

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 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	
Junction Temperature	T _j	10	W
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta = 25°C

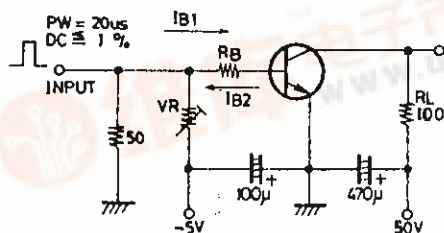
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} = (-)100V, I _E = 0			(-)100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} = (-)4V, I _C = 0			(-)100	nA
DC Current Gain	h _{FE} (1)	V _{CE} = (-)5V, I _C = (-)100mA	100※		400※	
	h _{FE} (2)	V _{CE} = (-)5V, I _C = (-)1A	30			
Gain Bandwidth Product	f _T	V _{CE} = (-)10V, I _C = (-)50mA		(100)		MHz
				120		MHz
Output Capacitance	C _{ob}	V _{CB} = (-)10V, f = 1MHz		(18)		pF
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

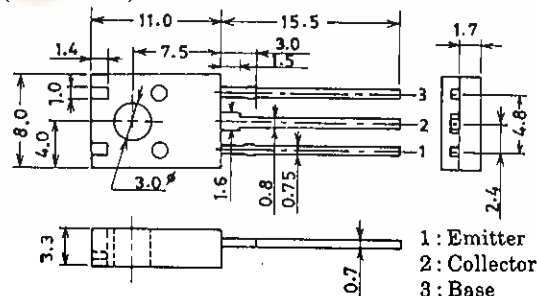


I_C = 10I_{B1} = -10I_{B2} = 500mA

Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2042B

(unit : mm)

