

SANYO	No.2041A	<h1 style="margin: 0;">2SB1144/2SD1684</h1> <p style="margin: 0;">PNP/NPN Epitaxial Planar Silicon Transistors</p> <h2 style="margin: 0;">100V/1.5A Switching Applications</h2>
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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 Ta = 25°C

			unit
Collector-to-Base Voltage	V _{CB0}	(-)	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
		T _c = 25°C	10 W
Junction Temperature	T _j		150 °C
Storage Temperature	T _{stg}		-55 to +150 °C

Electrical Characteristics at Ta = 25°C

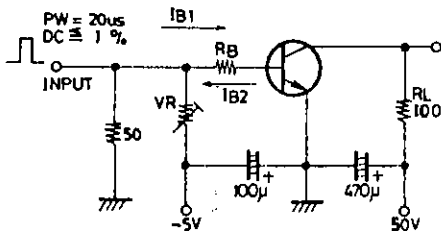
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} = (-)100V, I _E = 0			(-)100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} = (-)4V, I _C = 0			(-)100	nA
DC Current Gain	h _{FE} (1)	V _{CE} = (-)5V, I _C = (-)100mA	100※		400※	
	h _{FE} (2)	V _{CE} = (-)5V, I _C = (-)1A	30			
Gain Bandwidth Product	f _T	V _{CE} = (-)10V, I _C = (-)50mA		(100)		MHz
				120		MHz
Output Capacitance	C _{ob}	V _{CB} = (-)10V, f = 1MHz		(18)		pF
				11		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C = (-)500mA, I _B = (-)50mA	(-)180	(-)500		mV
			100	300		mV
B-E Saturation Voltage	V _{BE(sat)}	I _C = (-)500mA, I _B = (-)50mA	(-)0.85	(-)1.2		V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C = (-)10μA, I _E = 0	(-)120			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C = (-)1mA, R _{BE} = ∞	(-)100			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E = (-)10μA, 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

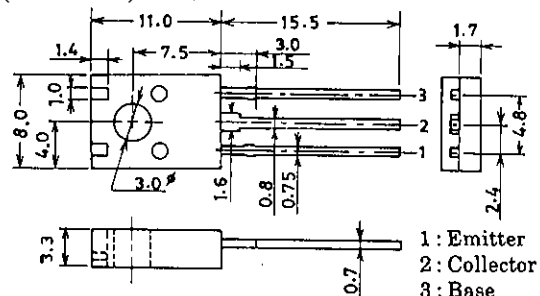


$I_C = 10I_{B1} = -10I_{B2} = 500\text{mA}$

Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2042B

(unit : mm)



