

<b>SANYO</b>	No. 2019A	<b>2SB1124/2SD1624</b>
	PNP/NPN Epitaxial Planar Silicon Transistors High-Current Switching Applications	

**Applications**

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

**Features**

- . Adoption of FBIT, MBIT processes.
- . Low collector-to-emitter saturation voltage.
- . Fast switching speed.
- . Large current capacity and wide ASO

( ): 2SB1124

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

			unit
Collector to Base Voltage	$V_{CBO}$	(-)60	V
Collector to Emitter Voltage	$V_{CEO}$	(-)50	V
Emitter to Base Voltage	$V_{EBO}$	(-)6	V
Collector Current	$I_C$	(-)3	A
Collector Current(Pulse)	$I_{CP}$	(-)6	A
Collector Dissipation	$P_C$	500	mW
	Mounted on ceramic board (250mm <sup>2</sup> x 0.8mm)	1.5	W
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	$I_{CBO}$	$V_{CB}=(-)40V, I_E=0$		(-)1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4V, I_C=0$		(-)1	$\mu A$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)2V, I_C=(-)100mA$	100*	560*	
	$h_{FE}(2)$	$V_{CE}=(-)2V, I_C=(-)3A$	35		
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)50mA$		150	MHz
Output Capacitance	$c_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(39)	pF
				25	pF

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\*:The 2SB1124/2SD1624 are classified by 100mA  $h_{FE}$  as follows:

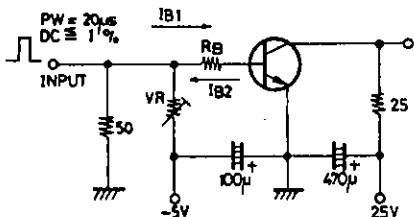
100 R	200	140 S	280	200 T	400	280 U	560
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Marking 2SB1124:BG

2SD1624:DG

$h_{FE}$  rank : R, S, T, U

**Switching Time Test Circuit**



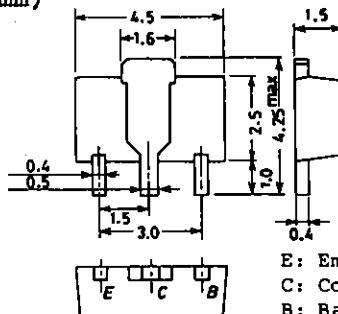
$10I_{B1} = -10I_{B2} = I_C = 1A$

(For PNP, the polarity is reversed.)

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

**Package Dimensions 2038**

(unit:mm)



E: Emitter  
C: Collector  
B: Base

SANYO: PCP  
(Bottom View)