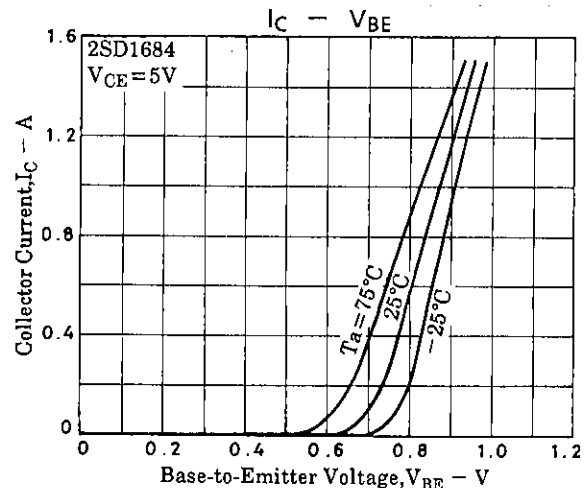
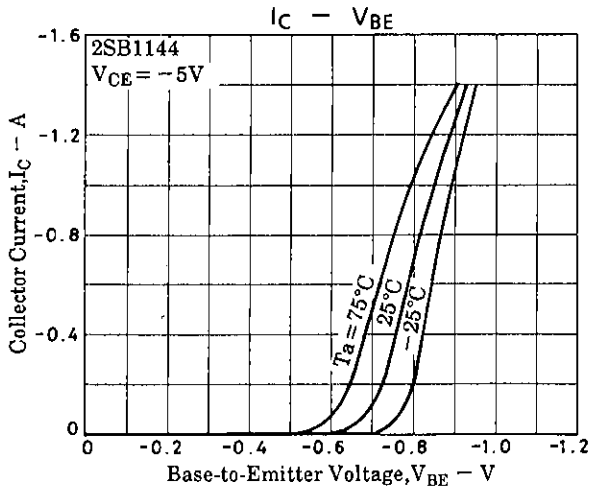
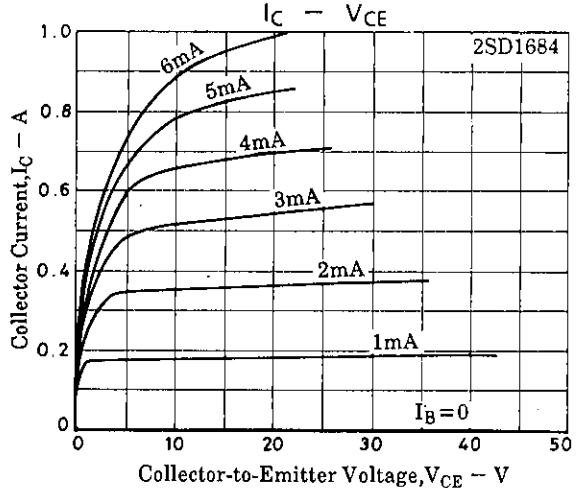
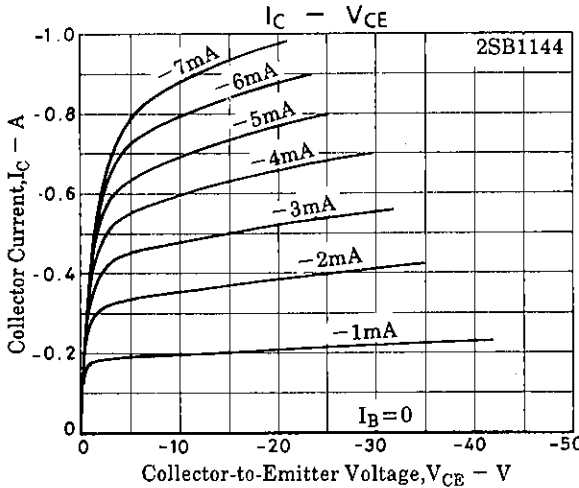
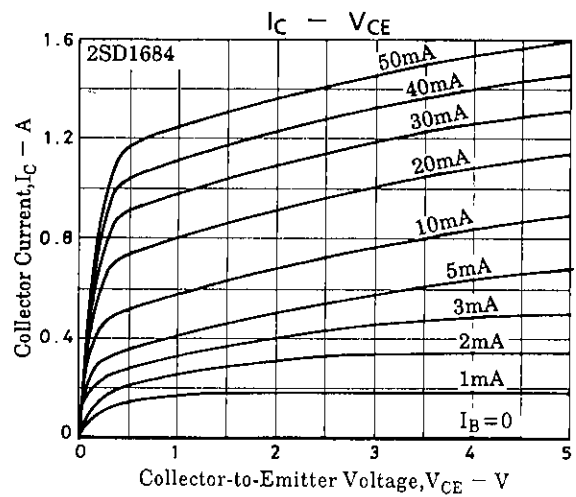
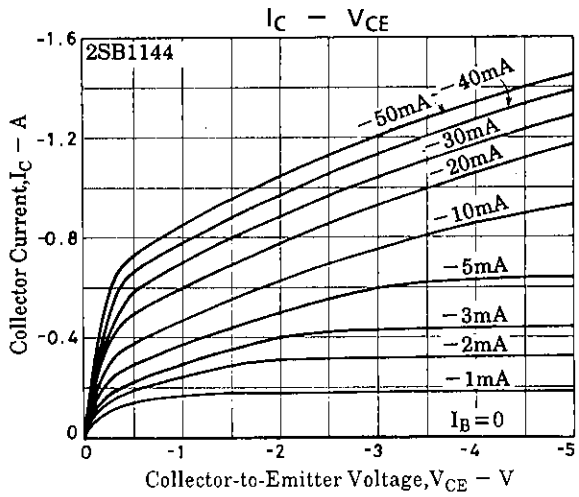


