

SANYO

No.2063A

2SB1143/2SD1683

PNP/NPN Epitaxial Planar Silicon Transistors

50V/4A Switching Applications**Applications**

- . Voltage regulators, relay drivers, lamp drivers, electrical equipment

Features

- . Adoption of FBET, MBIT processes
- . Low saturation voltage
- . Large current capacity and wide ASO

(): 2SB1143

Absolute Maximum Ratings at Ta=25°C

			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	(-)4	A
Collector Current (Pulse)	I_{CP}	(-)6	A
Collector Dissipation	P_C	1.5	W
		10	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

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

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)2\text{V}, I_C=(-)100\text{mA}$	100*		560*	
	$h_{FE}(2)$	$V_{CE}=(-)2\text{V}, I_C=(-)3\text{A}$	40			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(39)		pF
				25		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2\text{A}, I_B=(-)100\text{mA}$		(-350)(-700)		mV
				190	500	mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2\text{A}, I_B=(-)100\text{mA}$		(-)0.94(-)1.2		V

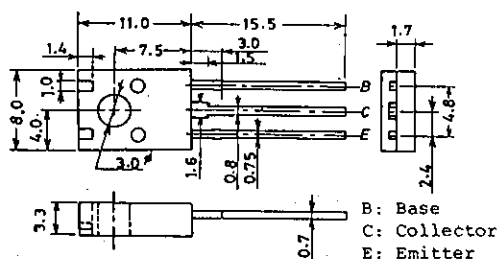
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*: The 2SB1143/2SD1683 are classified by 100mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400	280	U	560
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Package Dimensions 2042A

(unit:mm)



