

SANYO

No.2041A

2SB1144/2SD1684

PNP/NPN Epitaxial Planar Silicon Transistors

100V/1.5A Switching Applications**Features**

- Adoption of FBET and MBIT processes.
- High breakdown voltage
- Low saturation voltage.
- Plastic-covered heat sink facilitating high-density mounting.

(): 2SB1144

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

			unit
Collector-to-Base Voltage	V_{CBO}	(-)120	V
Collector-to-Emitter Voltage	V_{CEO}	(-)100	V
Emitter-to-Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)1.5	A
Collector Current (Pulse)	I_{CP}	(-)2.0	A
Collector Dissipation	P_C	1.5	W
		10	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

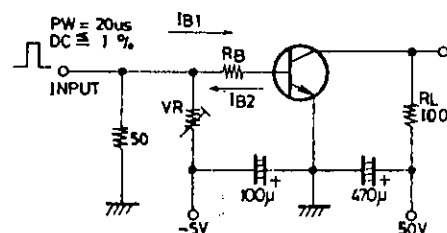
 $T_c = 25^\circ\text{C}$ **Electrical Characteristics at $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)100\text{V}, I_E = 0$			(-)100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100※		400※	
	$h_{FE(2)}$	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$	30			
Gain Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		(100)		MHz
				120		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(18)		pF
				11		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$	(-)180	(-)500		mV
			100	300		mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$	(-)0.85	(-)1.2		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)100			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu\text{A}, I_C = 0$	(-)6			V

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※ : The 2SB1144/2SD1684 are classified by 100mA h_{FE} as follows :

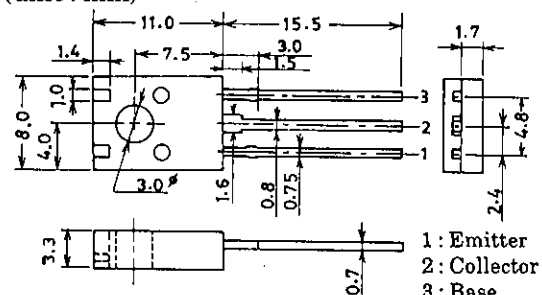
100	Q	200	140	S	280	200	T	400
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Switching Time Test Circuit

$$I_C = 10I_{B1} = -10I_{B2} = 500\text{mA}$$

Unit (Resistance : Ω , Capacitance : F)**Package Dimensions 2042B**

(unit : mm)