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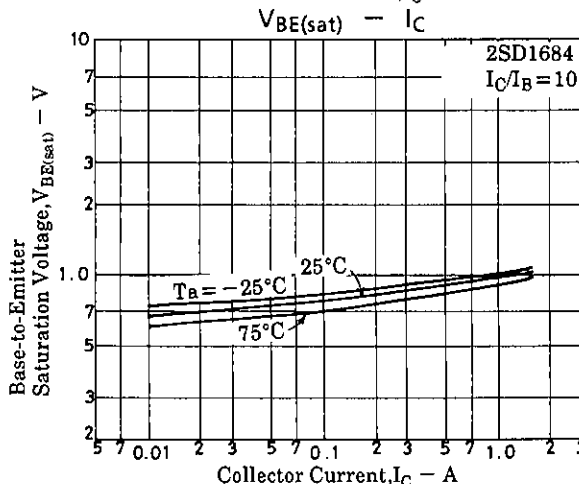
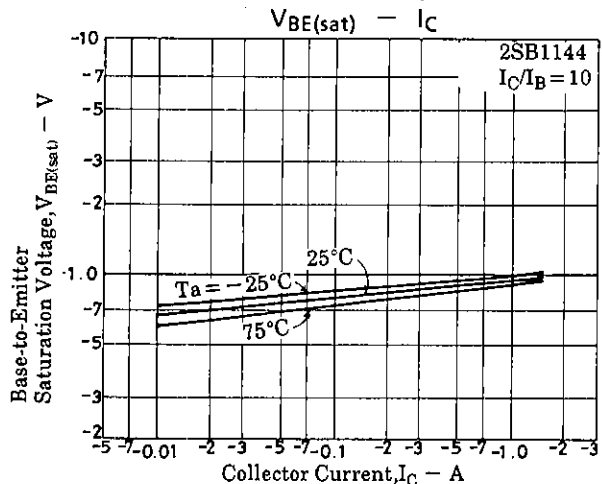
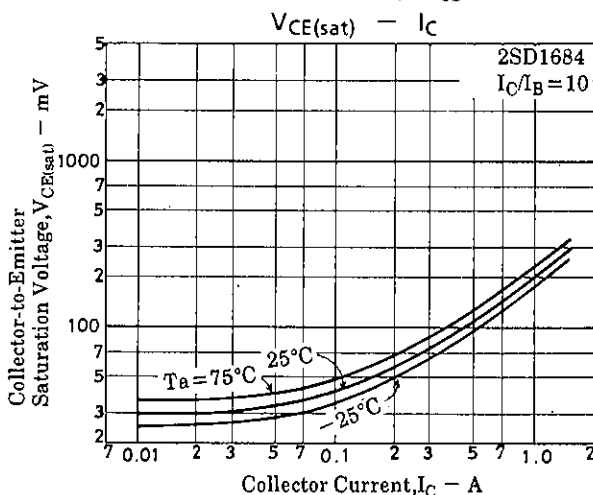
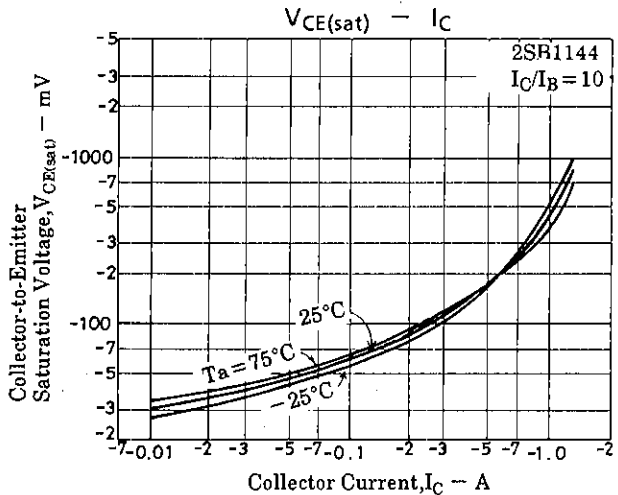
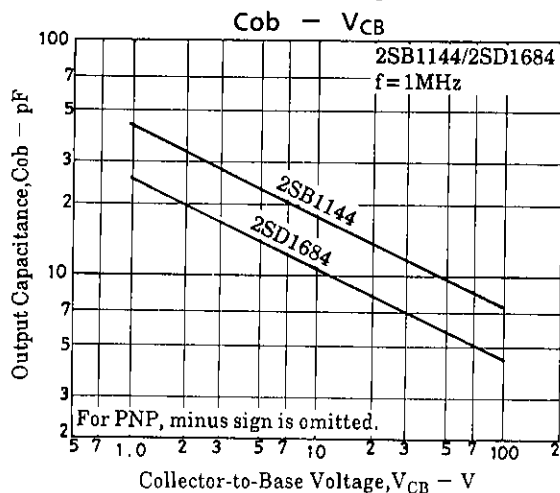
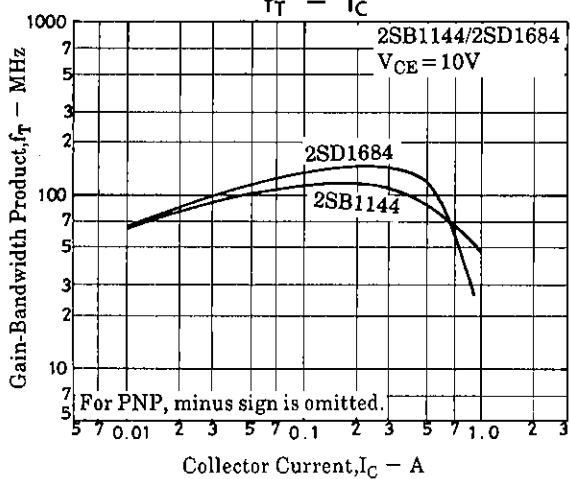
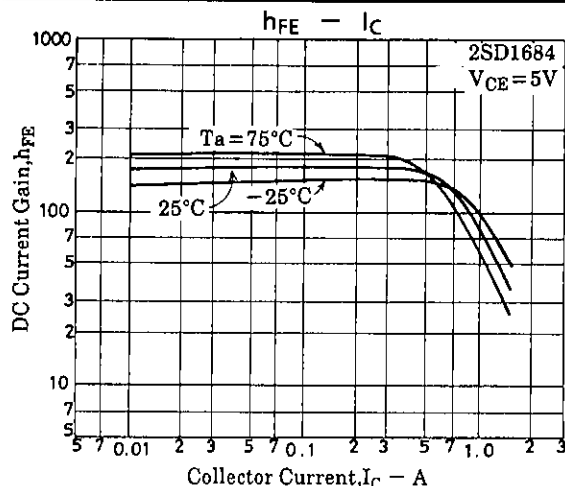
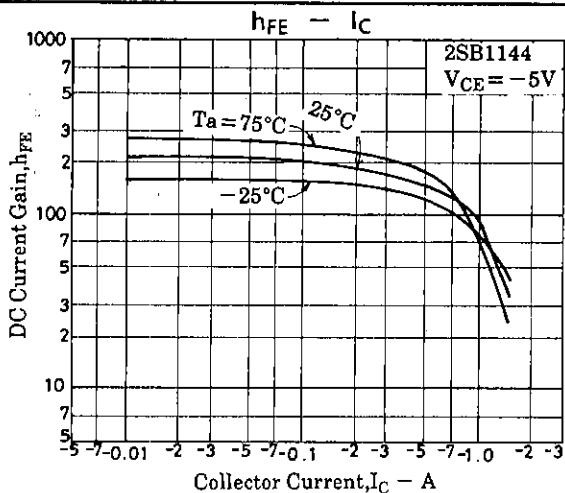
