

<b>SANYO</b>	No.1787A	<b>2SB1121/2SD1621</b>
	PNP/NPN Epitaxial Planar Silicon Transistors High-Current Driver Applications	

**Applications**

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

**Features**

- . Adoption of FBET, MBIT processes.
- . Low collector-to-emitter saturation voltage.
- . Large current capacity and wide ASO.
- . Fast switching speed.
- . Very small size making it easy to provide high-density, small-sized hybrid IC's.

( ): 2SB1121

<b>Absolute Maximum Ratings at Ta=25°C</b>				unit
Collector to Base Voltage	V <sub>CB0</sub>	(-)30	V	
Collector to Emitter Voltage	V <sub>CEO</sub>	(-)25	V	
Emitter to Base Voltage	V <sub>EBO</sub>	(-)6	V	
Collector Current	I <sub>C</sub>	(-)2	A	
Collector Current(Pulse)	I <sub>CP</sub>	(-)5	A	
Collector Dissipation	P <sub>C</sub>	500	mW	
	P <sub>C</sub> Mounted on ceramic board (250mm <sup>2</sup> x 0.8mm)	1.3	W	
Junction Temperature	T <sub>j</sub>	150	°C	
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C	

<b>Electrical Characteristics at Ta=25°C</b>				min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)20V, I <sub>E</sub> =0				(-)0.1	µA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0				(-)0.1	µA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)100mA	100*			560*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)1.5A	65				
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)50mA		150			MHz
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)1.5A, I <sub>B</sub> =(-)75mA		0.18	0.4		V
					(-0.35)	(-0.6)	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)1.5A, I <sub>B</sub> =(-)75mA		(-)0.85	(-)1.2		V

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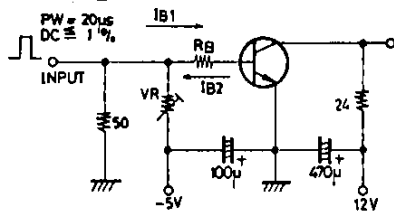
\*:The 2SB1121/2SD1621 are classified by 100mA h<sub>FE</sub> as follows:

100	R	200	140	S	280	200	T	400	280	U	560
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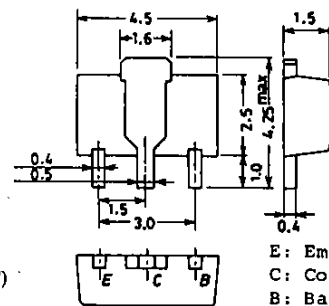
Marking 2SB1121:BD h<sub>FE</sub> rank :R,S,T,U  
2SD1621:DD

**Package Dimensions 2038**  
(unit:mm)

**Switching Time Test Circuit**



Unit (Resistance : Ω, Capacitance : F)  
(For PNP, the polarity is reversed.)



(Bottom View)

