



2SB1122/2SD1622

Low-Frequency Power Amplifier Applications

Applications

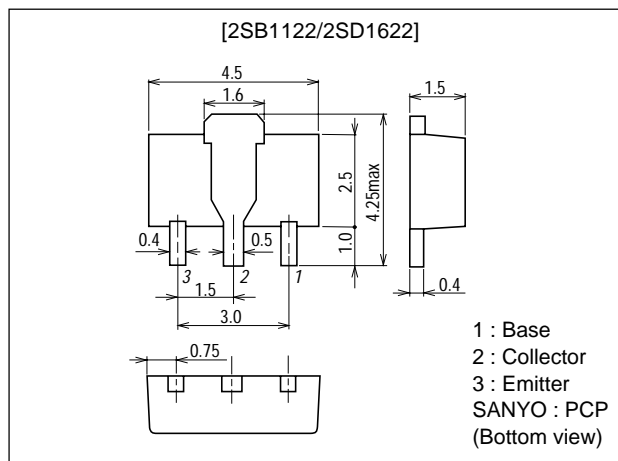
- Voltage regulators relay drivers, lamp drivers, electrical equipment.

Features

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

Package Dimensions

unit:mm
2038A



() : 2SB1122

Specifications

Absolute Maximum Ratings at Ta = 25°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 ² ×0.8mm)	1.3	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)50V, I _E =0			(-)100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)100	nA
DC Current Gain	h _{FE1}	V _{CE} =(-)2V, I _C =(-)100mA	100*		560*	
	h _{FE2}	V _{CE} =(-)2V, I _C =(-)1A	30			
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)50mA		150		MHz

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

Marking 2SB1122 : BE
2SD1622 : DE

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Rank	R	S	T	U
h _{FE}	100 to 200	140 to 280	200 to 400	280 to 560

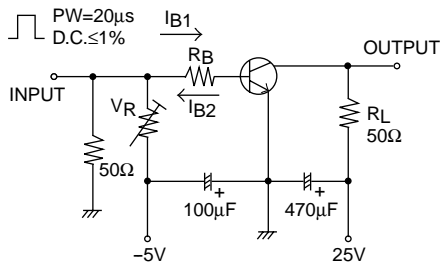
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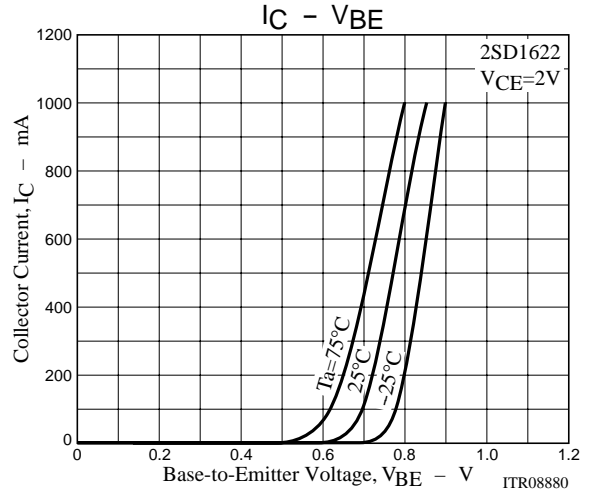
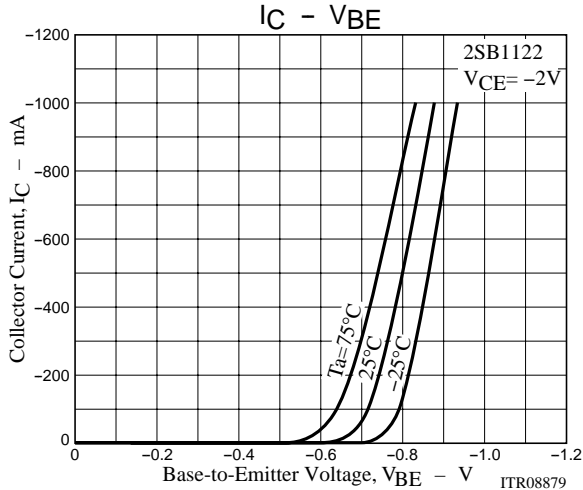
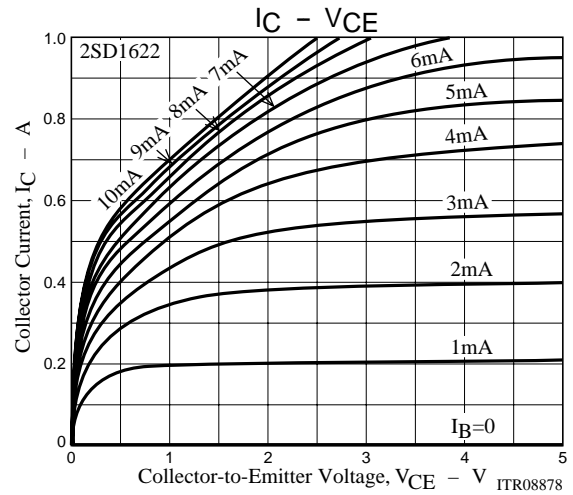
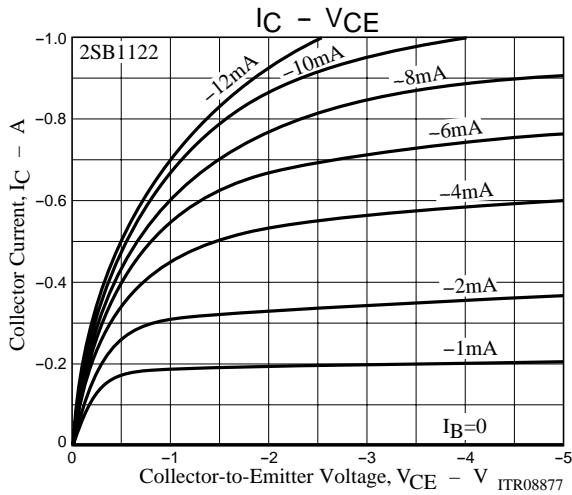
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(12)		pF
				8.5		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-180)	(-500)	mV
Base-to-Emitter Saturation 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

