

<b>SANYO</b>	No.2040A	<b>2SB1122/2SD1622</b>
	PNP/NPN Epitaxial Planar Silicon Transistors	
<b>Low-Frequency Power Amp Applications</b>		

**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 ICs.

( ): 2SB1122

**Absolute Maximum Ratings at Ta=25°C**

Collector to Base Voltage	$V_{CB0}$	(-)60	V	unit
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 ceramic board (250mm <sup>2</sup> X 0.8mm)				
Junction Temperature	$T_j$	150	°C	
Storage Temperature	$T_{stg}$	-55 to +150	°C	

**Electrical Characteristics at Ta=25°C**

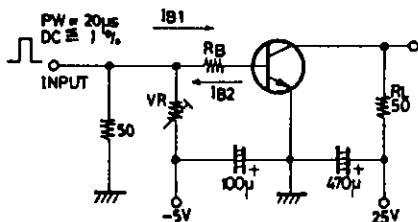
			min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=(-)50V, I_E=0$			(-)100	nA
Emitter Cutoff Current	$I_{EB0}$	$V_{EB}=(-)4V, I_C=0$			(-)100	nA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)2V, I_C=(-)100mA$	100*		560*	
	$h_{FE}(2)$	$V_{CE}=(-)2V, I_C=(-)1A$	30			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)50mA$		150		MHz
Output Capacitance	$c_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(12)		pF
				8.5		pF
C-E Saturation Voltage	$V_{CE}(sat)$	$I_C=(-)500mA, I_B=(-)50mA$		(-180)	(-500)	mV
				120	300	mV
B-E Saturation Voltage	$V_{BE}(sat)$	$I_C=(-)500mA, I_B=(-)50mA$		(-)0.9	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CB0}$	$I_C=(-)10\mu A, I_E=0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CE0}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EB0}$	$I_E=(-)10\mu A, I_C=0$	(-)5			V

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\*: 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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**Switching Time Test Circuit**



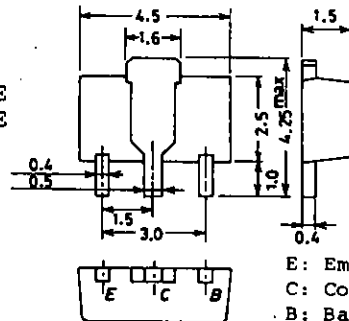
$I_C=10 I_{B1}=-10 I_{B2}=500mA$   
(For PNP, the polarity is reversed.)

Unit (Resistance :  $\Omega$ , Capacitance : F)

**Package Dimensions 2038**

(unit:mm)

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



(Bottom View)

