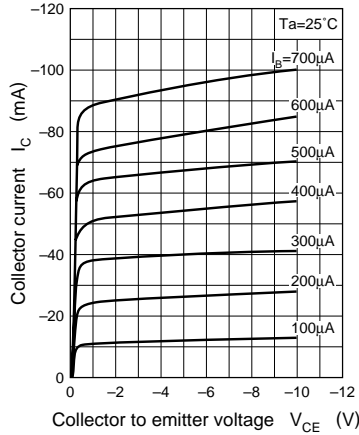


Marking symbol : 11

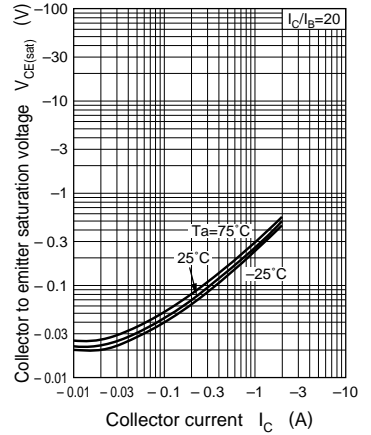
$P_C - T_a$



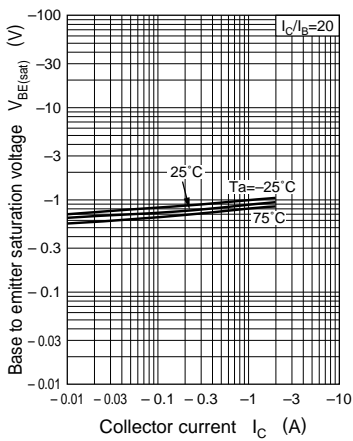
$I_C - V_{CE}$



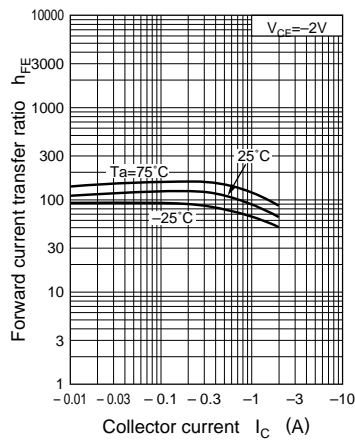
$V_{CE(sat)} - I_C$



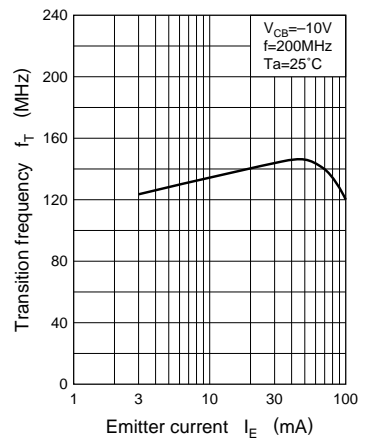
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