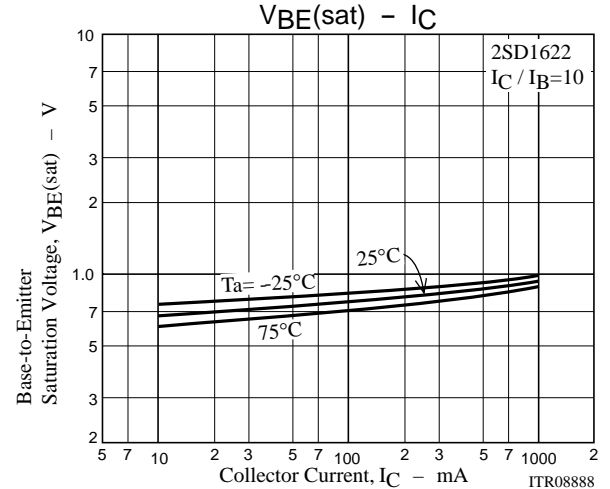
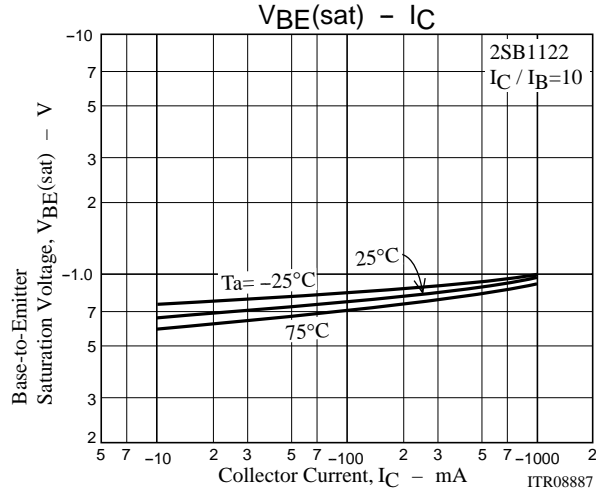
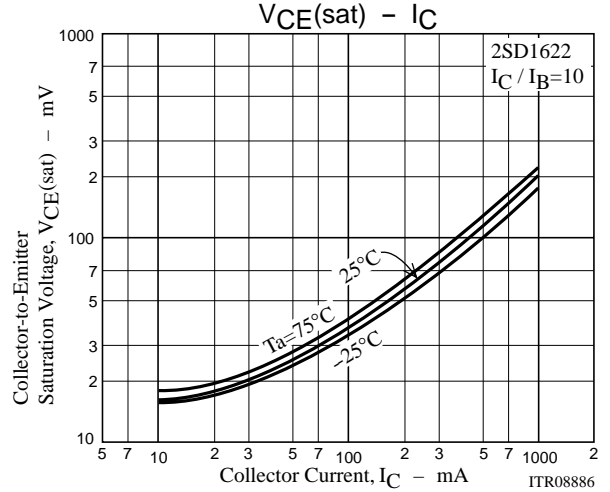
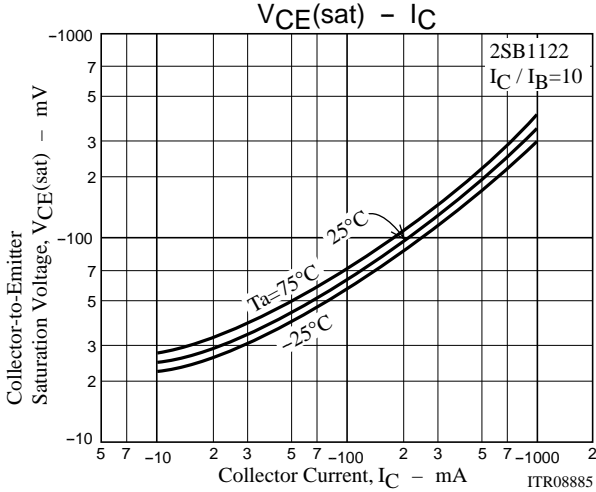
