



SANYO Semiconductors

DATA SHEET

2SB1122 / 2SD1622 — PNP / NPN Epitaxial Planar Silicon Transistors 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.

Specifications () : 2SB1122

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 _{CE0}		(-)50	V
Emitter-to-Base Voltage	V _{EB0}		(-)5	V
Collector Current	I _C		(-)1	A
Collector Current (Pulse)	I _{CP}		(-)2	A
Collector Dissipation	P _C		500	mW
		Mounted on a 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 _{CBO}	V _{CB} =(-)50V, I _E =0A			(-)100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0A			(-)100	nA

Marking 2SB1122 : BE
2SD1622 : DE

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Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(12)8.5		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-180)120	(-500)300	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	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	(-)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	(-)5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		(40)40		ns
Storage Time	t_{stg}	See specified Test Circuit.		(300)350		ns
Fall Time	t_f	See specified Test Circuit.		(30)30		ns

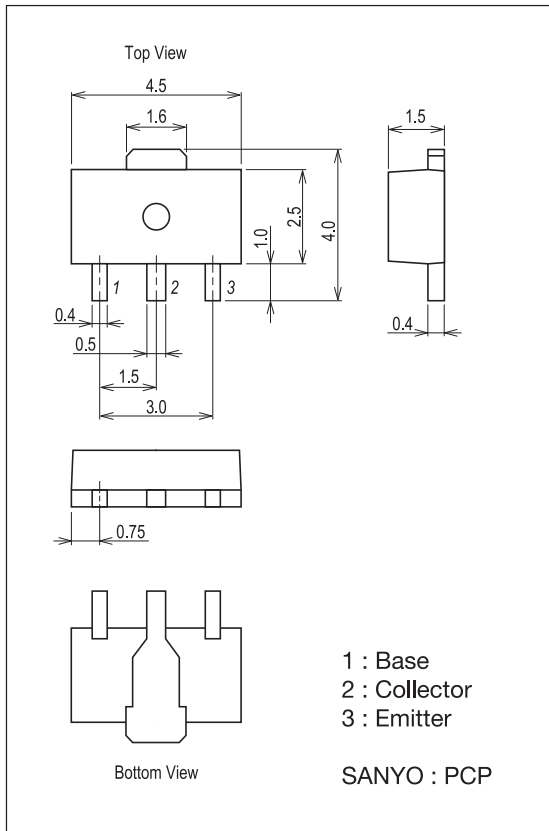
*: The 2SB1122 / 2SD1622 are classified by 100mA h_{FE} as follows:

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

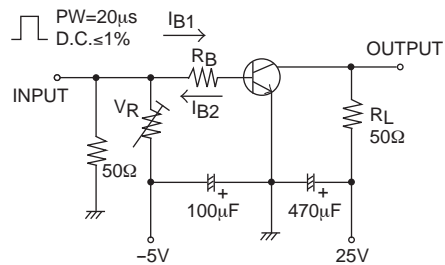
Package Dimensions

unit : mm (typ)

