



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.

() : 2SB1122

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)-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 \times 0.8mm)	1.3	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings		Unit	
			min	typ		max
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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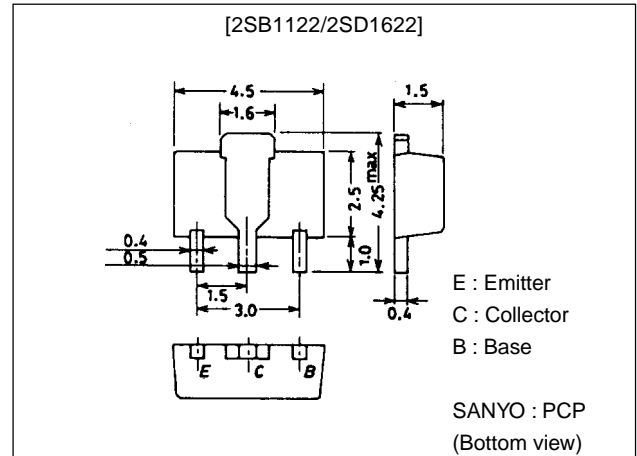
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Package Dimensions

unit:mm

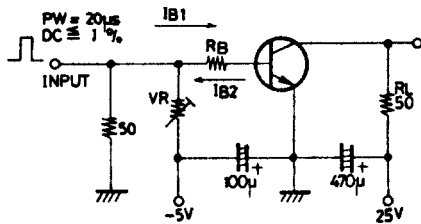
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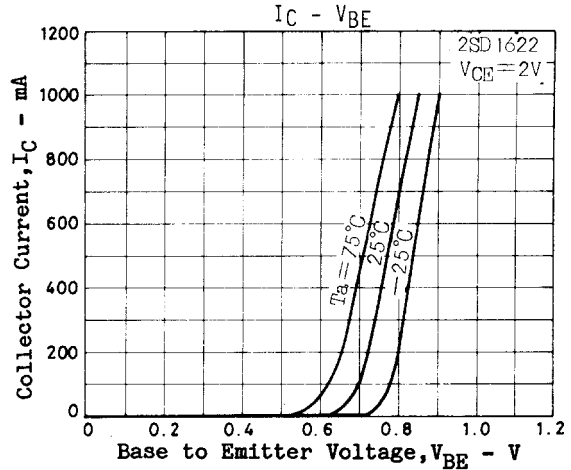
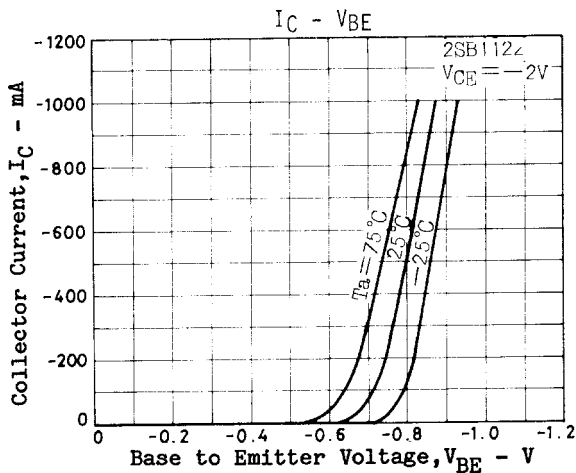
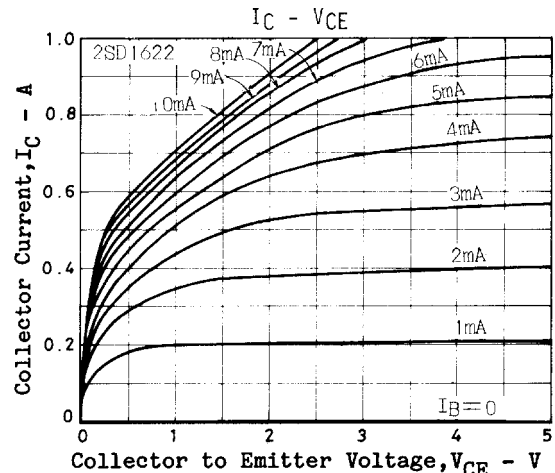
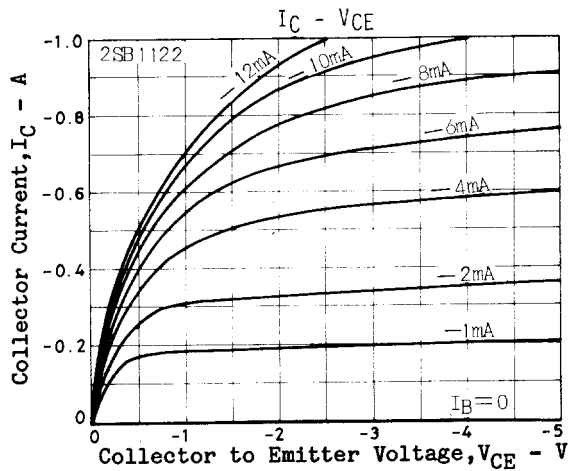
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-180)	(-500)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-0.9)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-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