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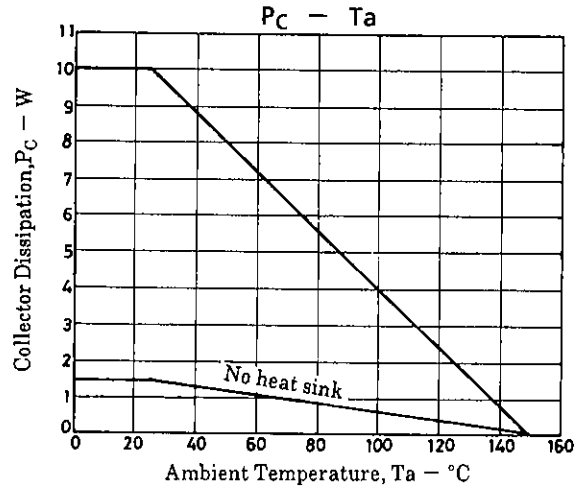
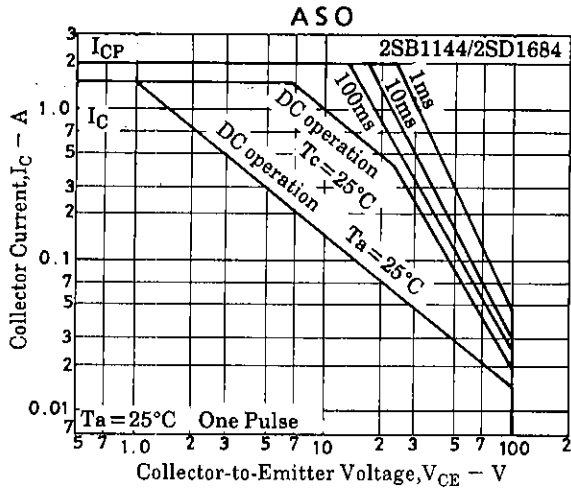
			min	typ	max	unit
Rise Time	t_{on}	See specified Test Circuit.		(80)		ns
				80		ns
Storage Time	t_{stg}			(750)		ns
				1000		ns
Fall Time	t_f			(40)		ns
				50		ns



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