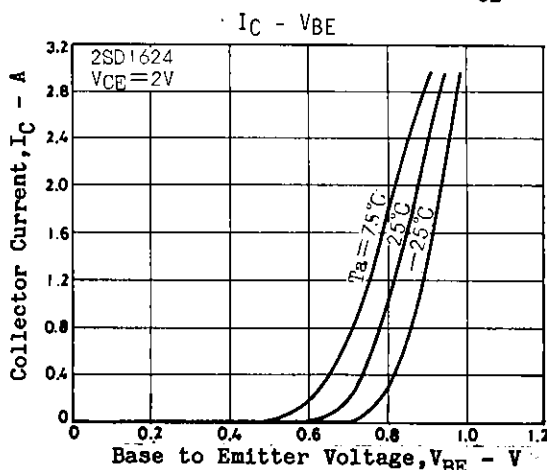
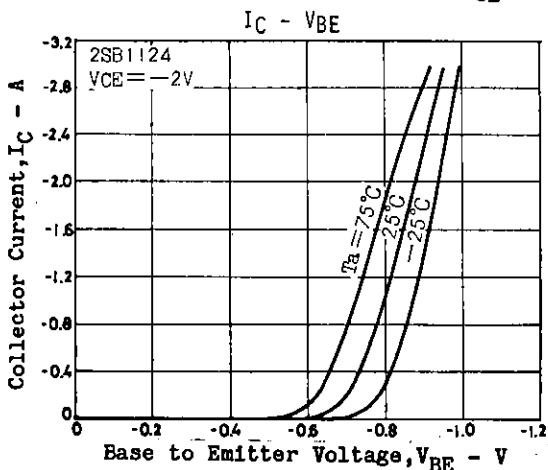
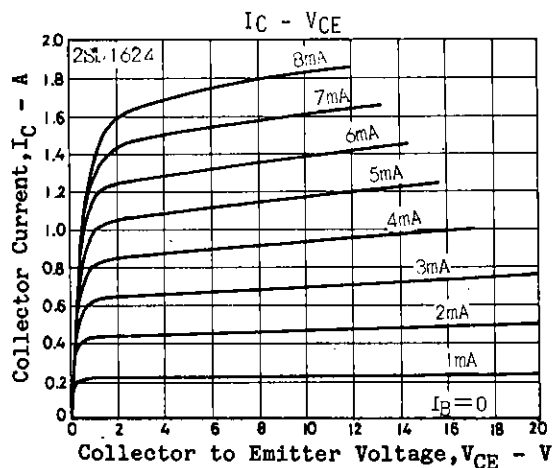
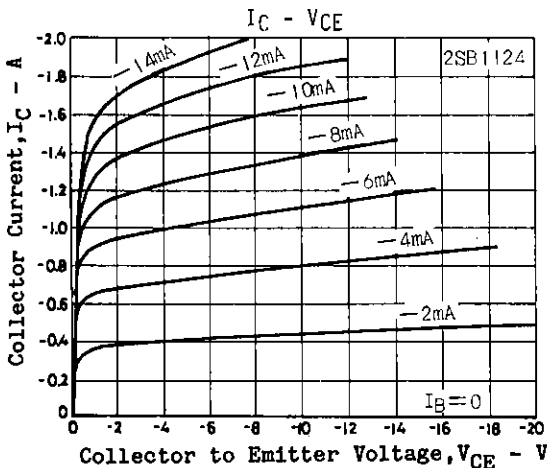
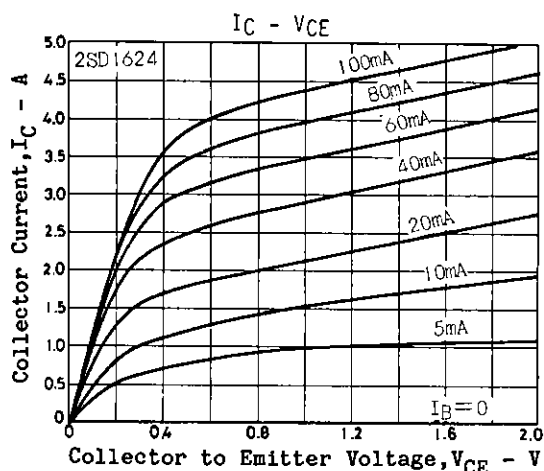
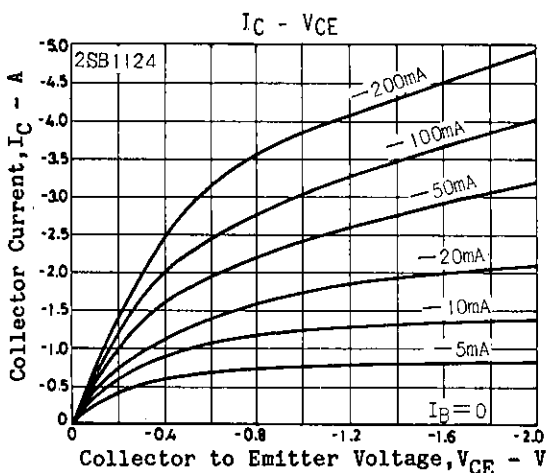
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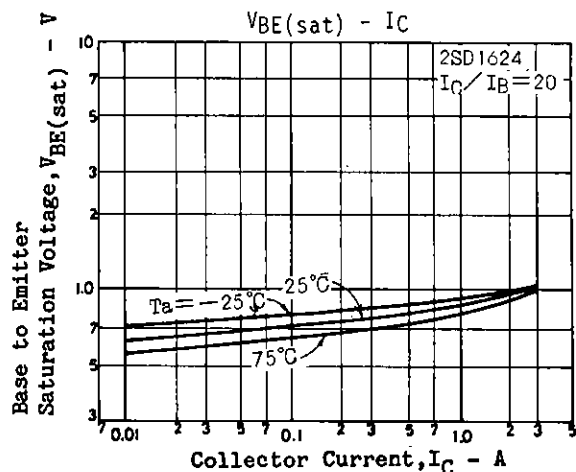
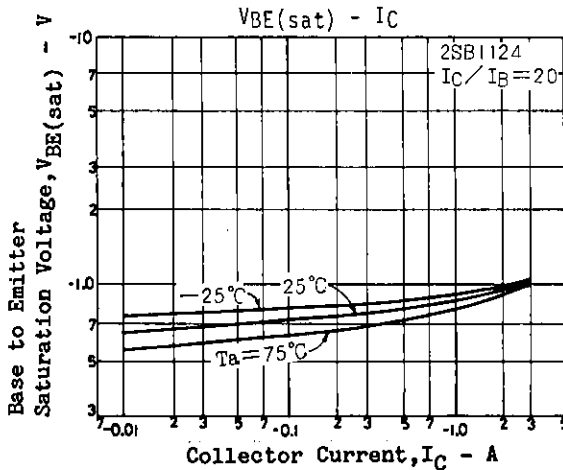
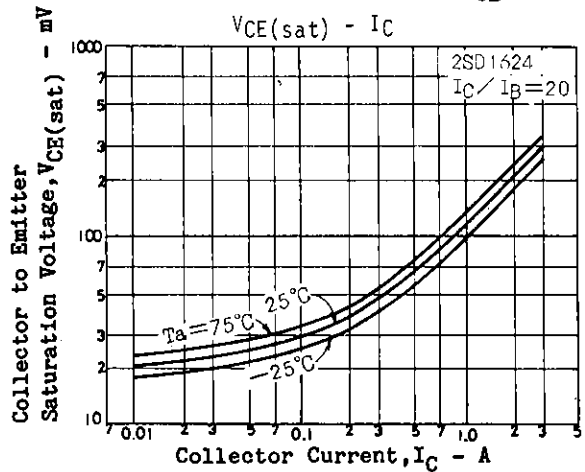