SANYO: T0126ML

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

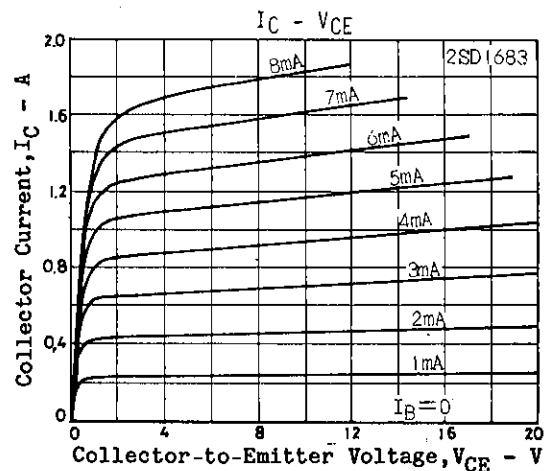
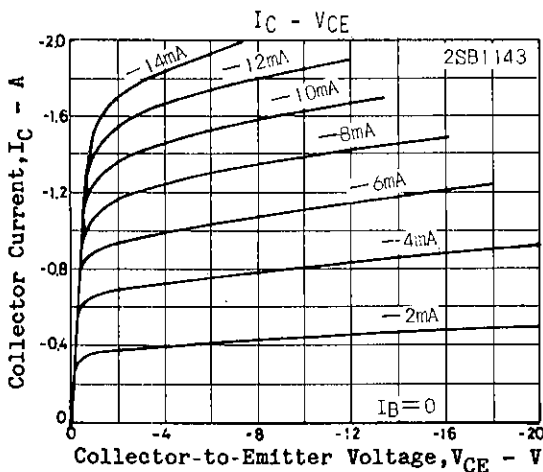
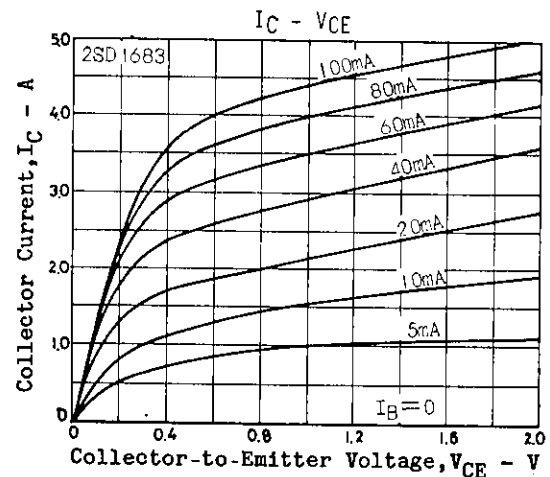
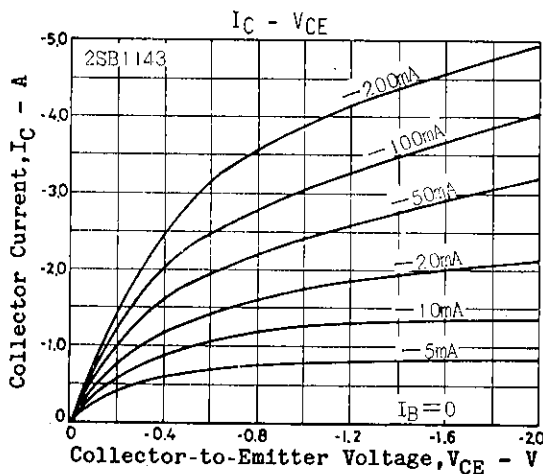
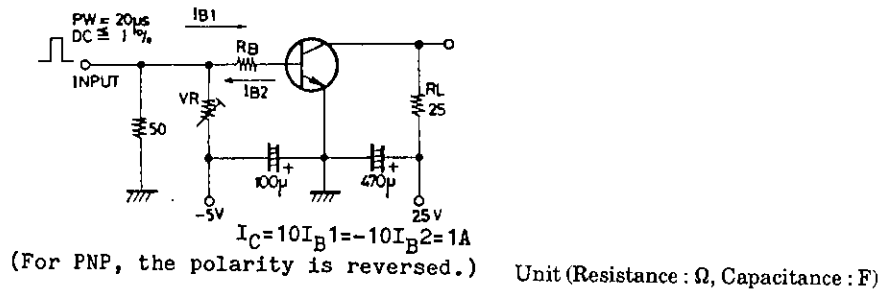
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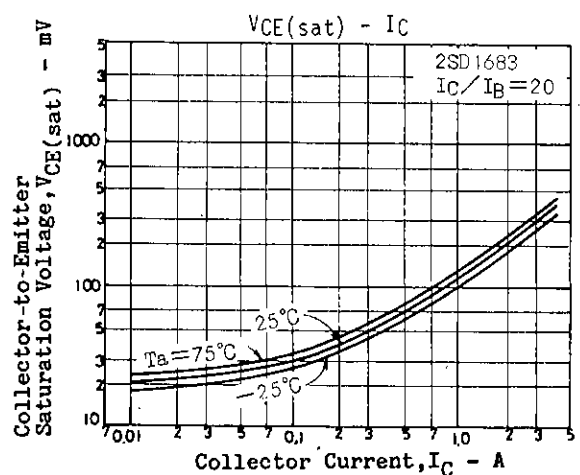
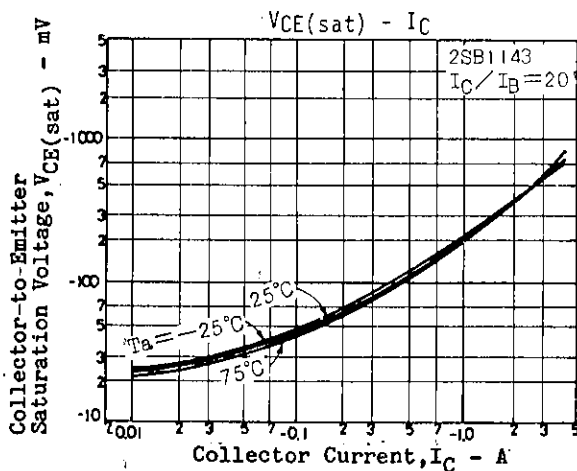
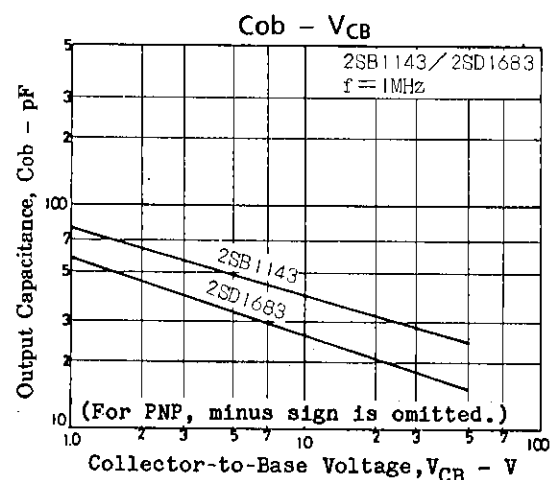
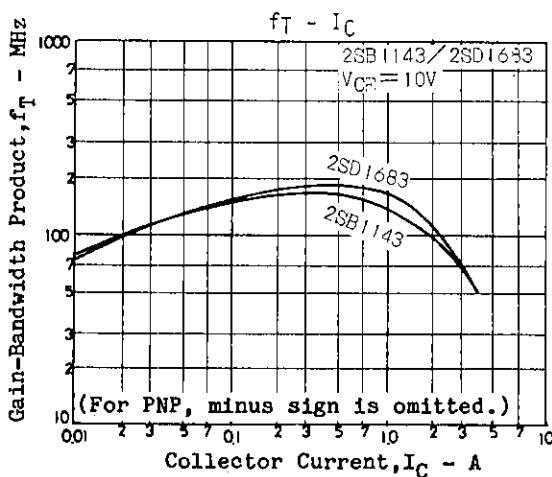
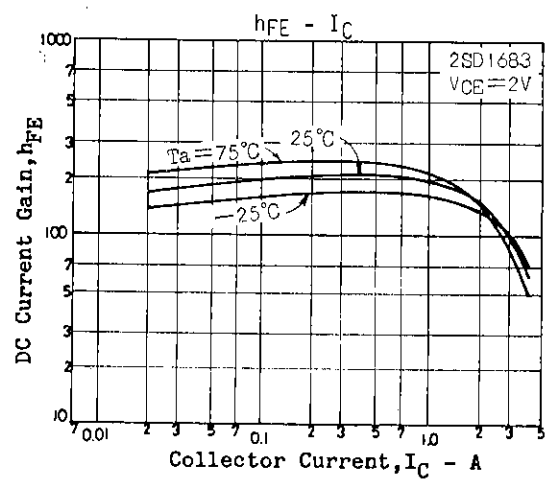
