



## 2SB1122/2SD1622

### Low-Frequency Power Amplifier Applications

#### Applications

- Voltage regulators relay drivers, lamp drivers, electrical equipment.

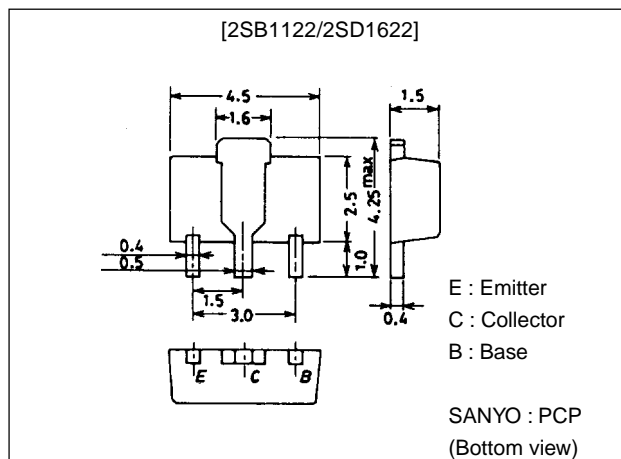
#### Features

- Adoption of FBET process..
- Very small size making it easy to provide high-density hybrid IC's.

#### Package Dimensions

unit:mm

2038



() : 2SB1122

#### Specifications

##### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)60	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)50	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)5	V
Collector Current	$I_C$		(-)1	A
Collector Current (Pulse)	$I_{CP}$		(-)2	A
Collector Dissipation	$P_C$		500	mW
		Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	$T_J$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

##### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings		Unit
			min	typ	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)50\text{V}, I_E=0$			(-)100 nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)100 nA
DC Current Gain	$h_{FE1}$	$V_{CE}=(-)2\text{V}, I_C=(-)100\text{mA}$	100*		560*
	$h_{FE2}$	$V_{CE}=(-)2\text{V}, I_C=(-)1\text{A}$	30		
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		150	MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(12)	pF
				8.5	pF

\* ; The 2SB1122/2SD1622 are classified by 100mA  $h_{FE}$  as follows :

100	R	200	140	S	280	200	T	400	280	U	560
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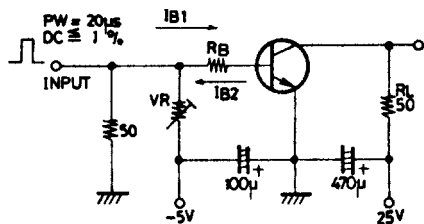
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