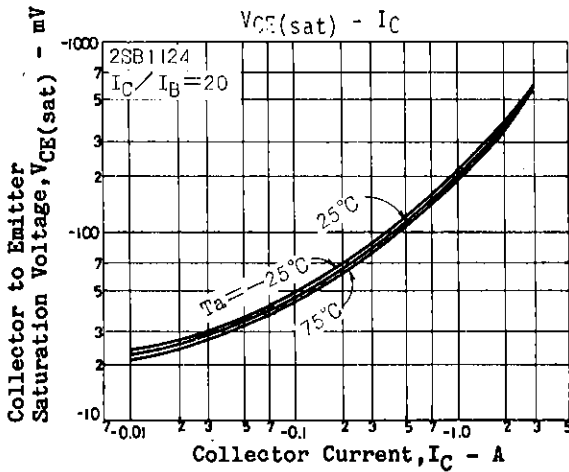
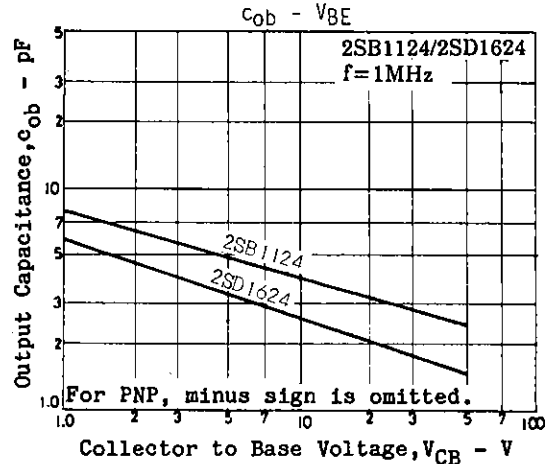
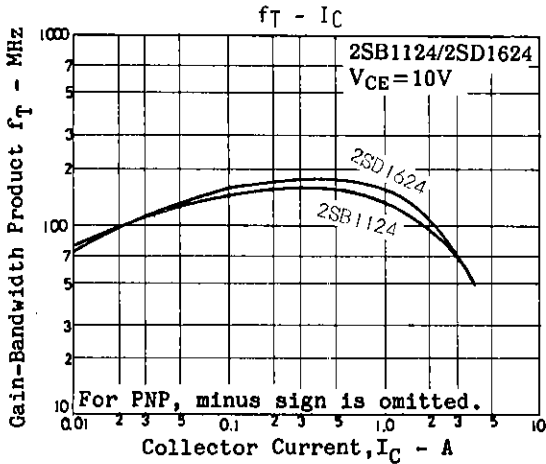
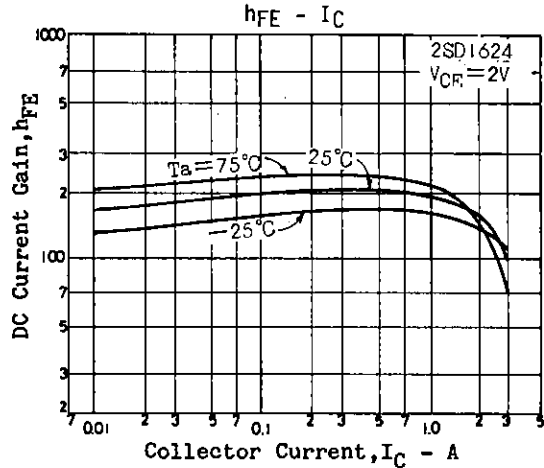
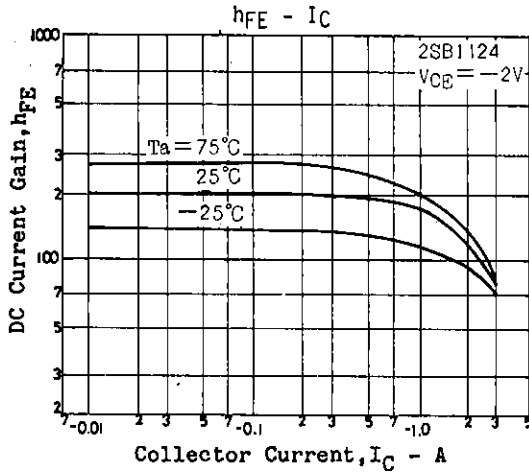
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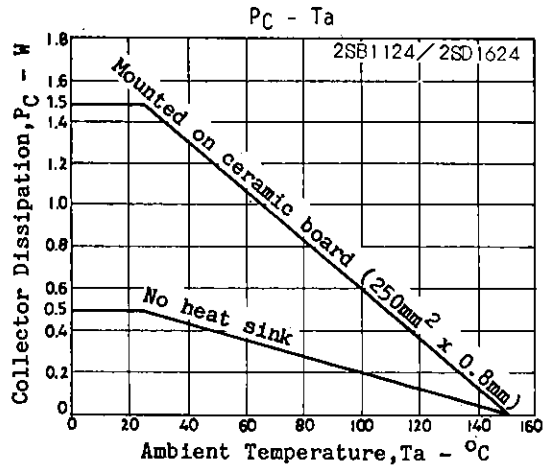
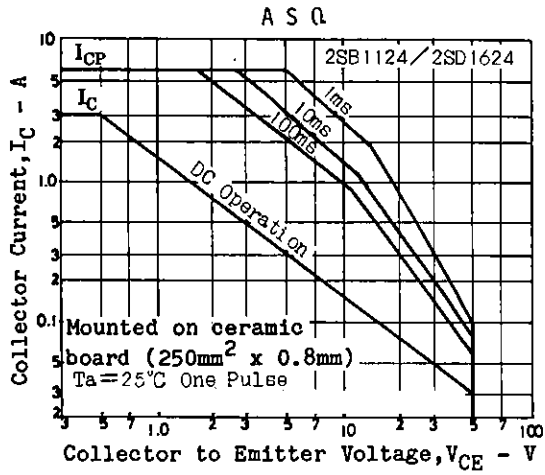
			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$	(-0.35)	(-0.7)		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$	(-0.94)	(-1.2)		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)	60		V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)	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.(70)				ns
		"		70		ns
Storage Time	$t_{stg}$	"	(450)			ns
		"		650		ns
Fall Time	$t_f$	"	(35)			ns
		"		35		ns



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