

<b>SANYO</b>	No. 1727B	<b>2SB1123/2SD1623</b>
	PNP/NPN Epitaxial Planar Silicon Transistors High-Current Switching 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.

( ): 2SB1123

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

			unit
Collector to Base Voltage	V <sub>CB0</sub>	(-)60	V
Collector to Emitter Voltage	V <sub>CEO</sub>	(-)50	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>	(-)4	A
Collector Dissipation	P <sub>C</sub>	500	mW
	P <sub>C</sub> (Note)	1.3	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

(Note) Mounted on ceramic board (250mm<sup>2</sup> x 0.8mm)

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

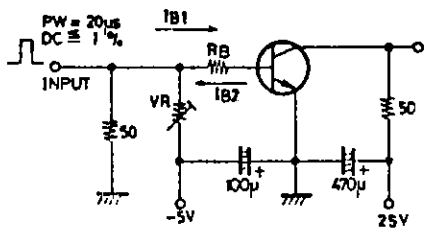
		min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)50V, I <sub>E</sub> =0		(-)100	nA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0		(-)100	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)100mA	100*	560*	
	h <sub>FE2</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)1.5A	40		
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)50mA		150	MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz	(22)12		pF

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\* The 2SB1123/2SD1623 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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**Switching Time Test Circuit**



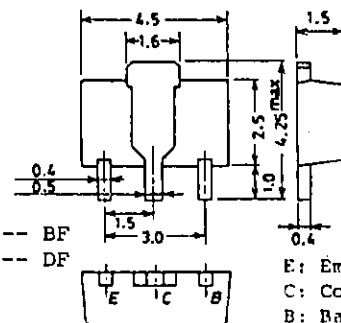
$20I_{B1} = -20I_{B2} = I_C = 500\text{mA}$

(For PNP, the polarity is reversed.)

Unit (Resistance : Ω, Capacitance : F)

**Package Dimensions 2038**

(unit:mm)



Marking: 2SB1123 -- BF  
2SD1623 -- DF

E: Emitter  
C: Collector  
B: Base

SANYO: PCP  
(Bottom View)