92098HA (KT)/4107K1/9266AT, TS No.2040-1/4

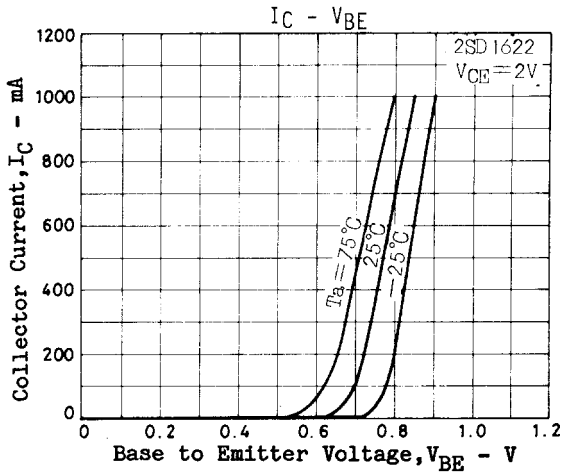
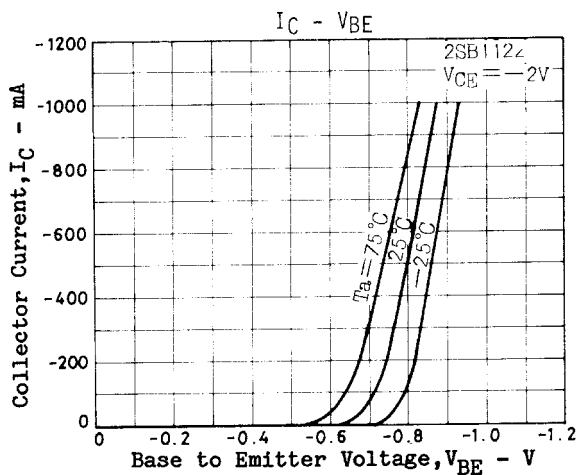
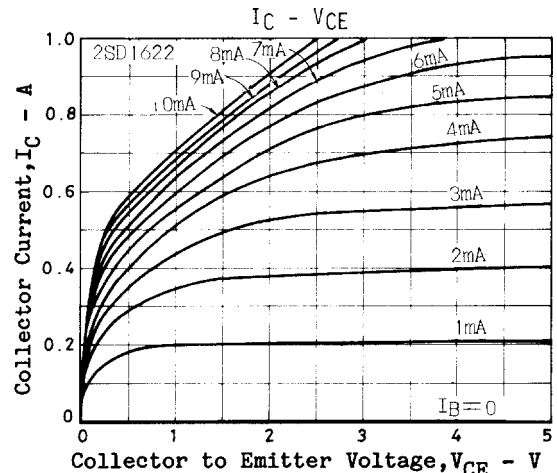
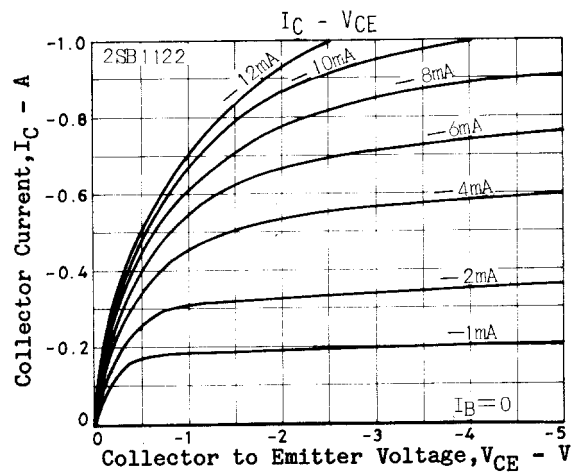
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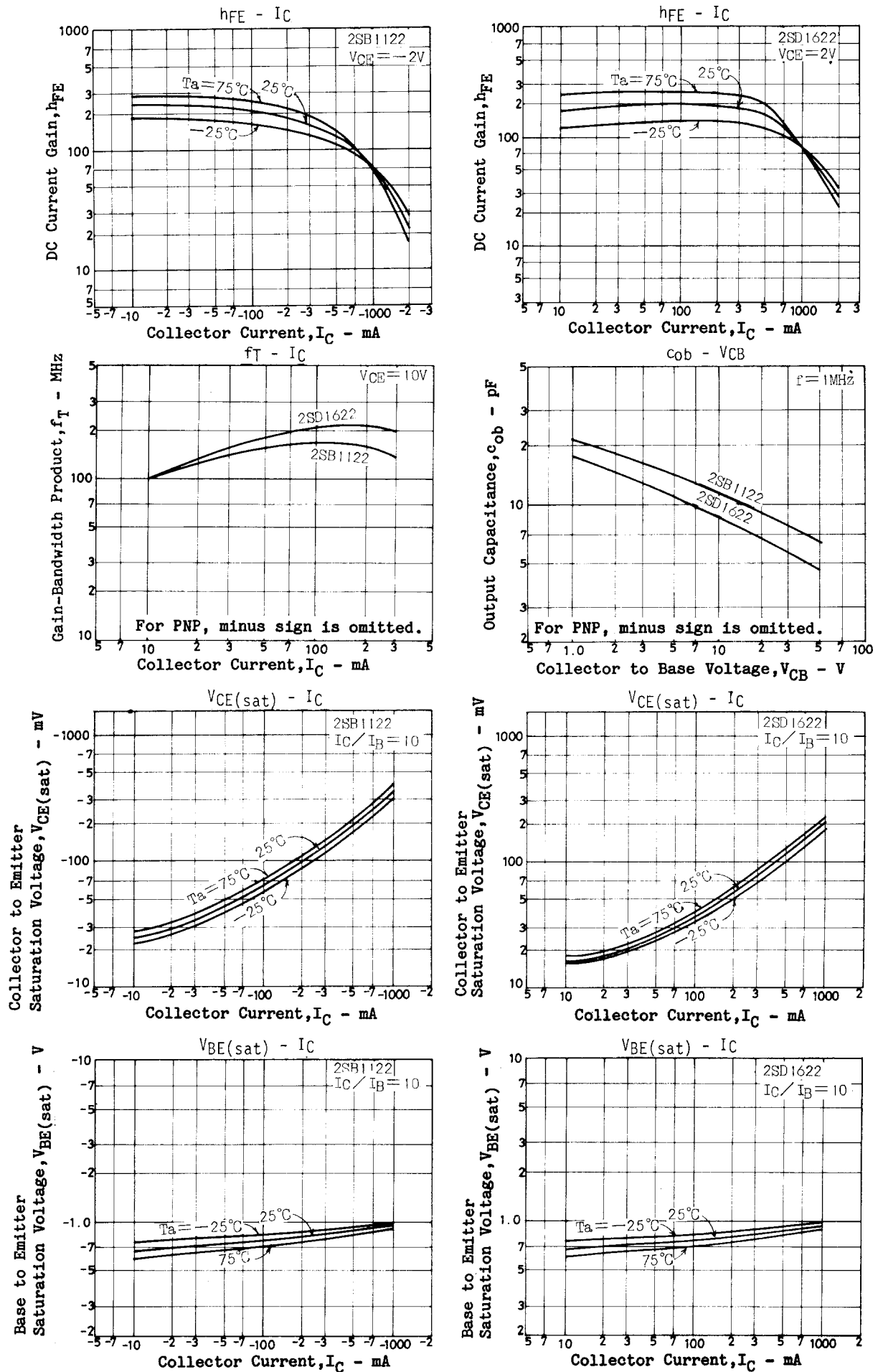
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-180)	(-500)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		120	300	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-60)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-50)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-5)			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		40		ns
				(40)		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		350		ns
				(300)		ns
Fall Time	$t_f$	See specified Test Circuit.		30		ns
				(30)		ns