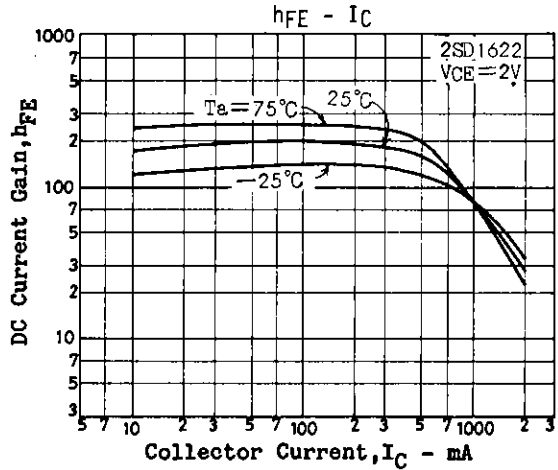
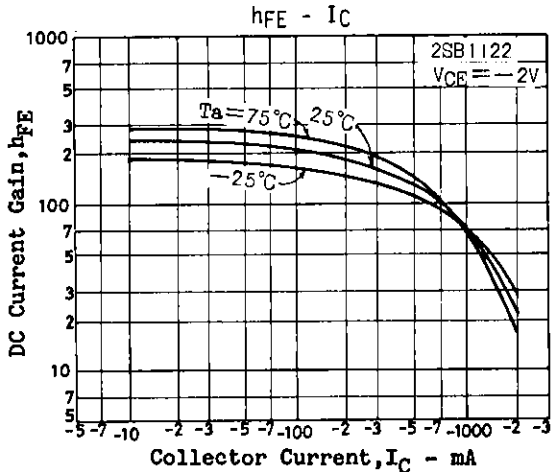
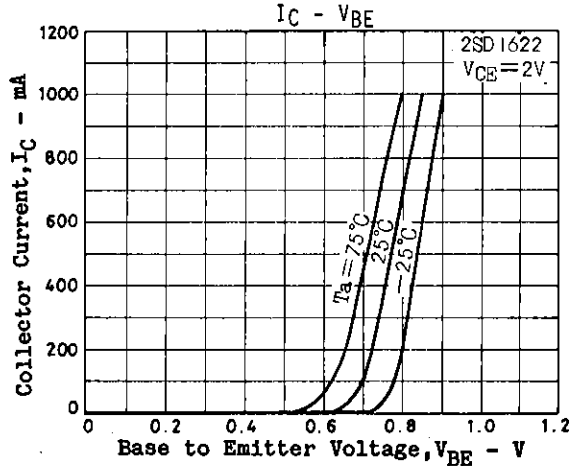
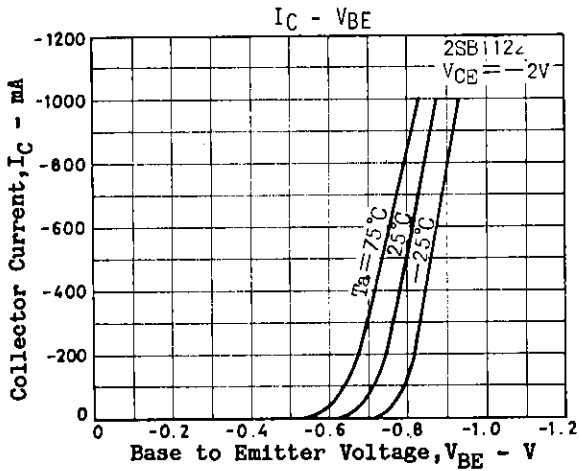
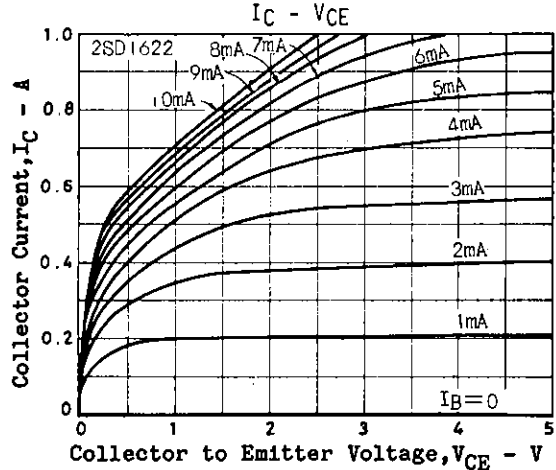
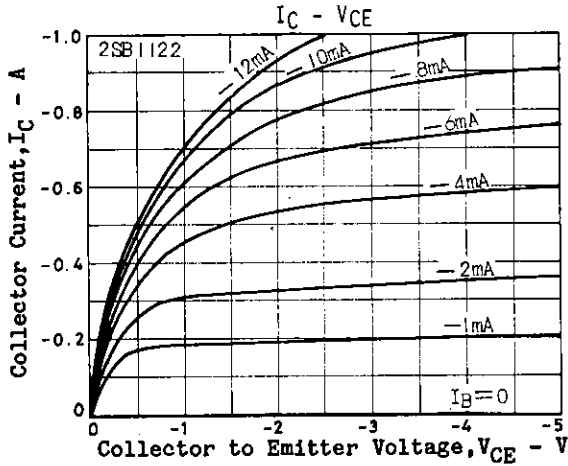
E: Emitter  
C: Collector  
B: Base  
SANYO: PCP