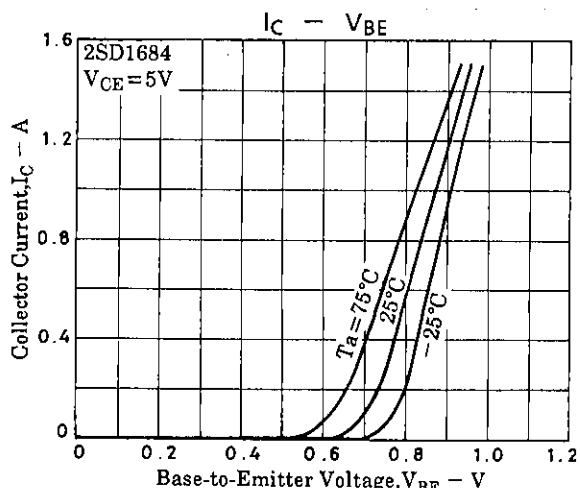
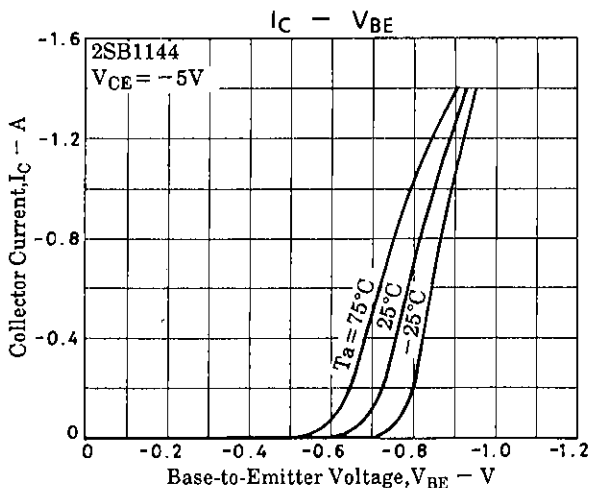
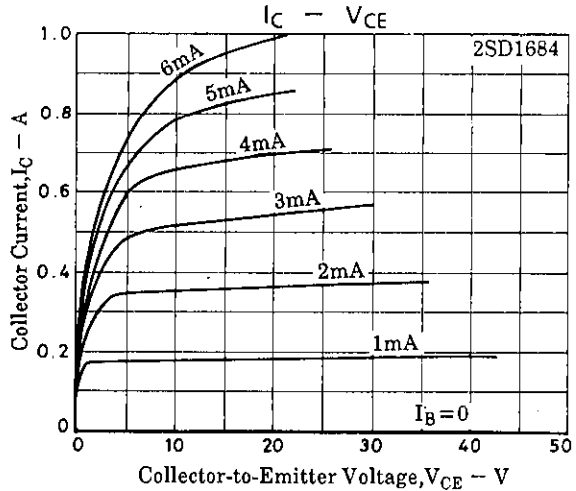
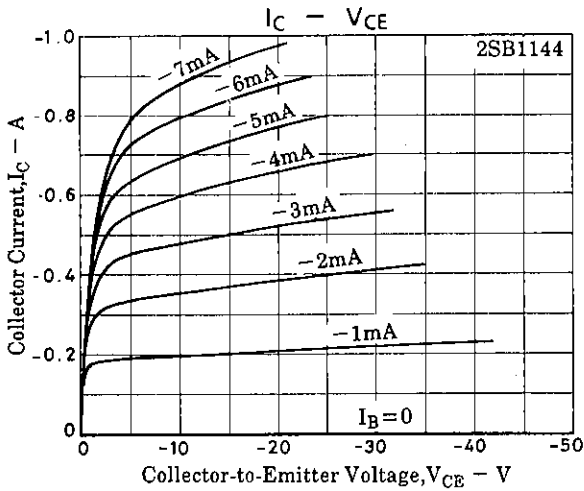
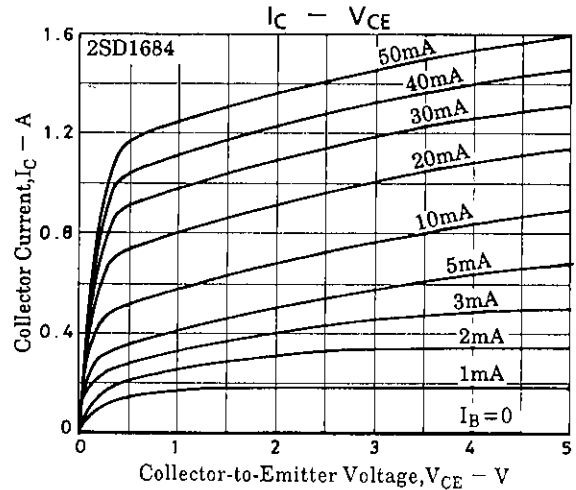
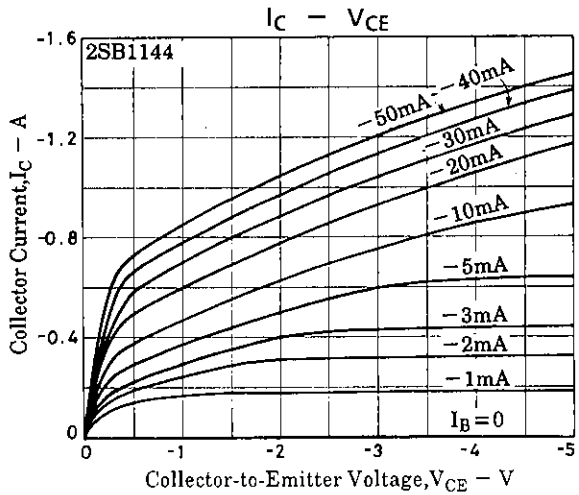
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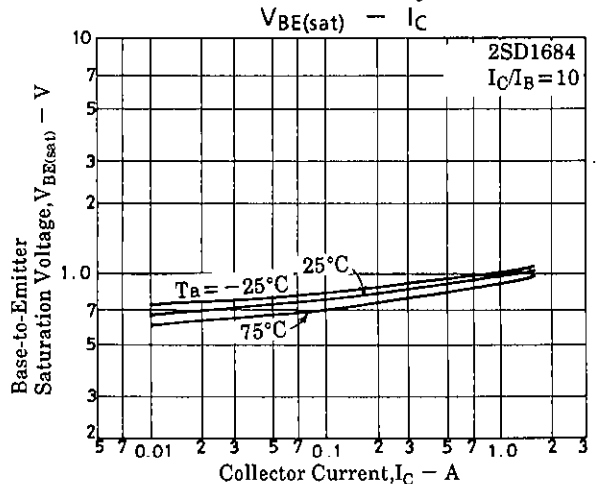
