

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_{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
		$T_c = 25^\circ C$	10 W
Junction Temperature	T_j		150 °C
Storage Temperature	T_{stg}		-55 to +150 °C

Electrical Characteristics at Ta = 25°C

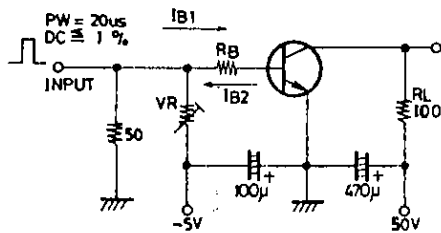
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)100V, I_E = 0$			(-)100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)5V, I_C = (-)100mA$	100*		400*	
	$h_{FE(2)}$	$V_{CE} = (-)5V, I_C = (-)1A$	30			
Gain Bandwidth Product	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	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)100			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)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

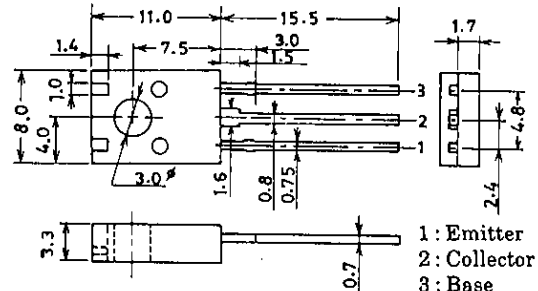


$I_C = 10I_{B1} = -10I_{B2} = 500mA$

Unit (Resistance : Ω , Capacitance : F)

Package Dimensions 2042B

(unit : mm)



