

# 2SB789, 2SB789A

Silicon PNP epitaxial planer type

For low-frequency driver amplification  
Complementary to 2SD968 and 2SD968A

## ■ Features

- High collector to emitter voltage  $V_{CEO}$ .
- Large collector power dissipation  $P_C$ .

## ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-100	V
2SB789			
2SB789A		-120	
Collector to emitter voltage	$V_{CEO}$	-100	V
2SB789			
2SB789A		-120	
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-1	A
Collector current	$I_C$	-0.5	A
Collector power dissipation	$P_C^*$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C

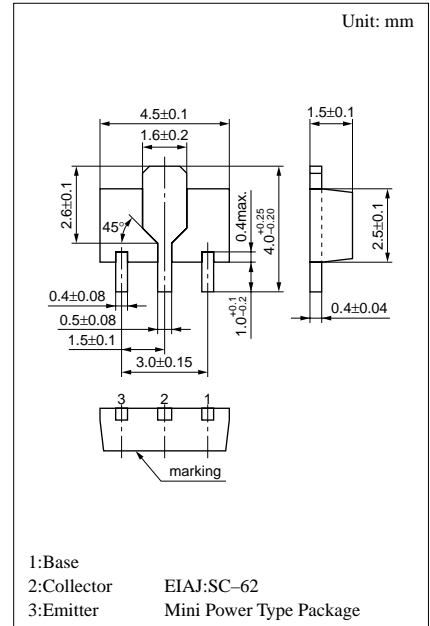
\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	$V_{CEO}$	$I_C = -100\mu A, I_B = 0$	-100			V
2SB789A			-120			
Collector to base voltage	$V_{EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -10V, I_C = -150mA$	90		220	
	$h_{FE2}$	$V_{CE} = -5V, I_C = -500mA$	50			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.2	-0.6	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.85	-1.2	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		120		MHz
Collector output capacitance	Cob	$V_{CB} = -10V, I_E = 0, f = 1MHz$			30	pF

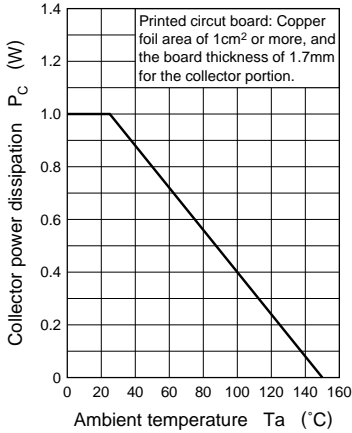
\* $h_{FE1}$  Rank classification

Rank	Q	R	
$h_{FE1}$	90 ~ 155	130 ~ 220	
Marking	2SB789	DQ	DR
Symbol	2SB789A	EQ	ER

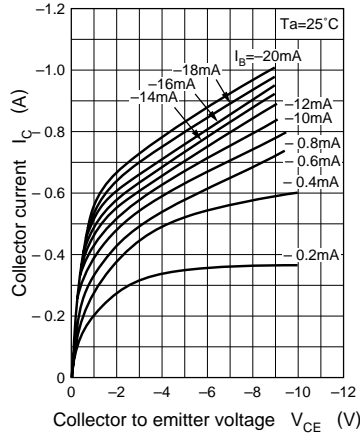


Marking symbol : D(2SB789)  
E(2SB789A)

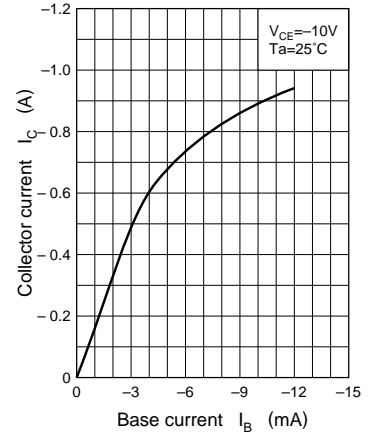
$P_C - T_a$



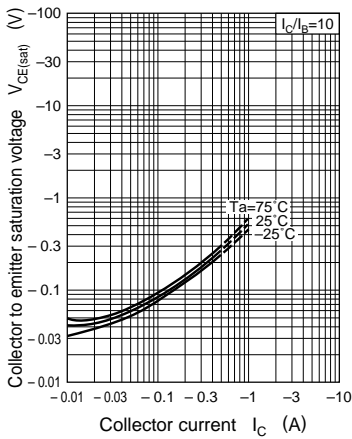
$I_C - V_{CE}$



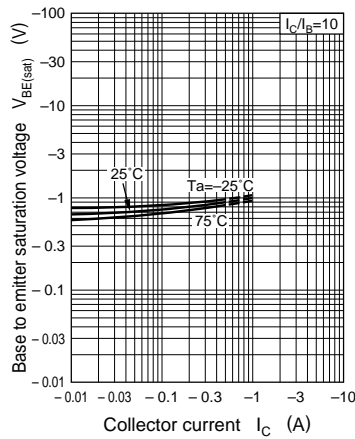
$I_C - I_B$



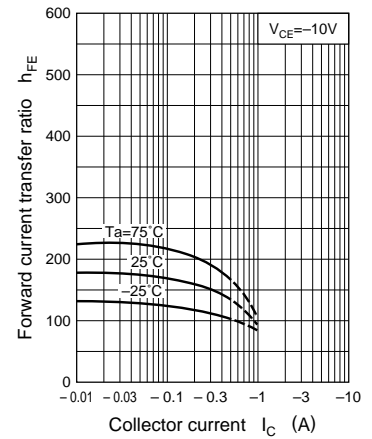
$V_{CE(sat)} - I_C$



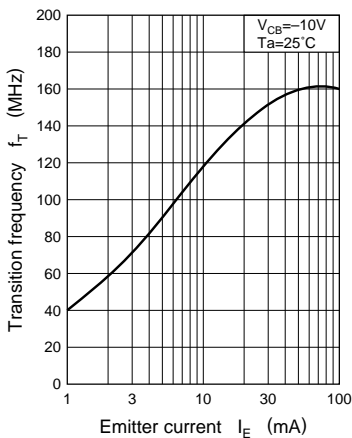
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