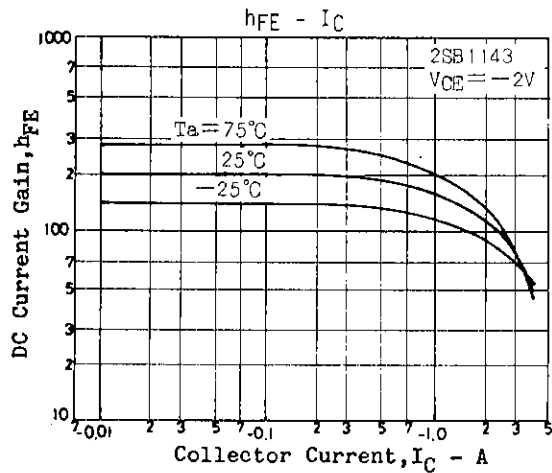
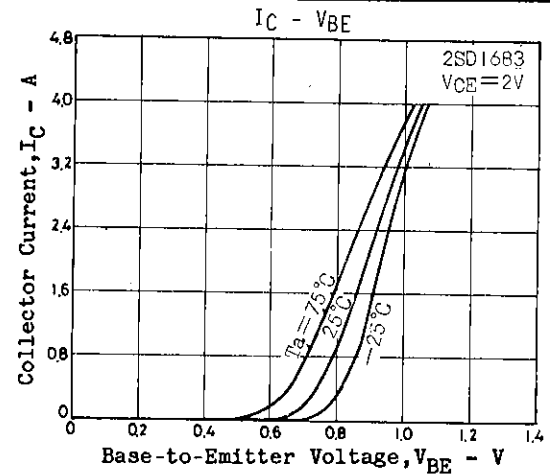
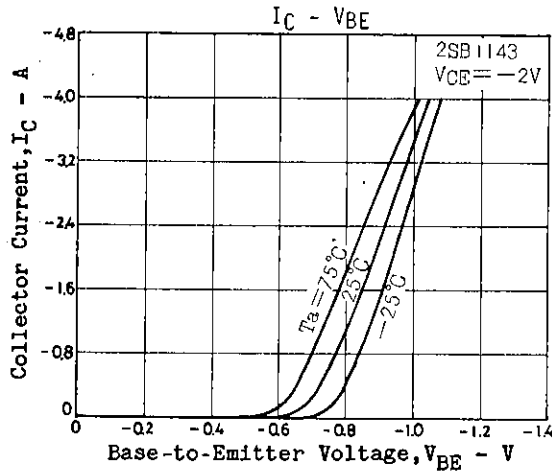
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		min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$ $I_C=(-)10\mu A, I_E=0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$ $I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$ $I_E=(-)10\mu A, I_C=0$	(-)6			V
Turn-on Time	t_{on} See specified Test Circuit.		(70)		ns
			70		ns
Storage Time	t_{stg}		(450)		ns
			650		ns
Fall Time	t_f		(30)		ns
			35		ns