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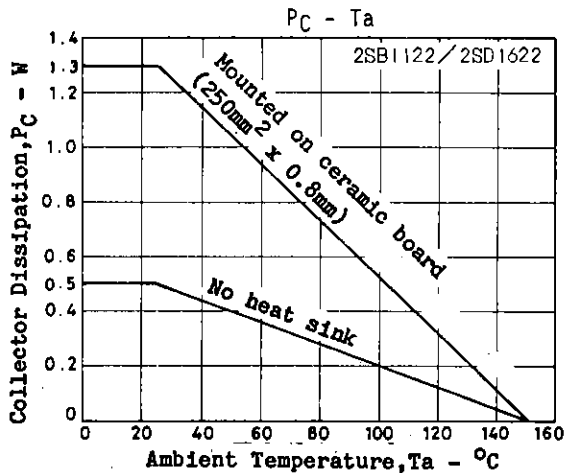
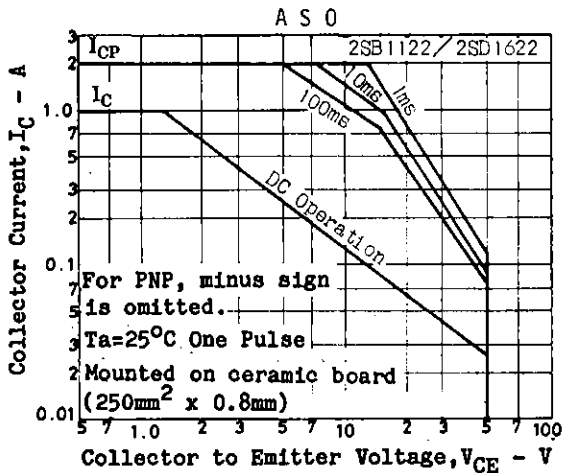
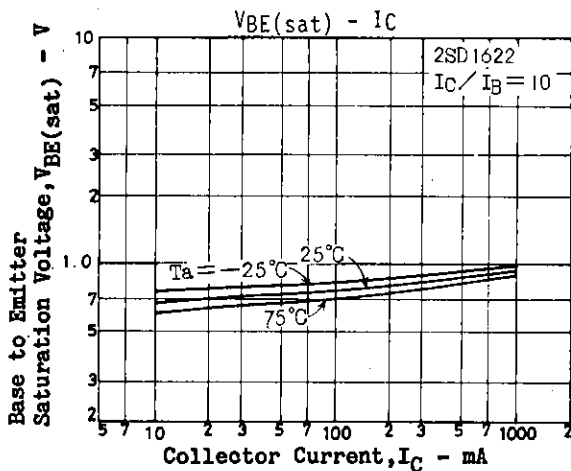
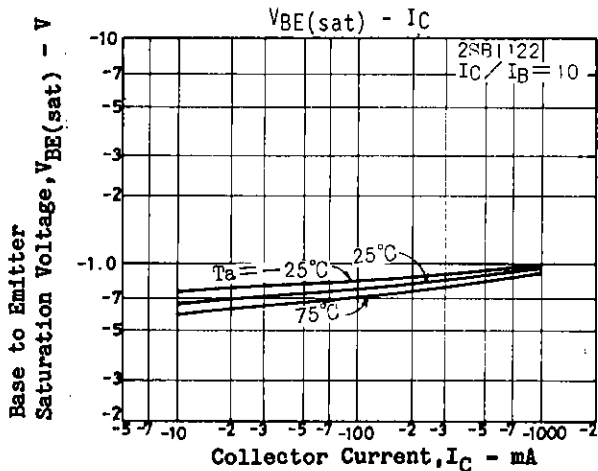
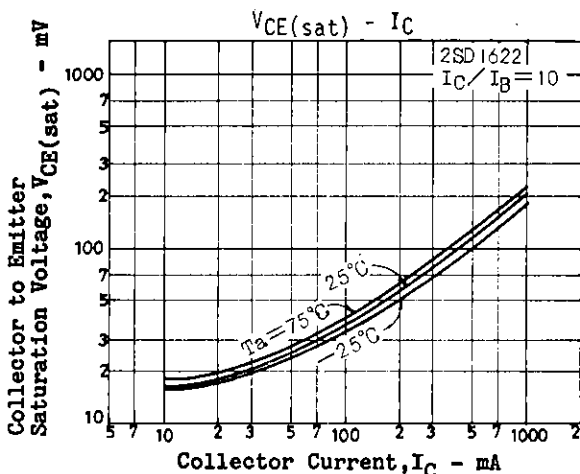
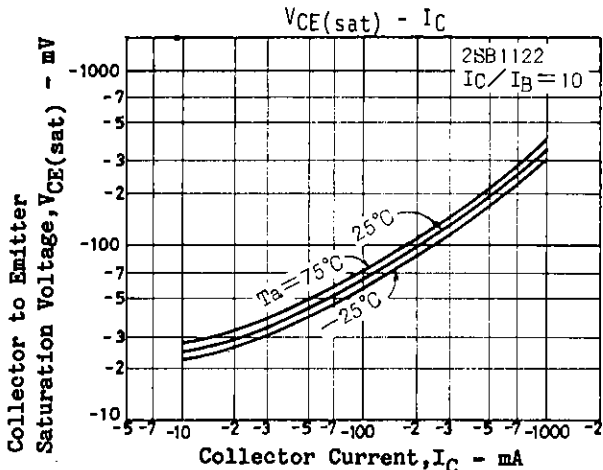
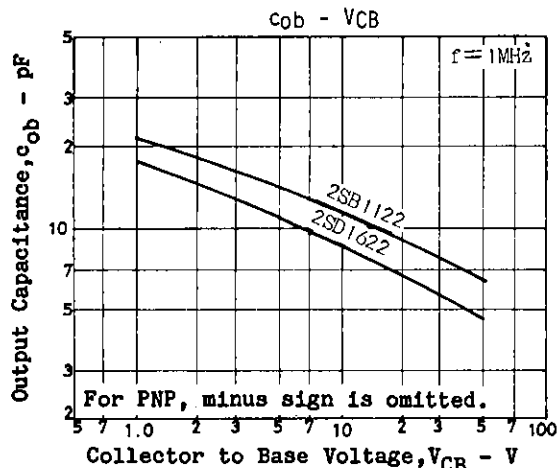
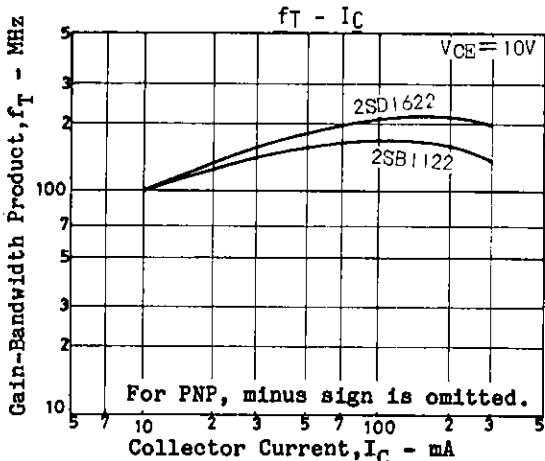
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			min	typ	max	unit
Turn-on Time	$t_{on}$	See specified Test Circuit.		(40)		ns
			"	40		ns
Storage Time	$t_{stg}$		"	(300)		ns
			"	350		ns
Fall Time	$t_f$		"	(30)		ns
			"	30		ns



2SB1122/2SD1622



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