E: Emitter  
C: Collector  
B: Base

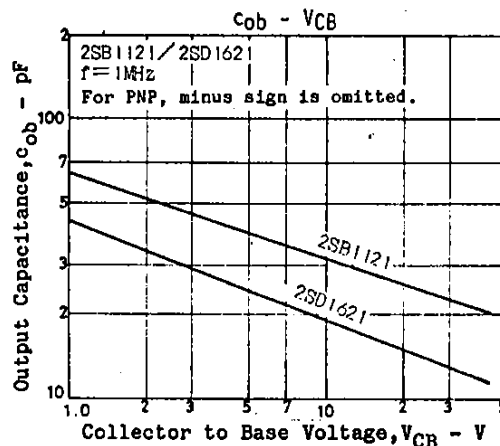
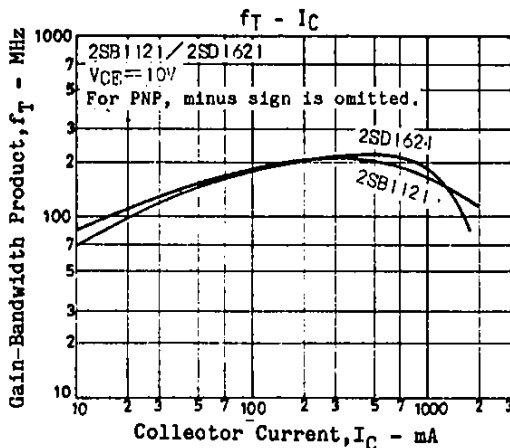
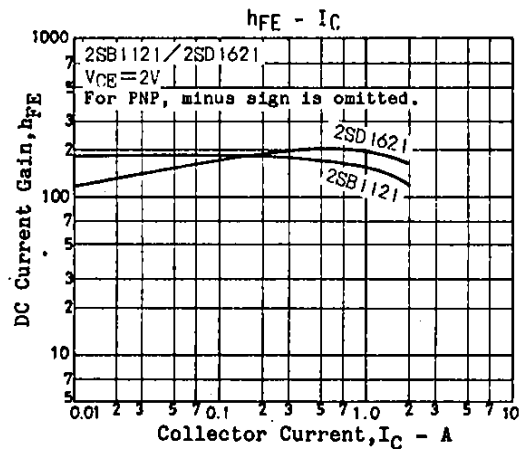
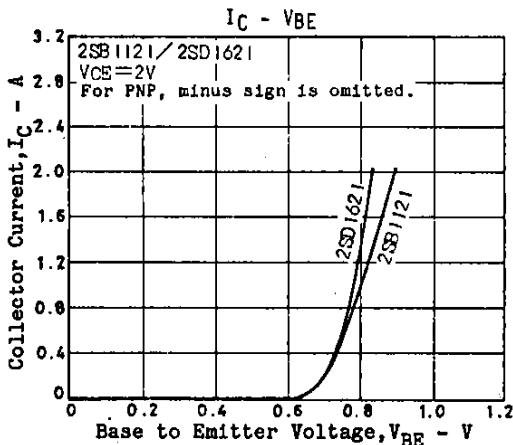
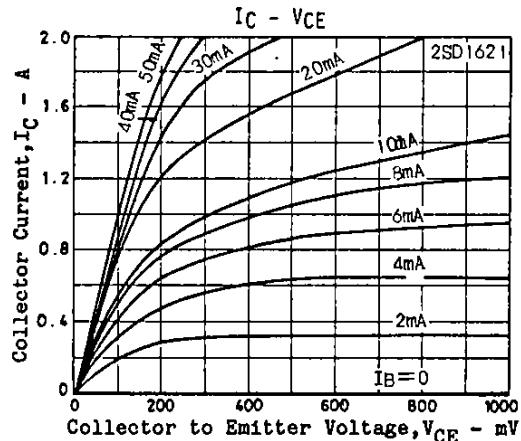
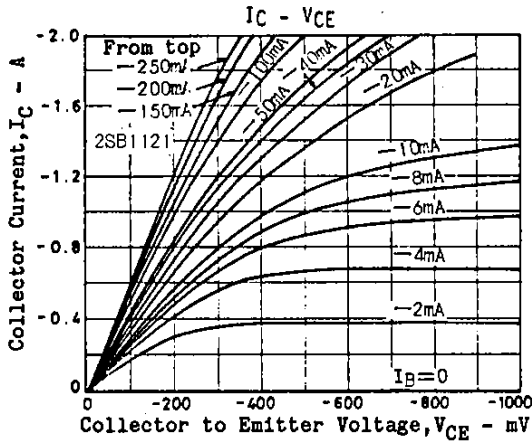
SANYO: PCP

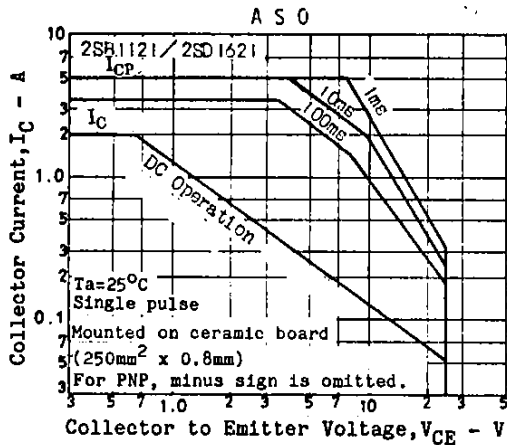
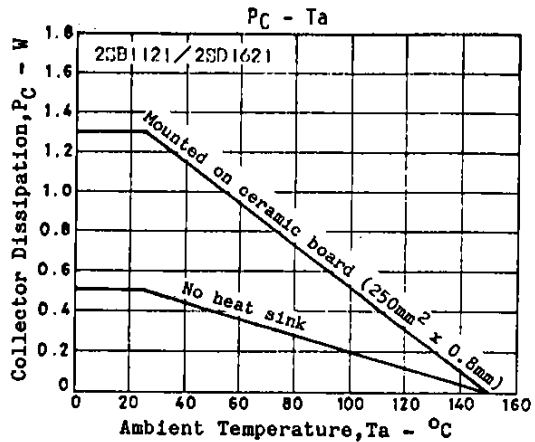
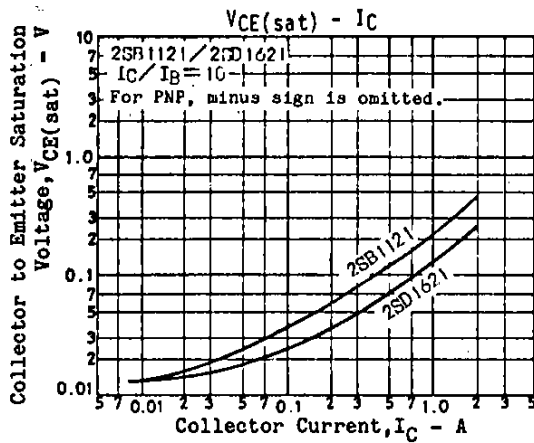
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			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)30			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)25			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)6			V
Output Capacitance	$c_{ob}$	$V_{CB}=(-)10V, f=1MHz$		19 (32)		pF
Turn-ON Time	$t_{on}$	See specified Test Circuit.		60 (60)		ns
Storage Time	$t_{stg}$			500 (350)		ns
Fall Time	$t_f$			25 (25)		ns





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