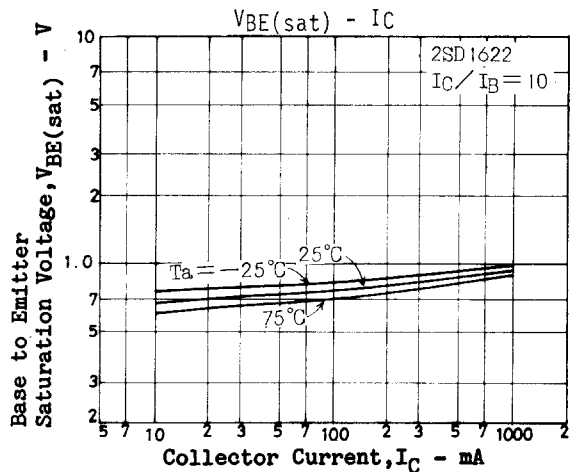
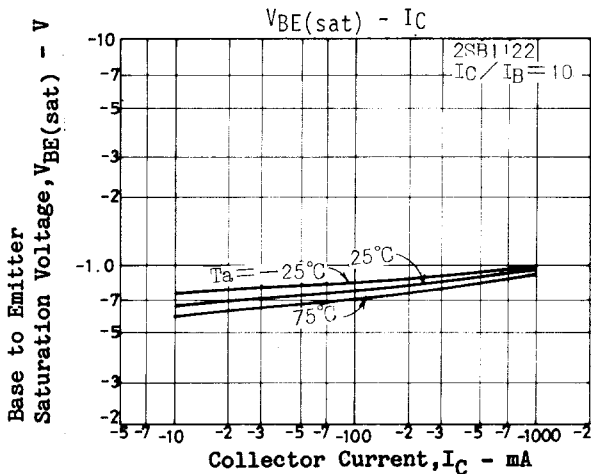
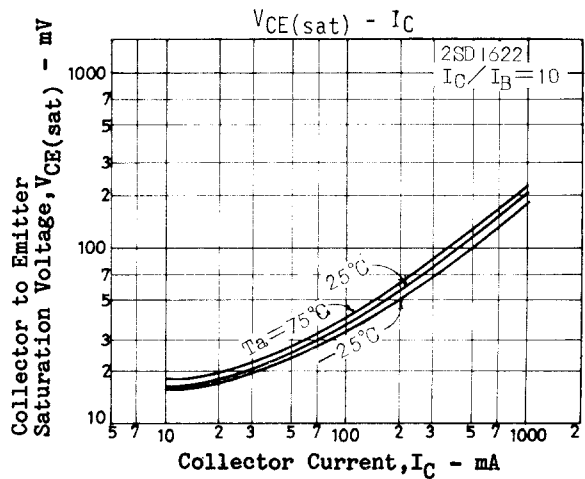
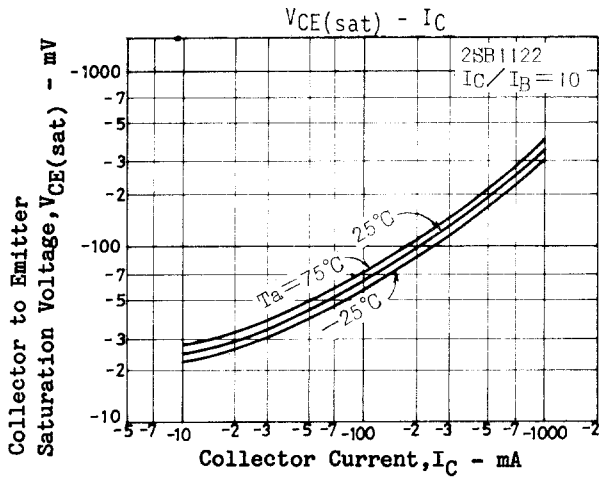
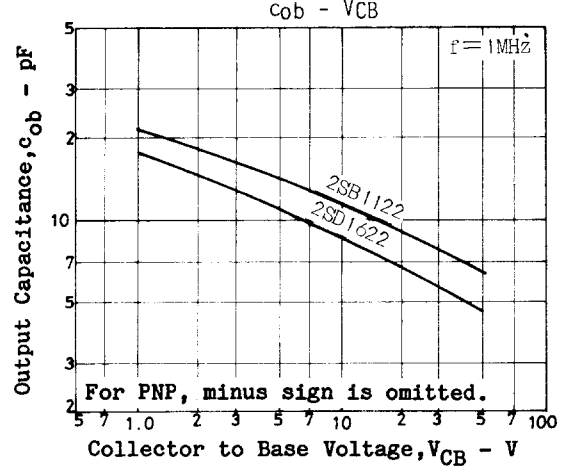
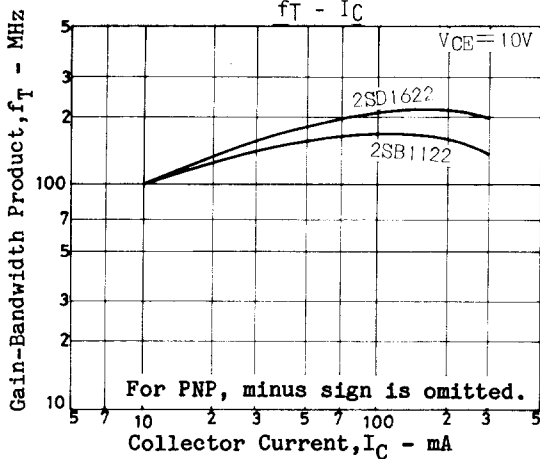
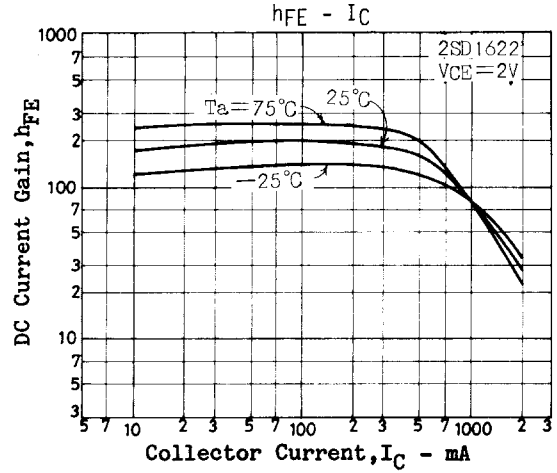
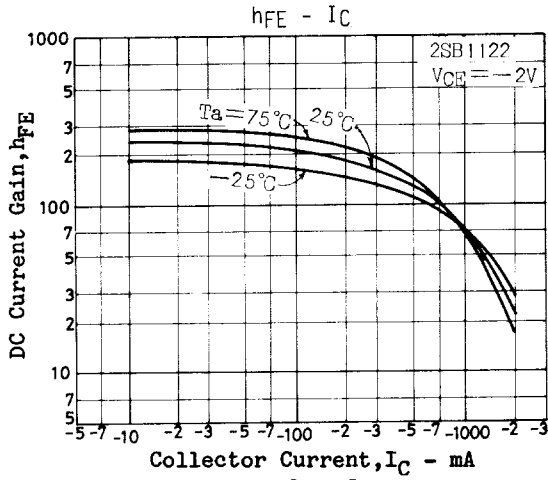