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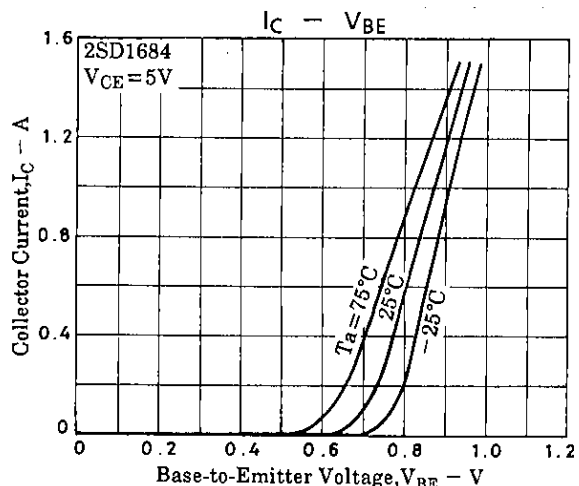
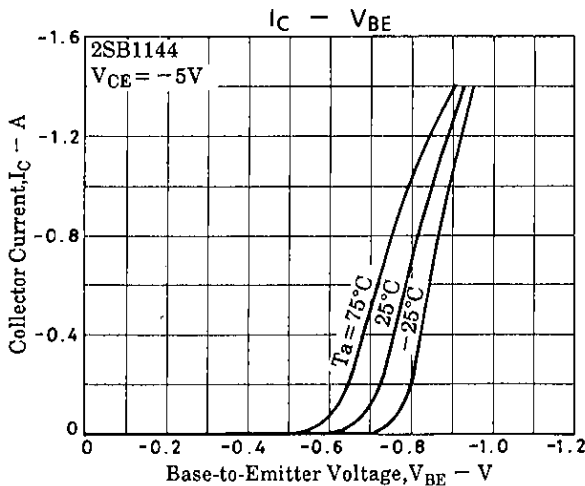
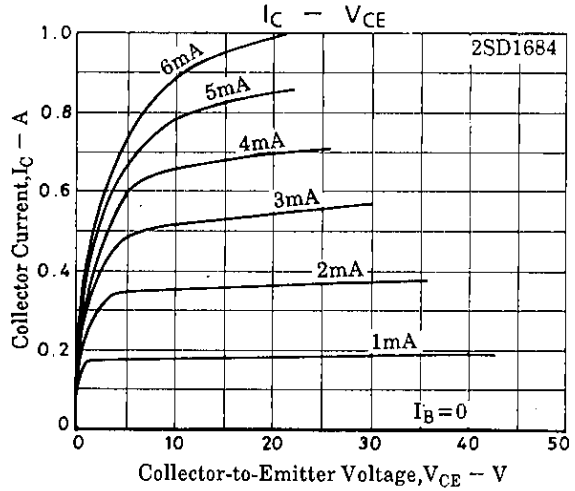
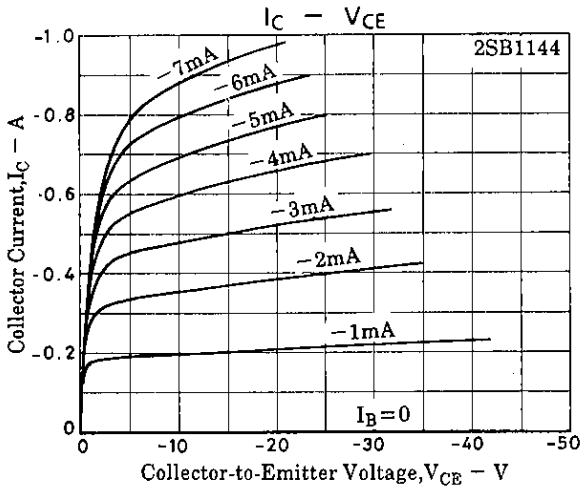
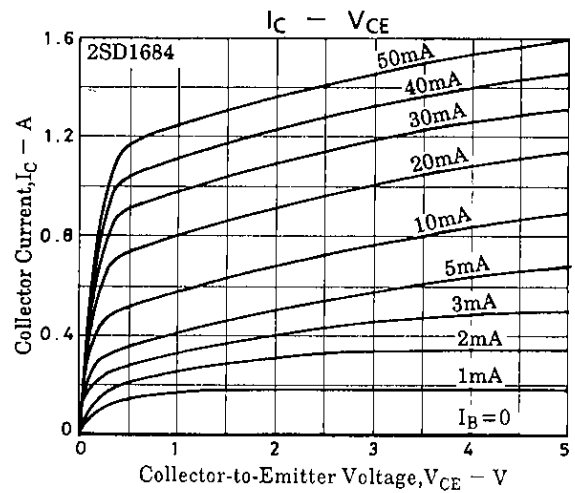
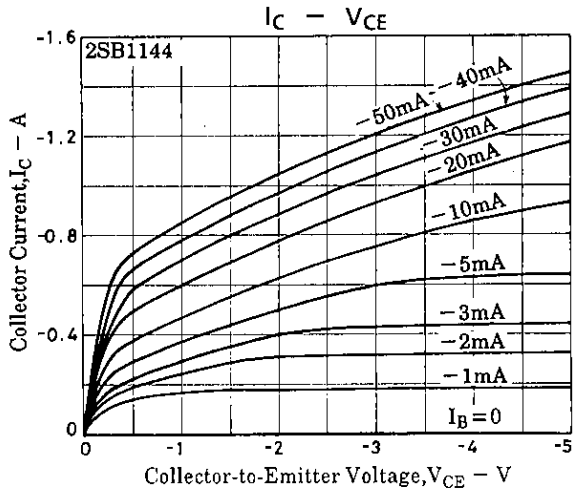
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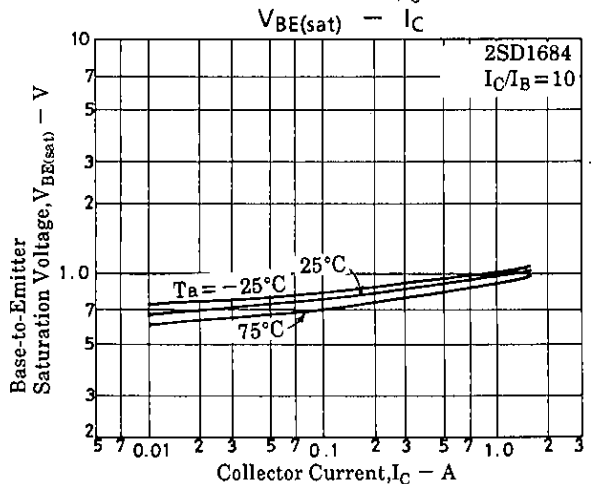