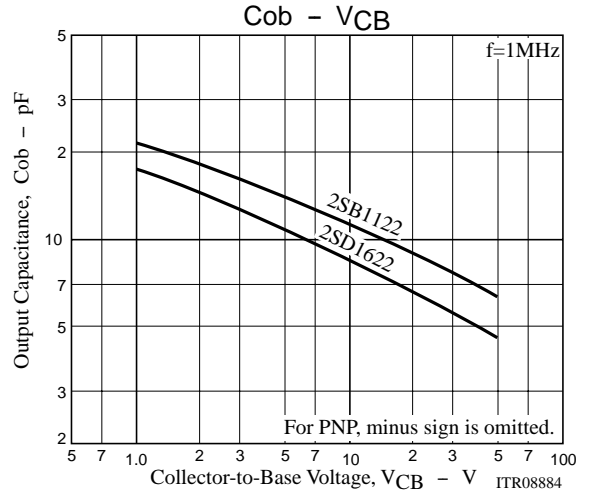
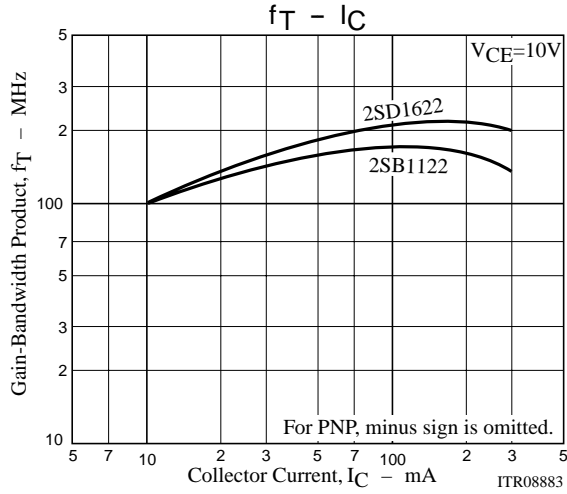
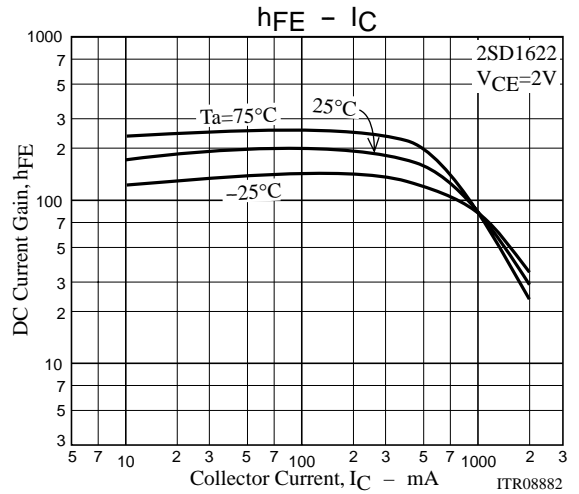
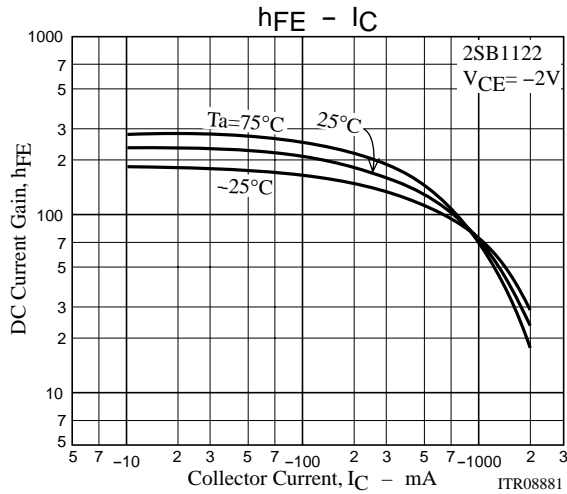
Switching Time Test Circuit