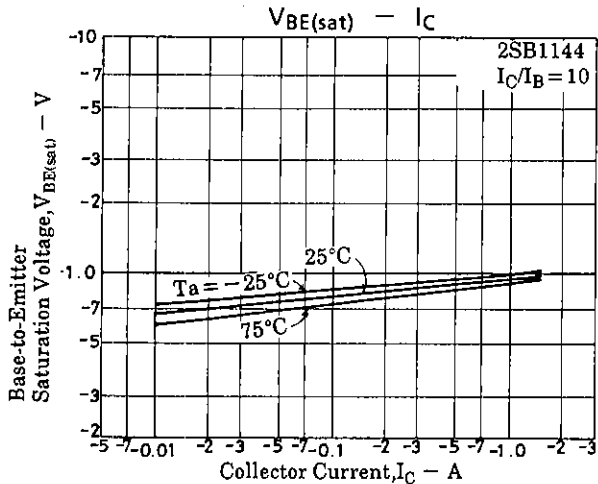
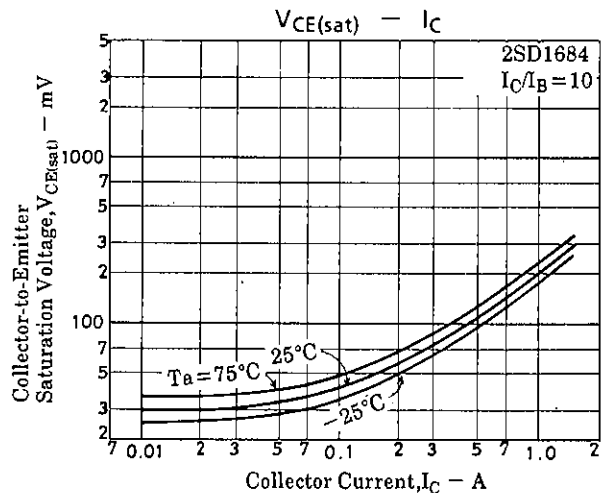
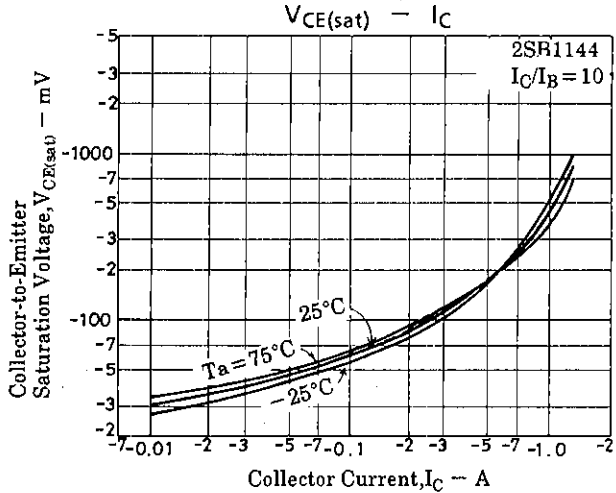
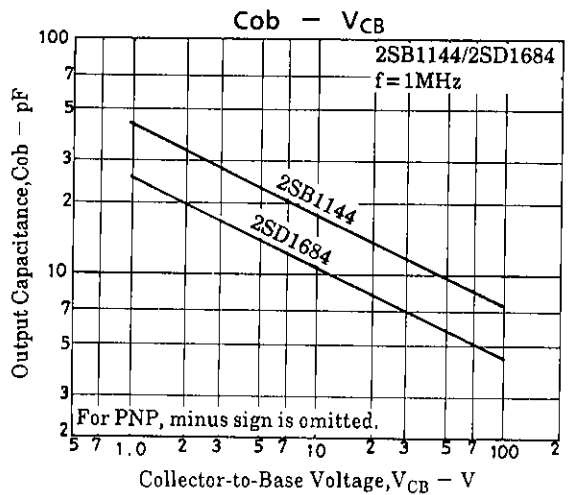
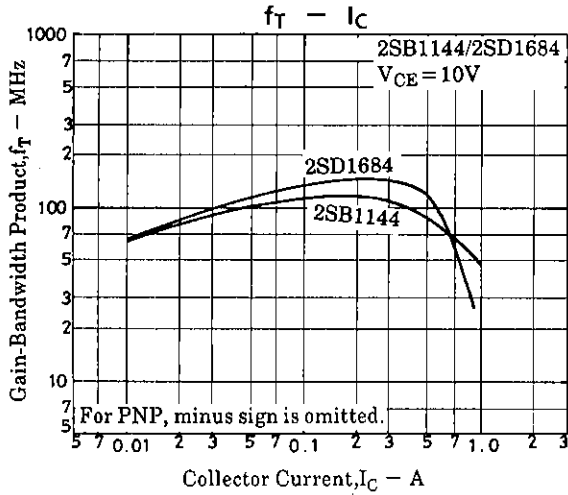
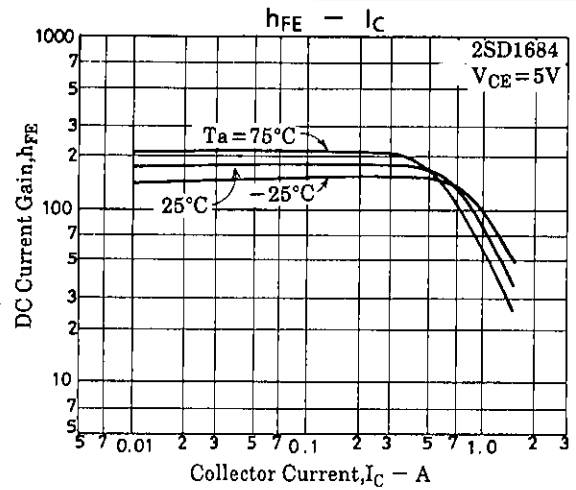
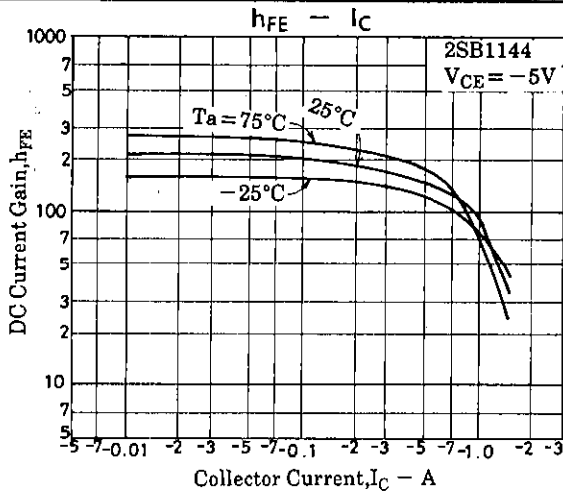
