

2SB1124/2SD1624**SANYO****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.
- Fast switching speed.
- Large current capacity and wide ASO.

() : 2SB1124

Specifications**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_{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 ² ×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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)1	μA
DC Current Gain	h_{FE1}	$V_{CE} = (-)2V, I_C = (-)100mA$	100*		560*	
	h_{FE2}	$V_{CE} = (-)2V, I_C = (-)3A$	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

* ; 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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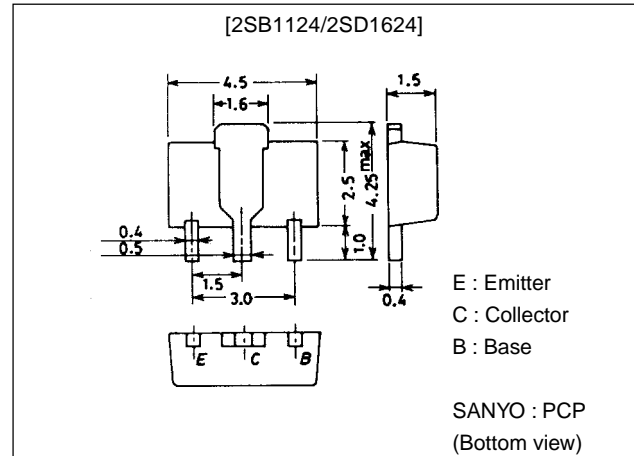
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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

Package Dimensions

unit:mm

2038

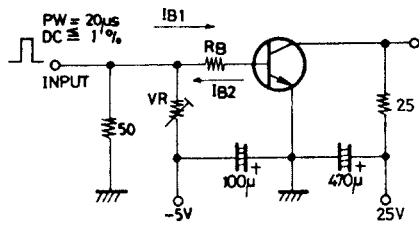


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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-0.35)	(-0.7)	V
				0.19	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-0.94)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-60)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-50)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-6)			V
Turn-ON Time	t_{on}	See specified Test Circuit.		70		ns
				(70)		ns
Storage Time	t_{stg}	See specified Test Circuit.		650		ns
				(450)		ns
Fall Time	t_f	See specified Test Circuit.		35		ns
				(35)		ns

Switching Time Test Circuit

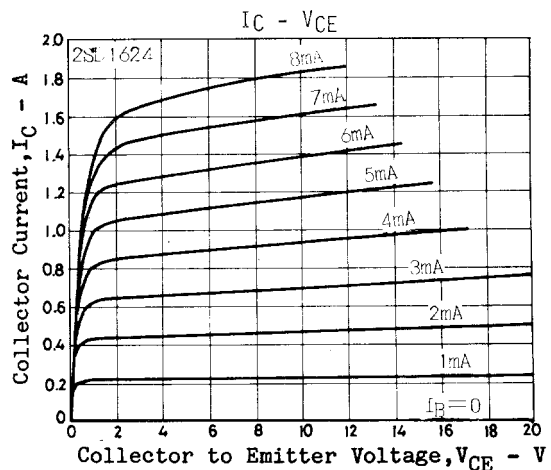
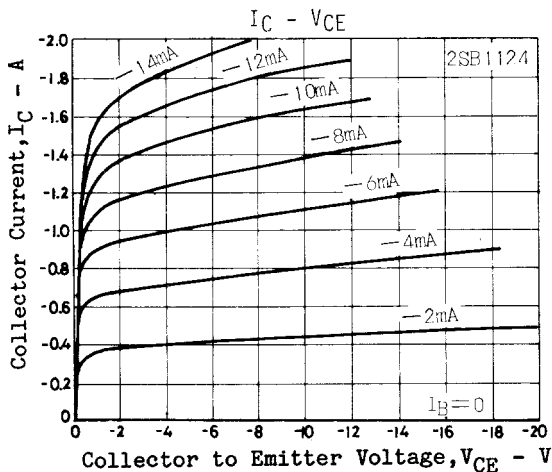
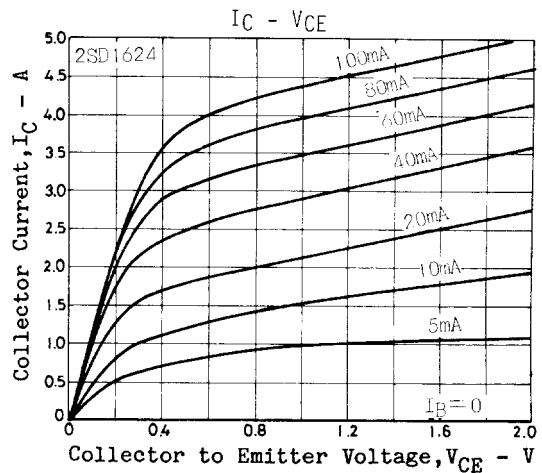
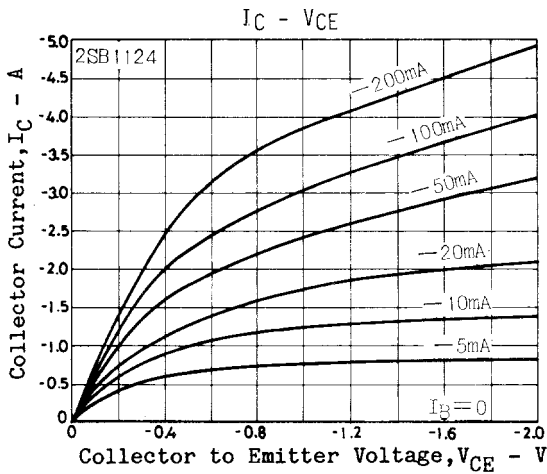