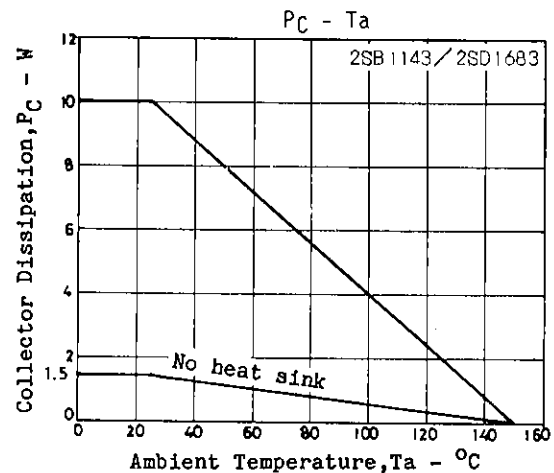
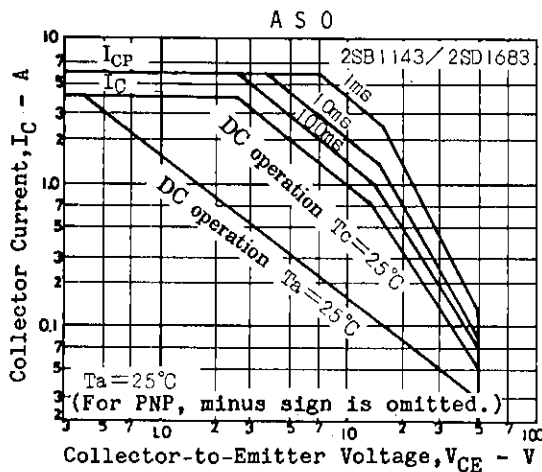
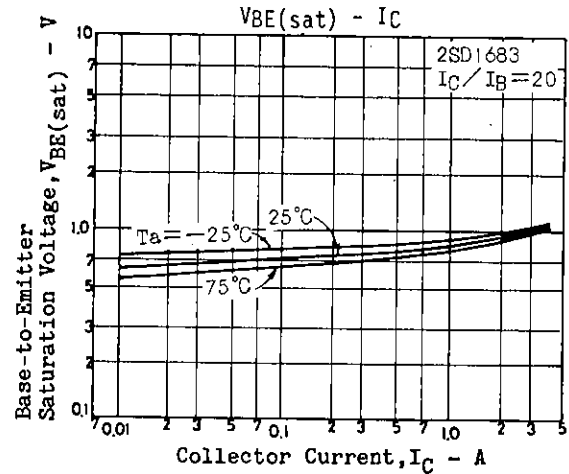
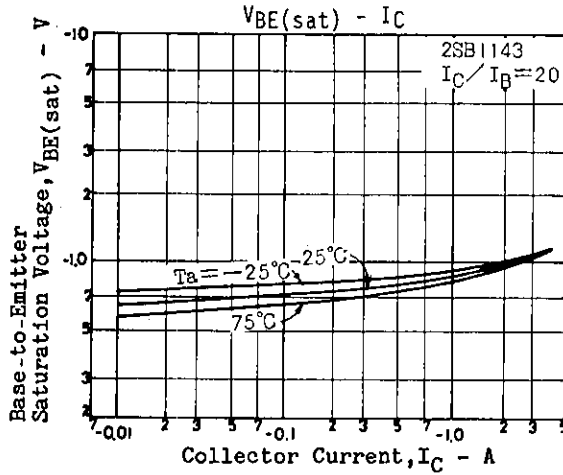
Switching Time Test Circuit



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