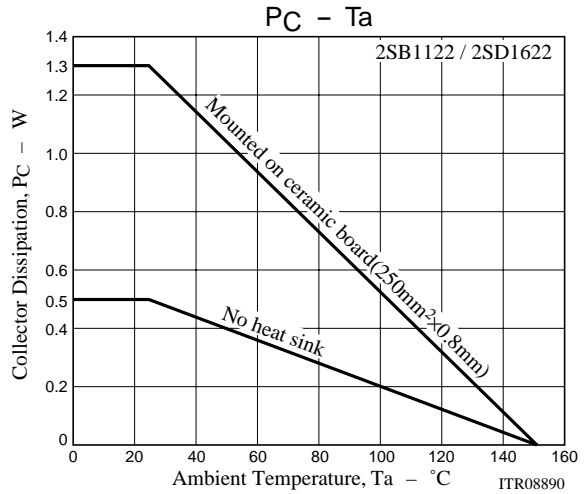
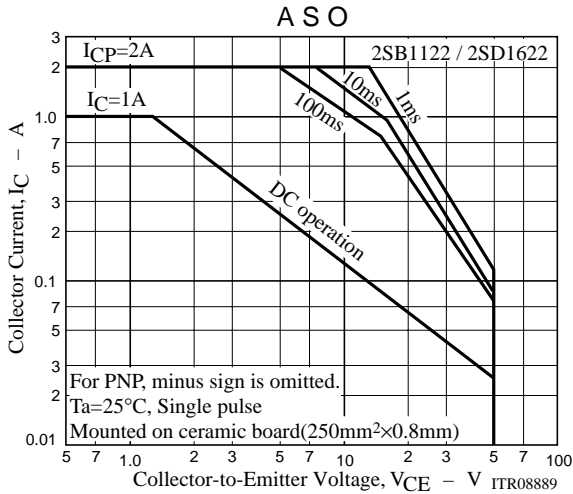
$I_C=10I_{B1}=-10I_{B2}=500mA$
(For PNP, the polarity is reversed.)



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