7007B-004

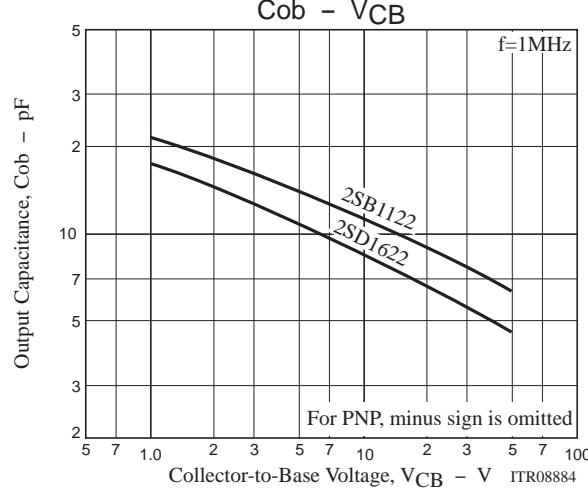
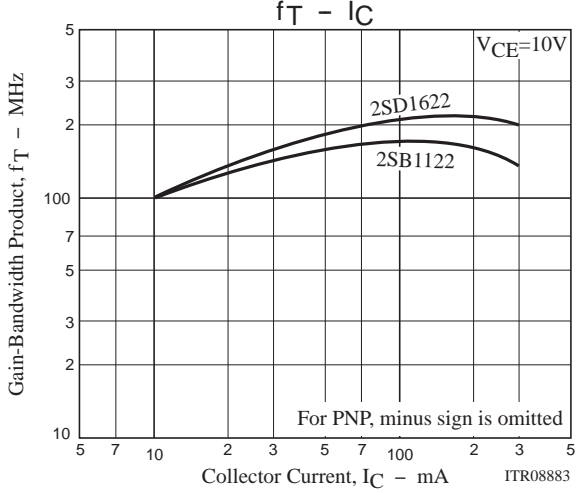
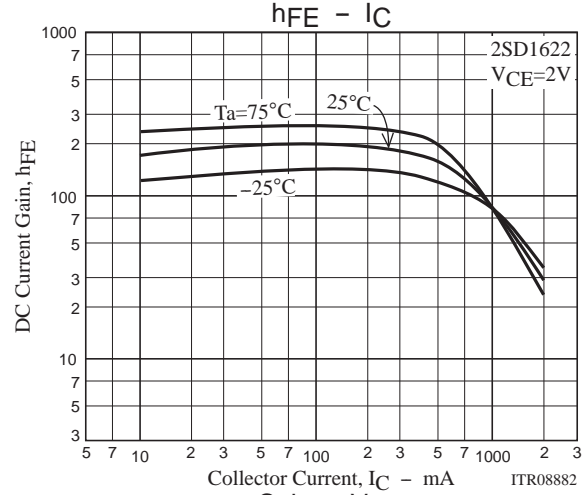
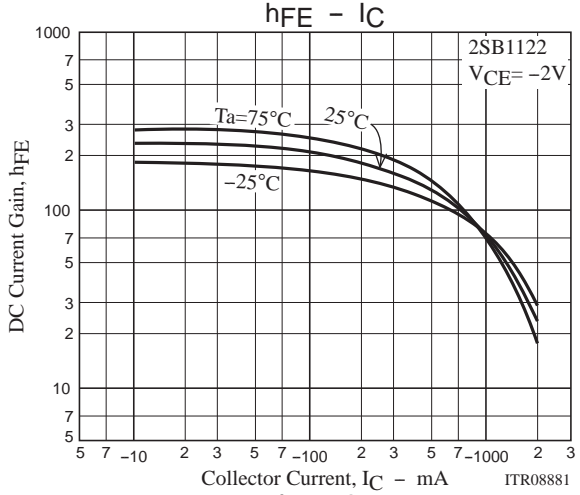