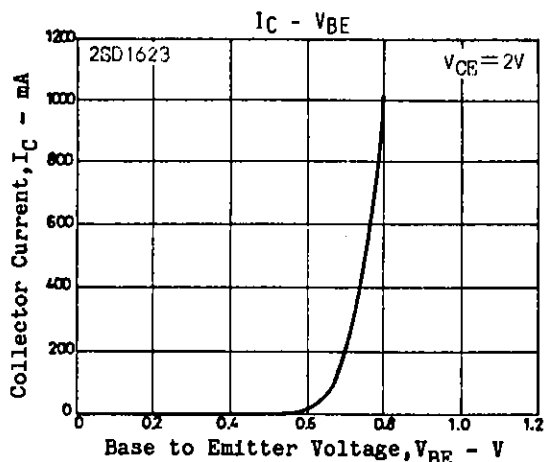
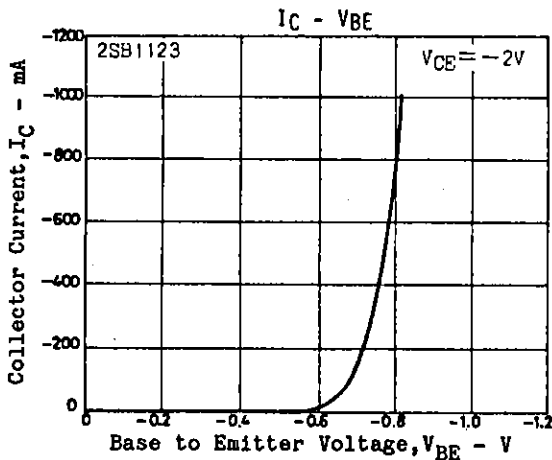
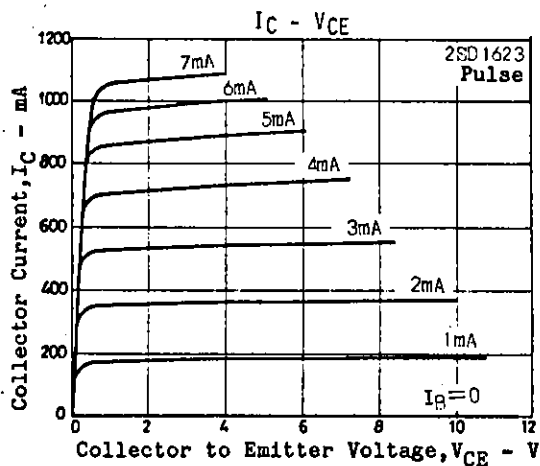
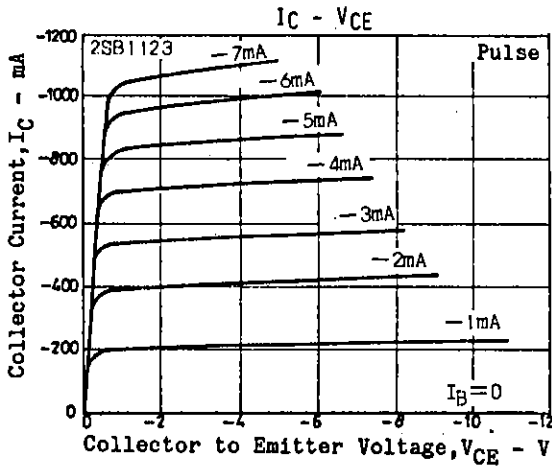
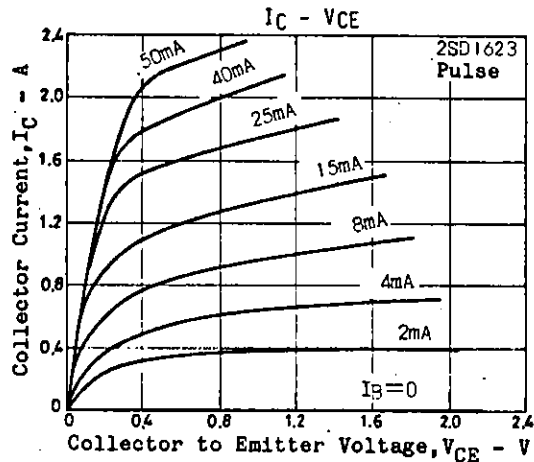
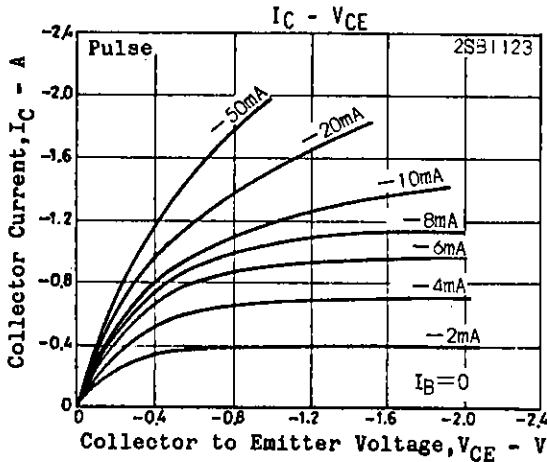
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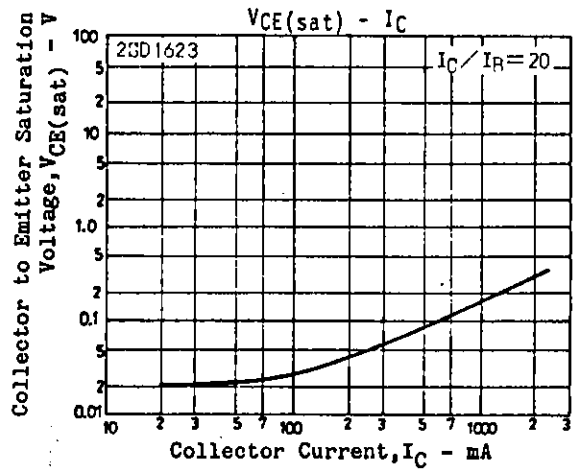
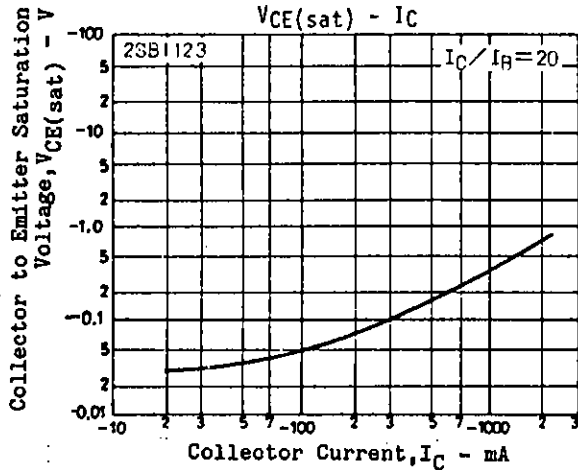
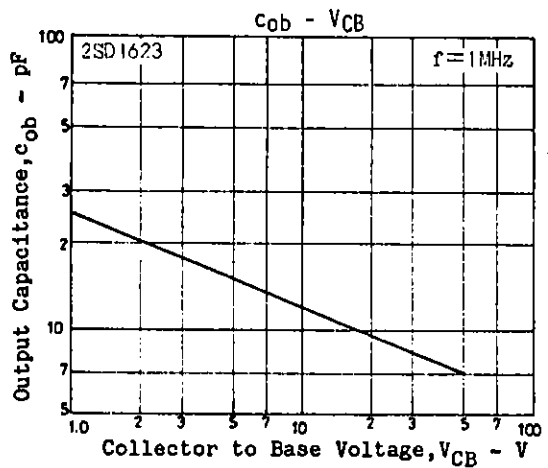