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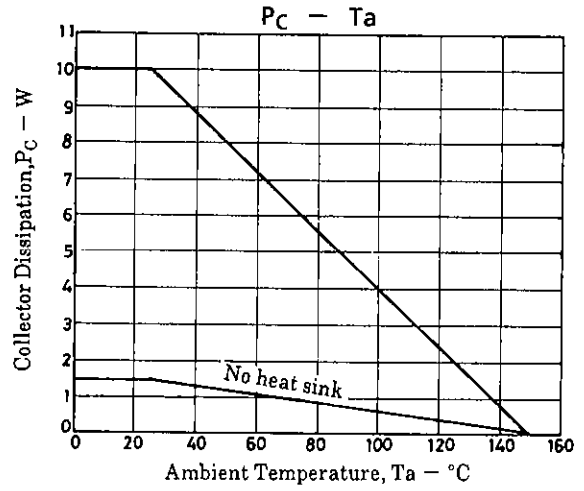
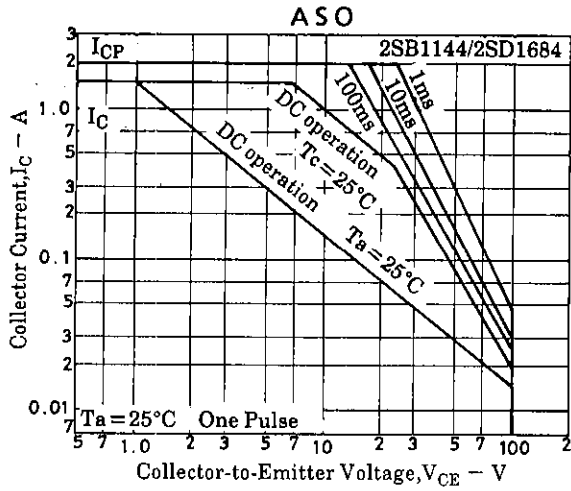
			min	typ	max	unit
Rise Time	t_{on}	See specified Test Circuit.		(80)		ns
				80		ns
Storage Time	t_{stg}	"		(750)		ns
		"		1000		ns
Fall Time	t_f	"		(40)		ns
		"		50		ns



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