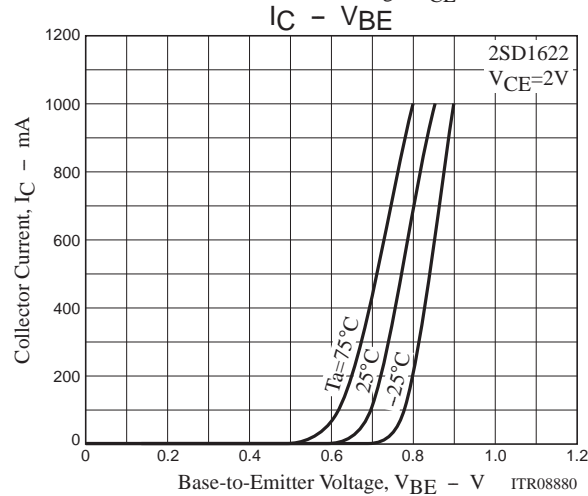
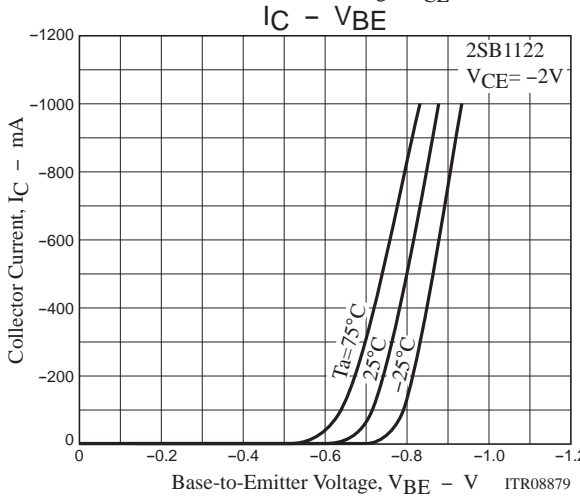
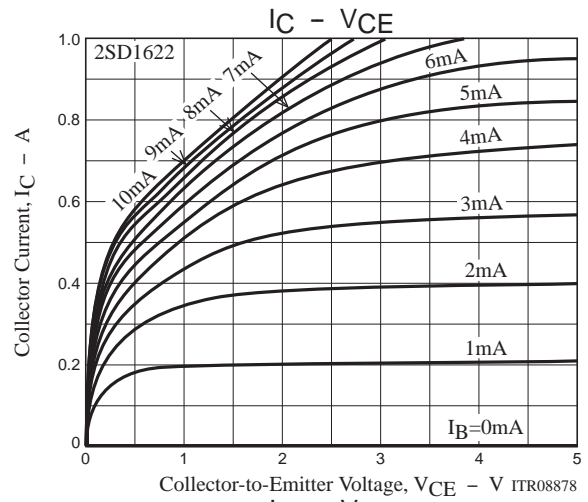
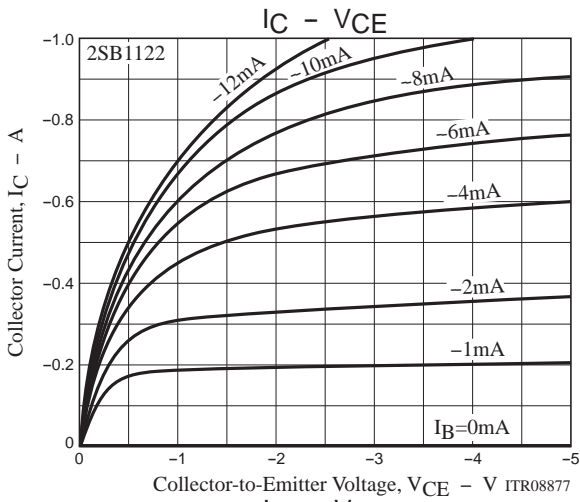