$I_C = 10 I_{B1} = -10 I_{B2} = 500mA$
 (For PNP, the polarity is reversed.)
 Unit (resistance : Ω , capacitance : F)

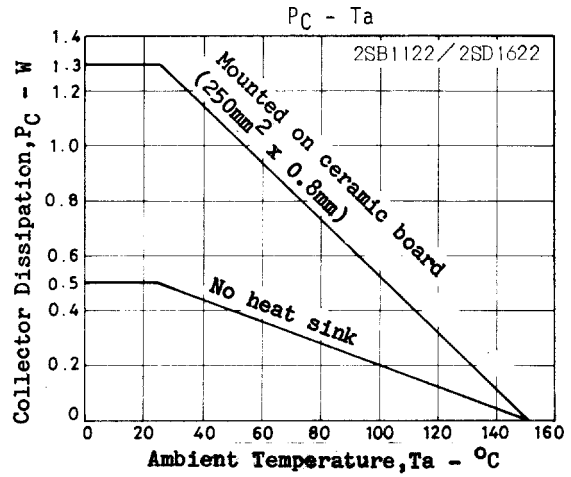
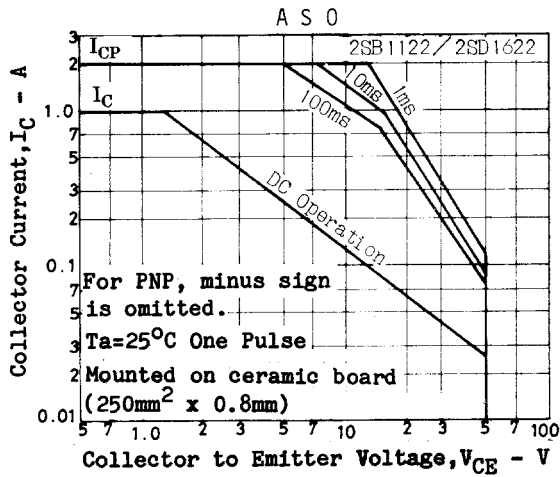
Marking 2SB1122:BE
 2SD1622:DE
 h_{FE} rank : R, S, T, U



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