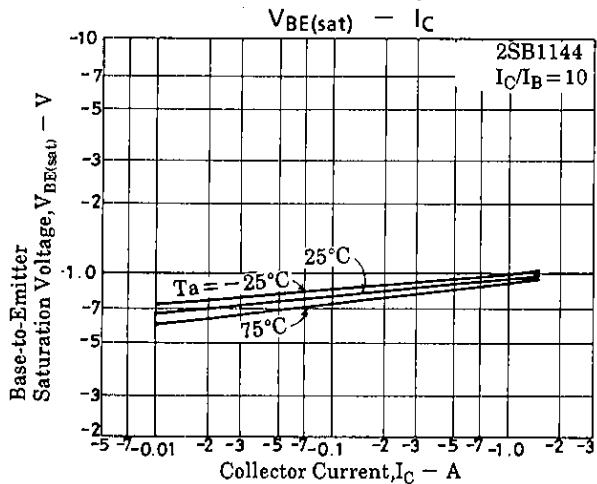
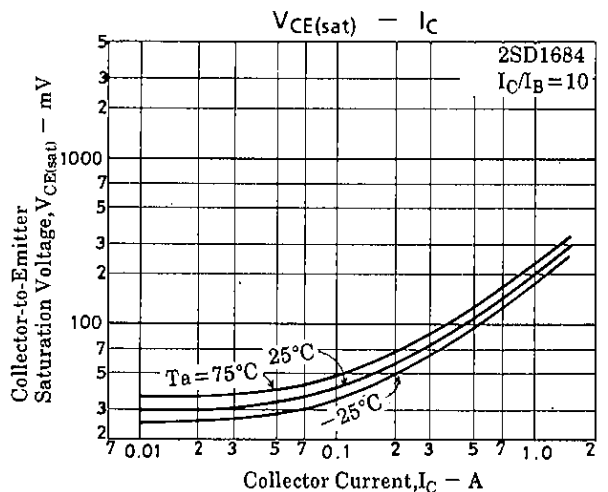
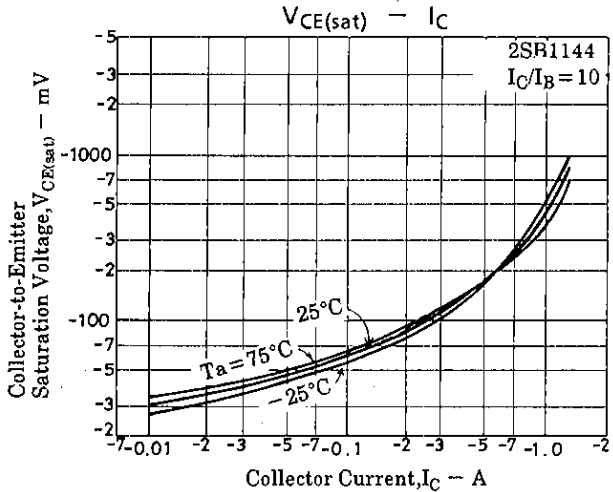
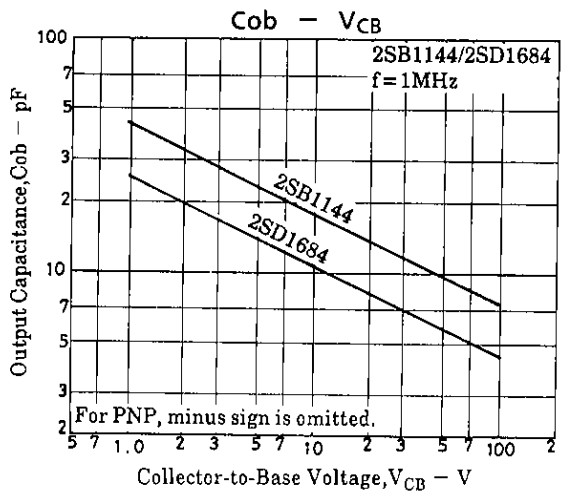
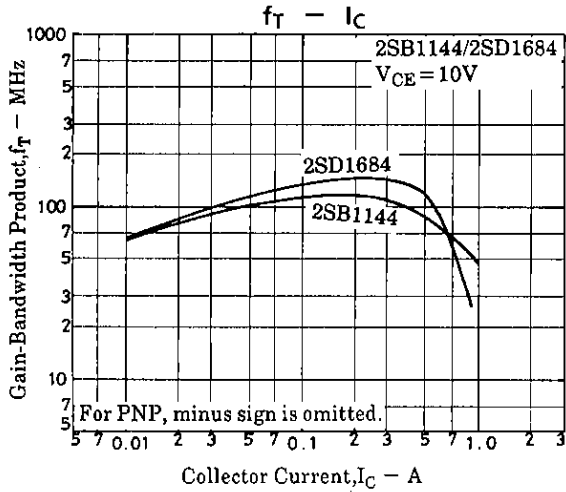
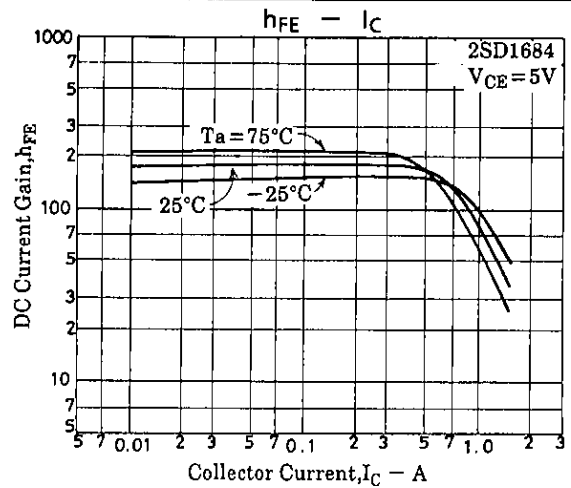
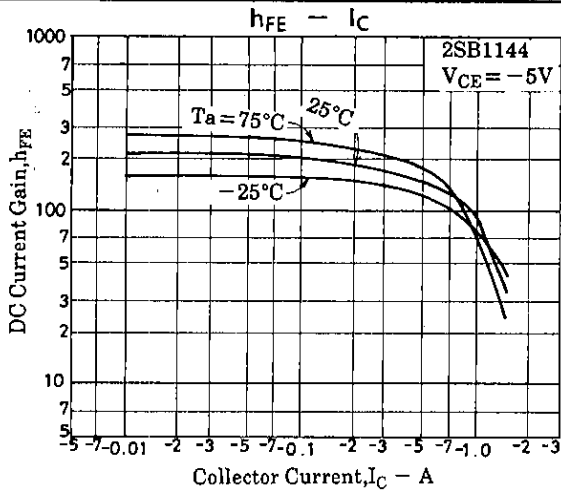