Marking 2SB1124:BG
2SD1624:DG
 h_{FE} rank : R, S, T, U

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

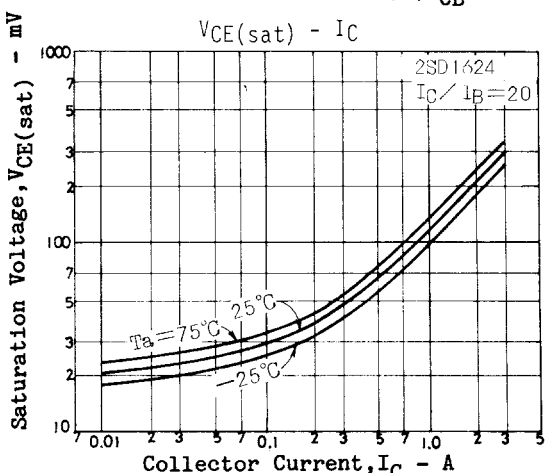
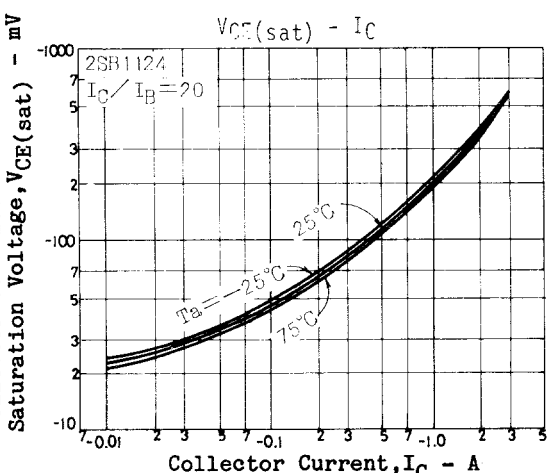
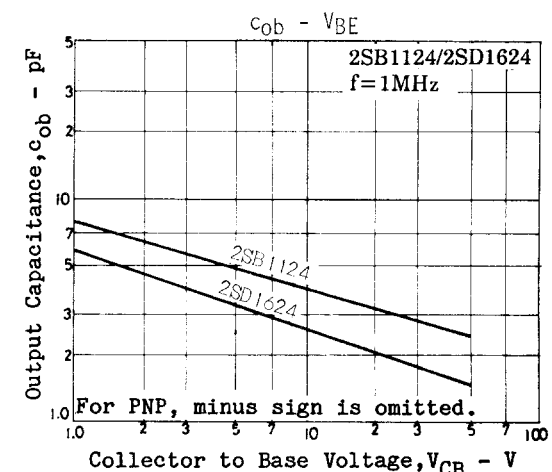