Switching Time Test Circuit

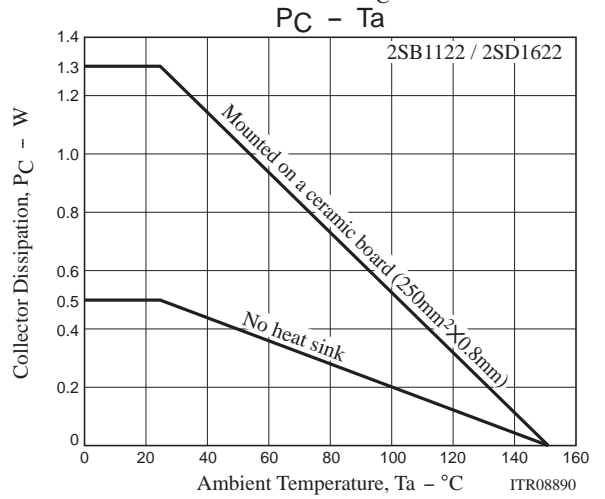
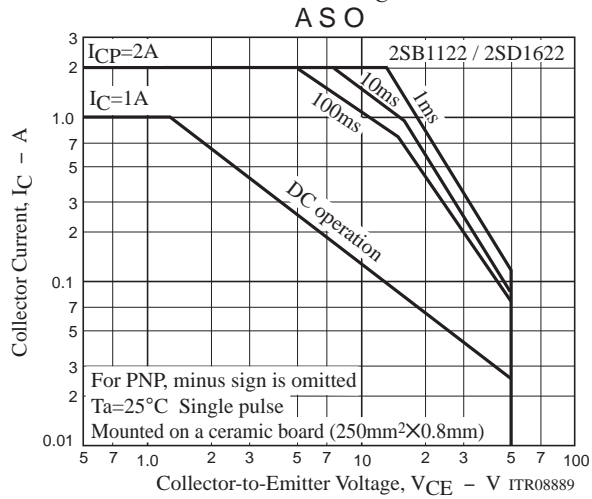
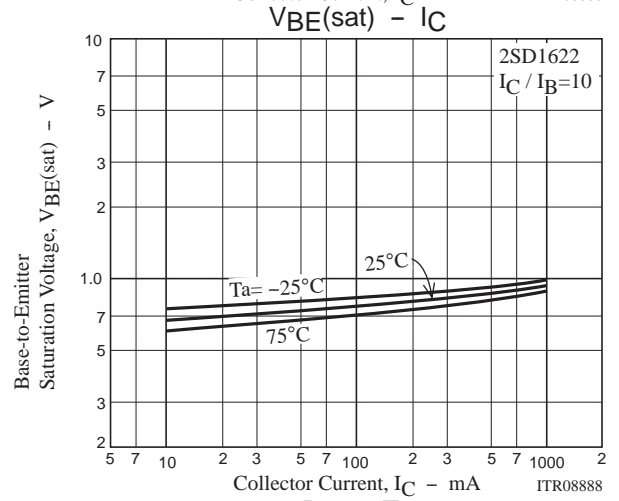
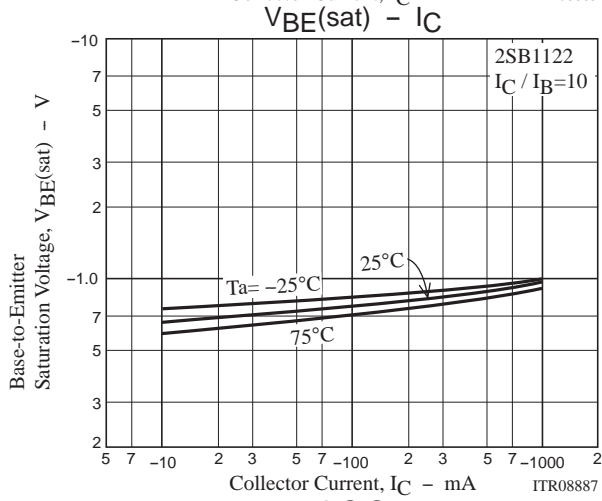
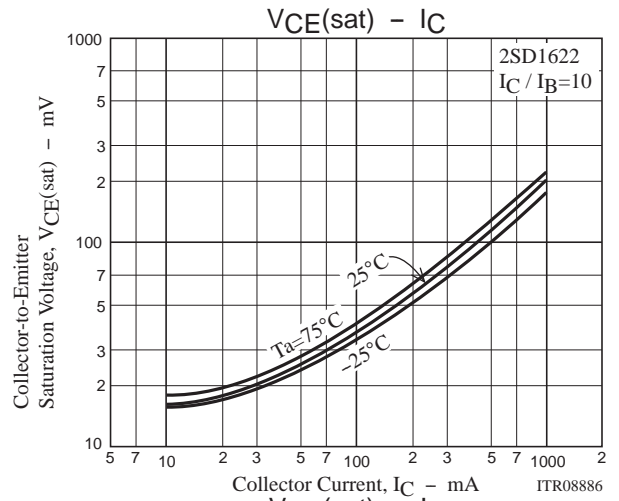
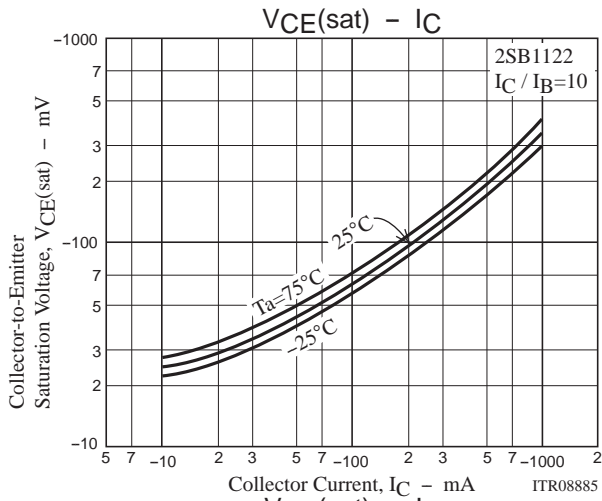


$I_C=10I_{B1} = -10I_{B2}=500mA$
(For PNP, the polarity is reversed)

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