## Switching Time Test Circuit

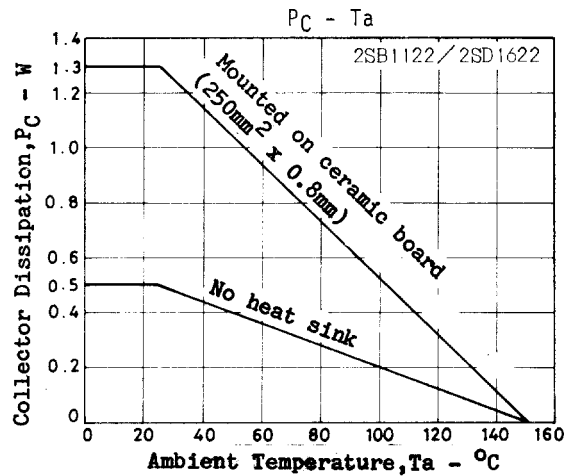
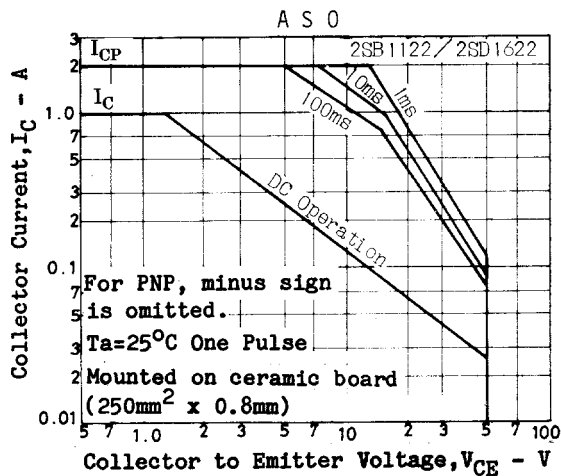


Marking 2SB1122:BE  
2SD1622:DE  
 $h_{FE}$  rank : R, S, T, U





## 2SB1122/2SD1622



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