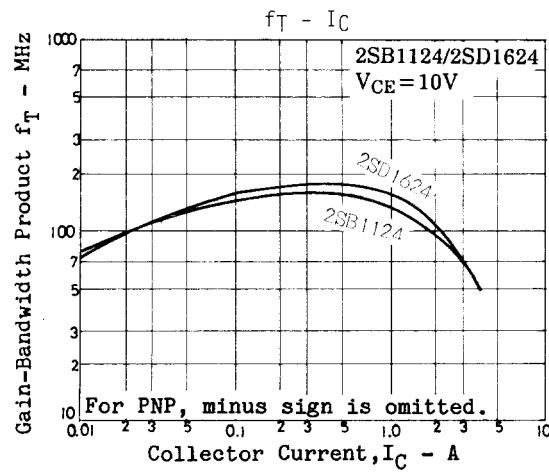
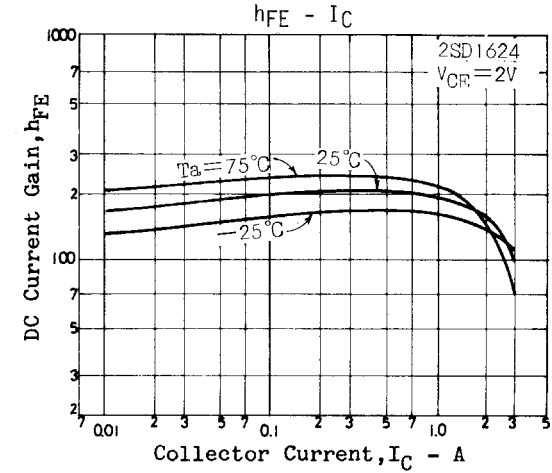
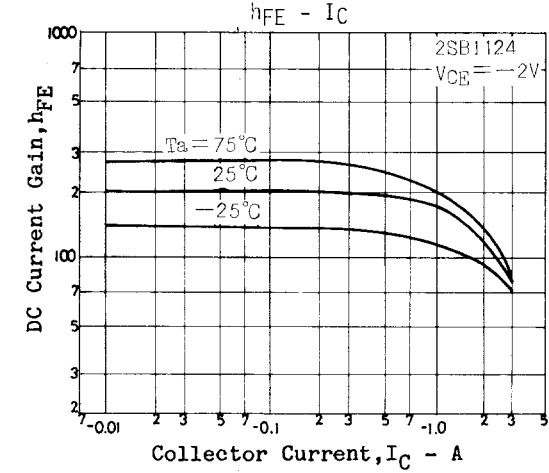
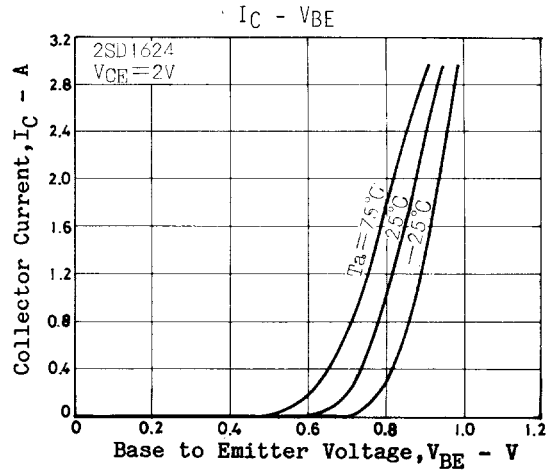
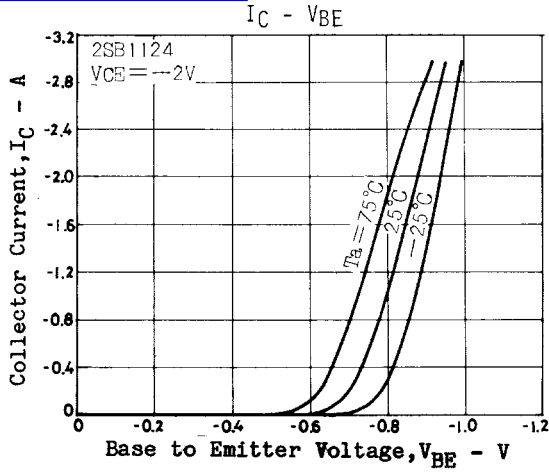
(For PNP, the polarity is reversed.)