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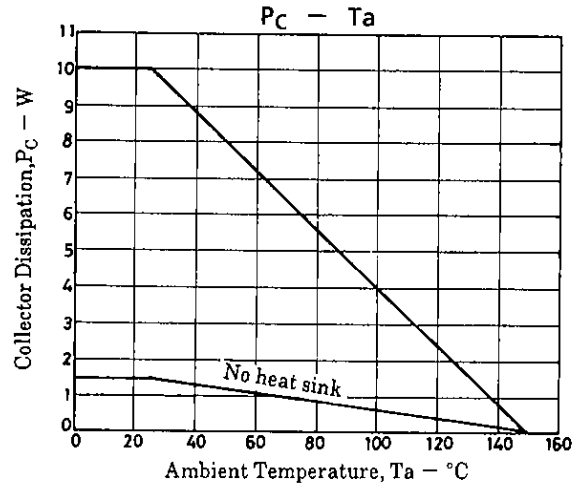
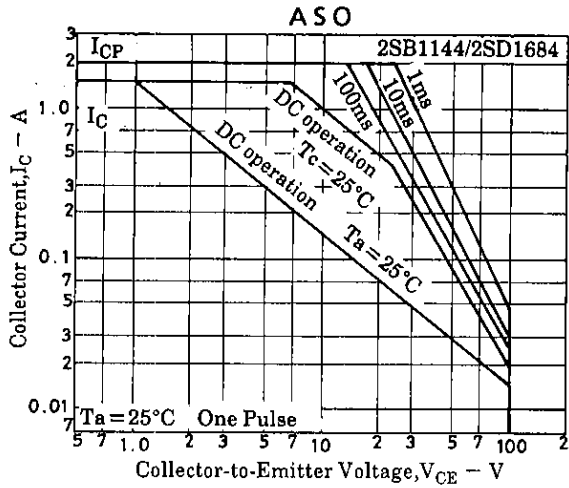
			min	typ	max	unit
Rise Time	t_{on}	See specified Test Circuit.		(80)		ns
				80		ns
Storage Time	t_{stg}			(750)		ns
				1000		ns
Fall Time	t_f			(40)		ns
				50		ns



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