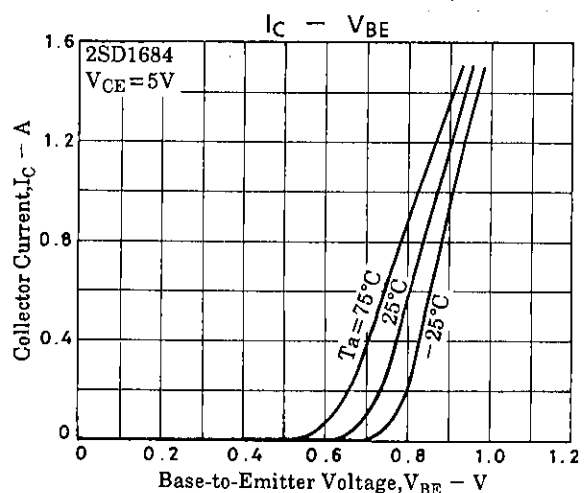
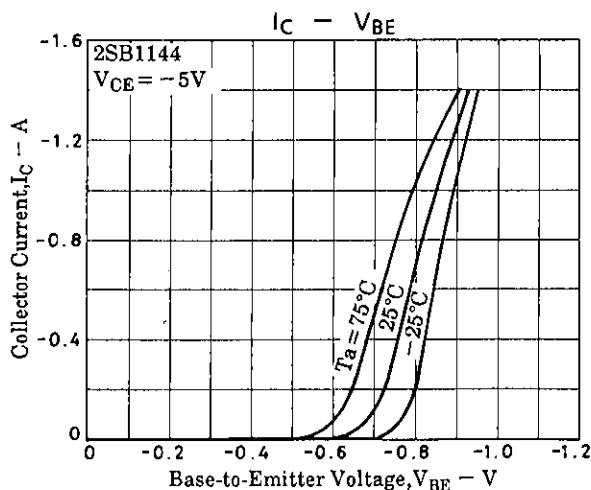
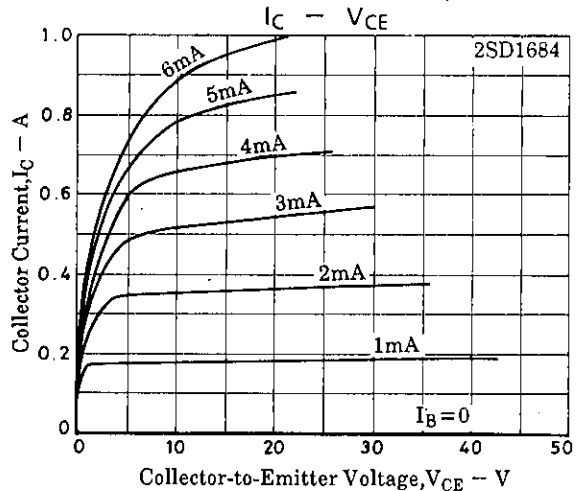
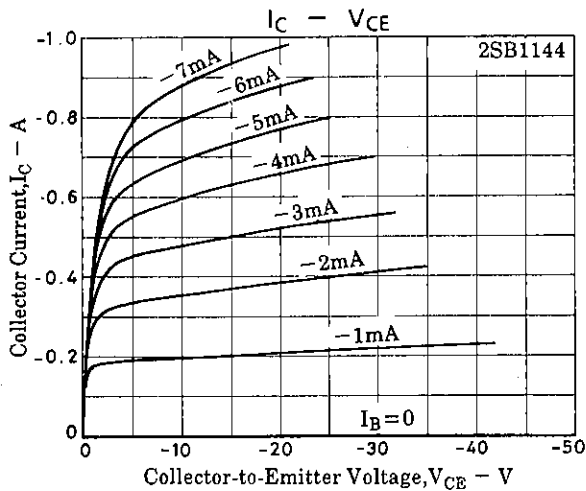
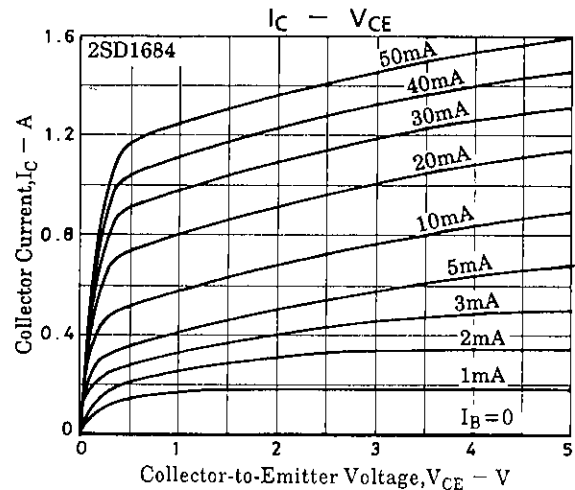
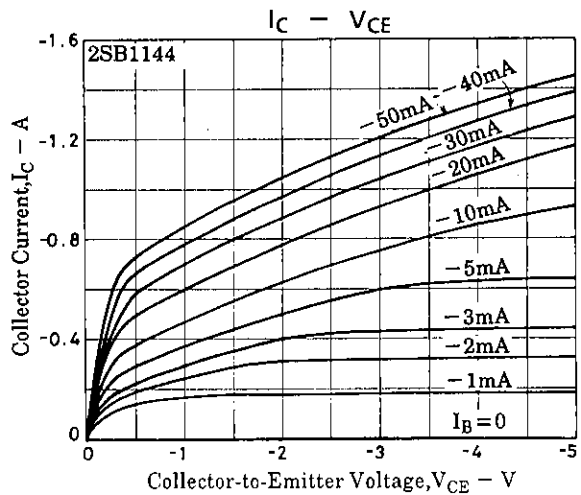
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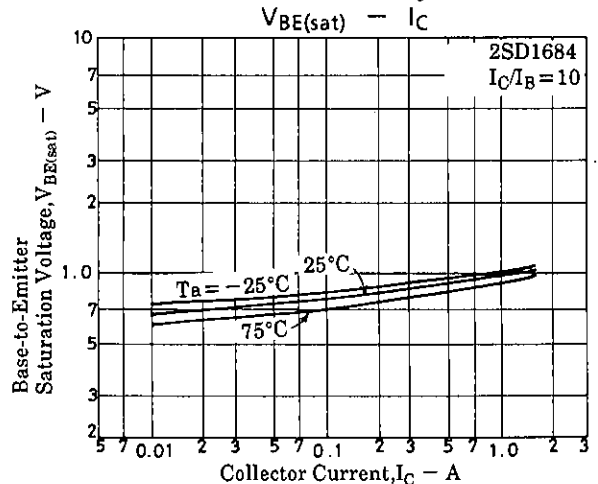