Unit (resistance : Ω , capacitance : F)



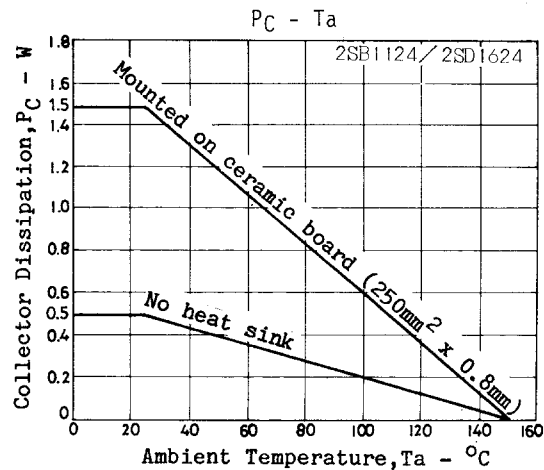
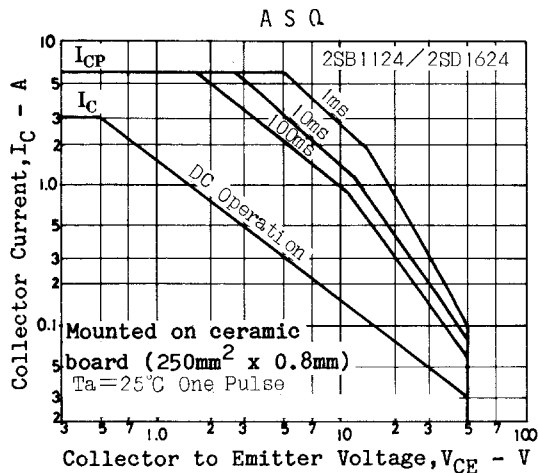
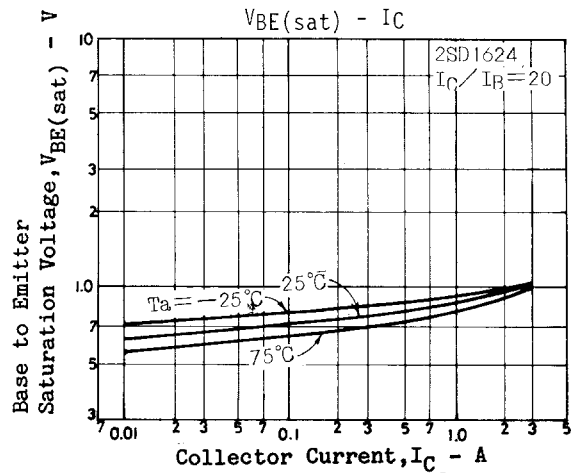
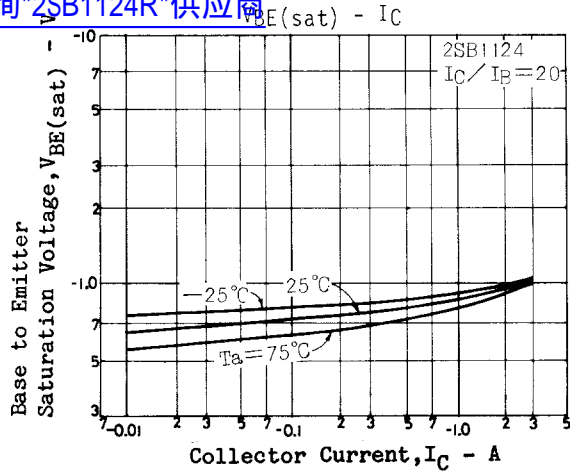
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