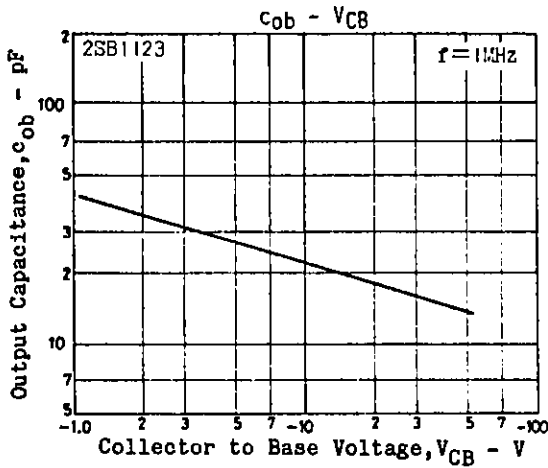
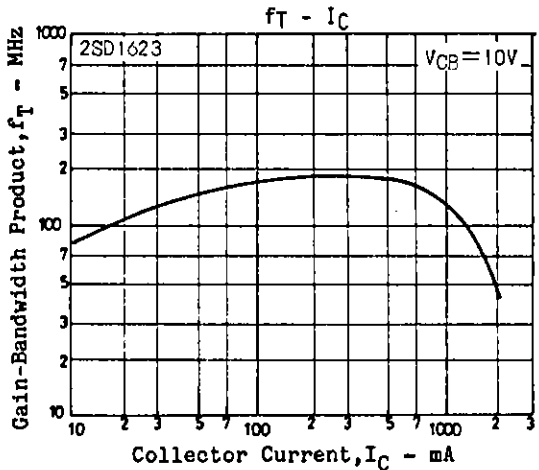
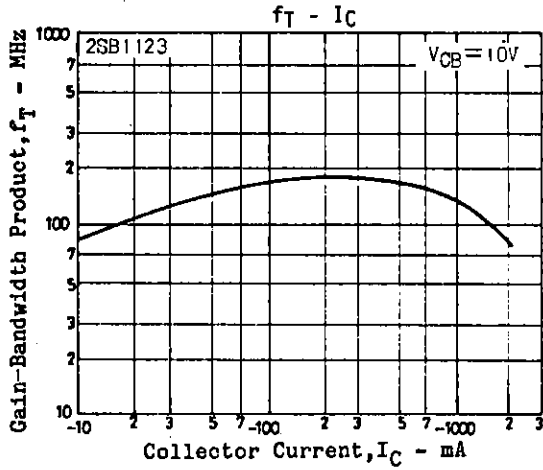
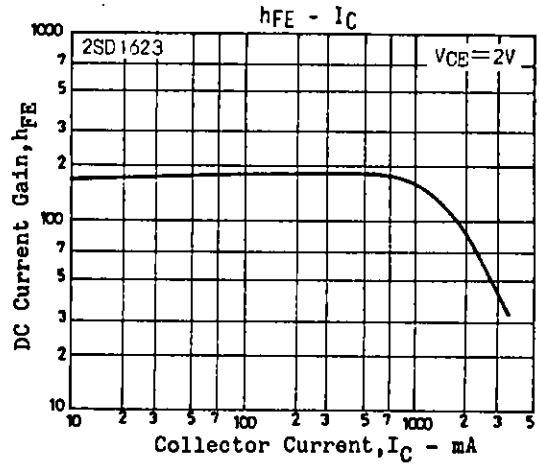
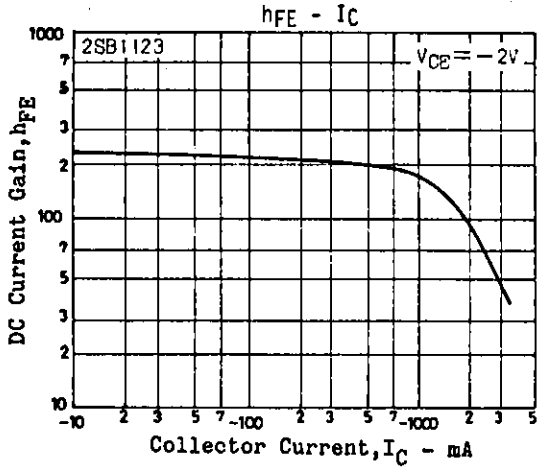
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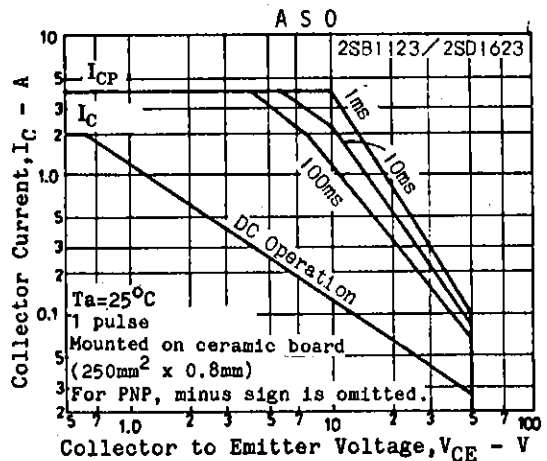
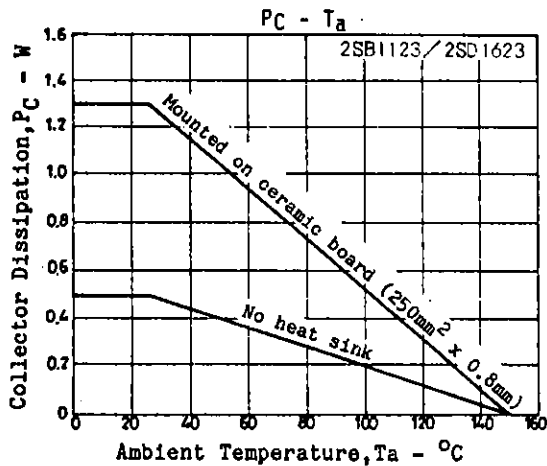
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			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1A, I_B = (-)50mA$		(-0.3)	(-0.7)	V
				0.15	0.4	
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)1A, I_B = (-)50mA$		(-)0.9	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)6			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.	(60)	60		ns
Storage Time	$t_{stg}$	"	(450)	550		ns
Fall Time	$t_f$	"	(30)	30		ns



2SB1123/2SD1623





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