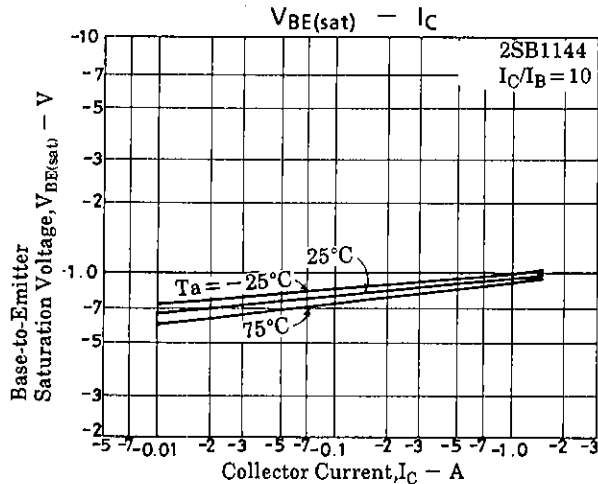
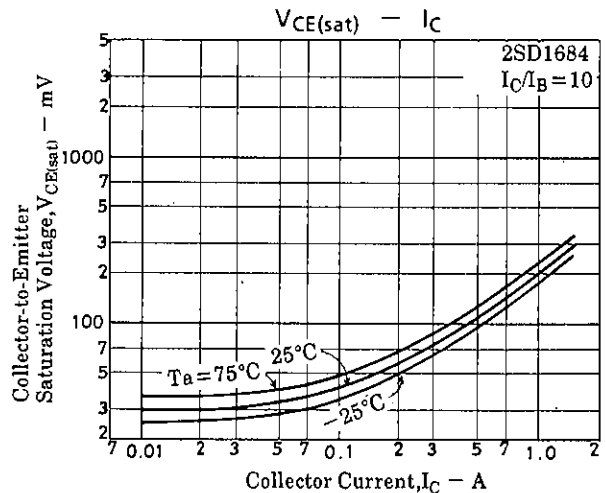
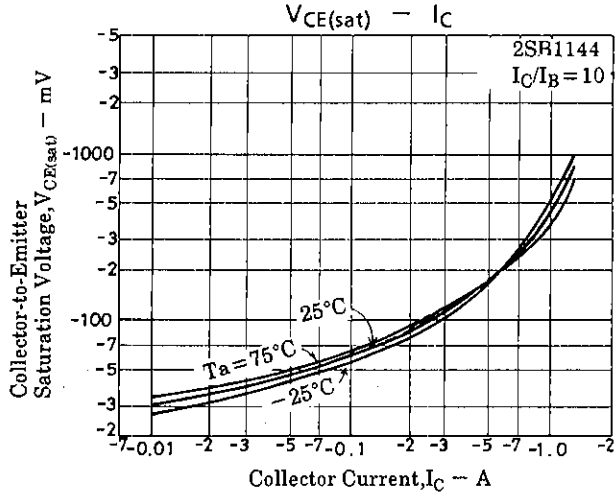
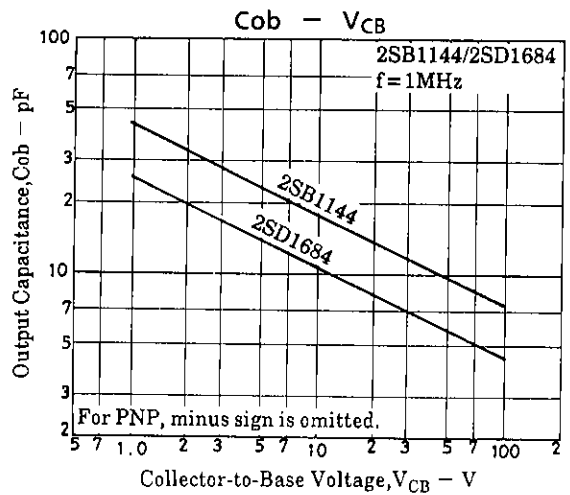
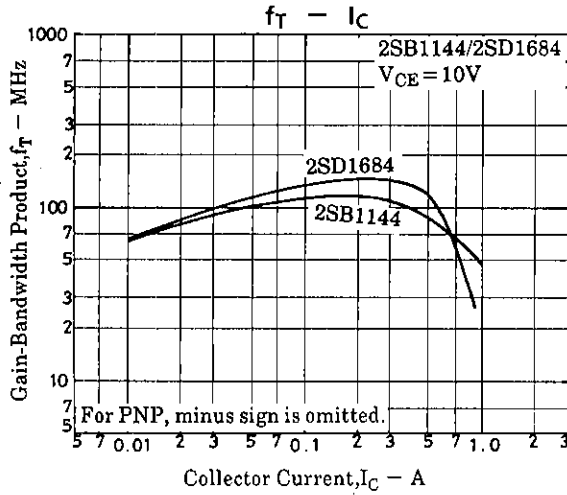
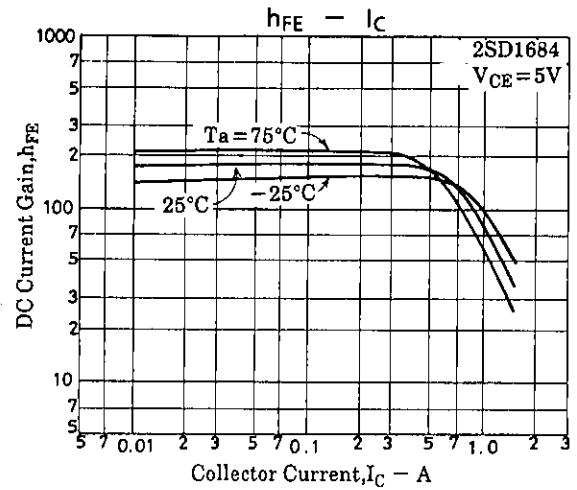
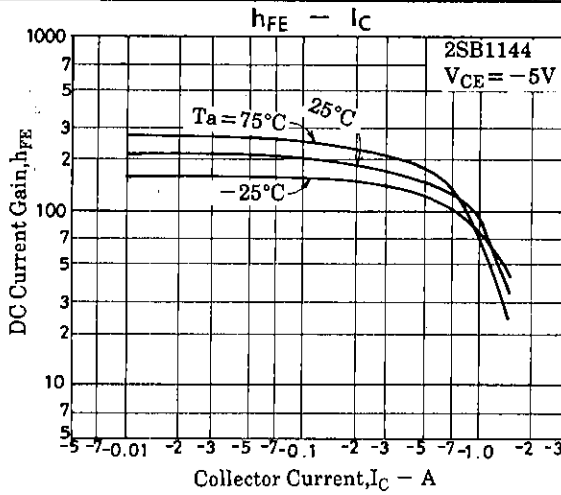
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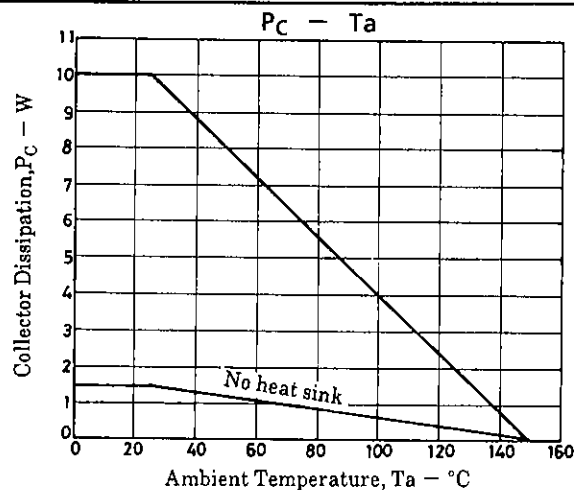
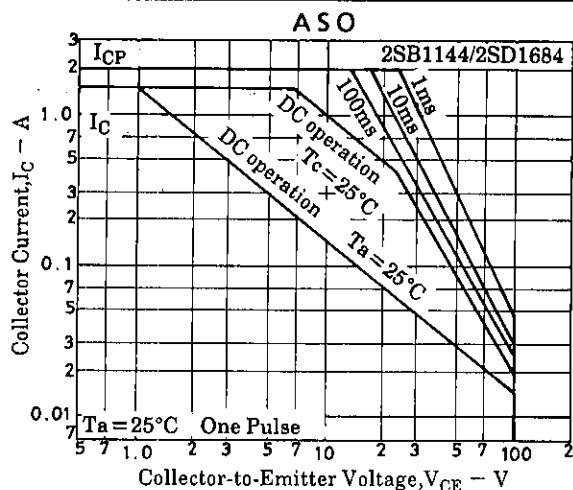
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			min	typ	max	unit
Rise Time	t_{on}	See specified Test Circuit.		(80)		ns
		"		80		ns
Storage Time	t_{stg}	"		(750)		ns
		"		1000		ns
Fall Time	t_f	"		(40)		ns
		"		50		ns



2SB1144/2SD1684





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