

SANYO	No.2113B	2SB1202/2SD1802
		PNP/NPN Epitaxial Planar Silicon Transistors High-Current Switching Applications

Applications

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

Features

- Adoption of FBET, MBIT processes
- Large current capacity and wide ASO
- Low collector-to-emitter saturation voltage
- Fast switching speed
- Small and slim package making it easy to make 2SB1202/2SD1802-used sets smaller

() : 2SB1202

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V _{CB0}	(-)60	V
Collector to Emitter Voltage	V _{CE0}	(-)50	V
Emitter to Base Voltage	V _{EB0}	(-)6	V
Collector Current	I _C	(-)3	A
Collector Current(Pulse)	I _{CP}	(-)6	A
Collector Dissipation	P _C	1	W
		15	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

T_c = 25°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} = (-)40V, I _E = 0			(-)1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} = (-)4V, I _C = 0			(-)1	μA
DC Current Gain	h _{FE} (1)	V _{CE} = (-)2V, I _C = (-)100mA	100*		560*	
	h _{FE} (2)	V _{CE} = (-)2V, I _C = (-)3A	35			
Gain-Bandwidth Product	f _T	V _{CE} = (-)10V, I _C = (-)50mA		150		MHz
Output Capacitance	c _{ob}	V _{CE} = (-)10V, f = 1MHz		(39)25		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C = (-)2A, I _B = (-)100mA		0.19	0.5	V
				(-0.35)	(-0.7)	

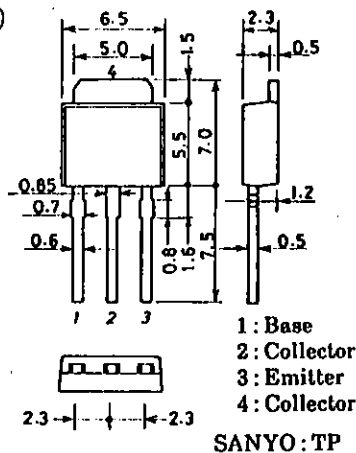
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* : The 2SB1202/2SD1802 are classified by 100mA h_{FE} as follows :

100 R	200	140 S	280	200 T	400	280 U	560
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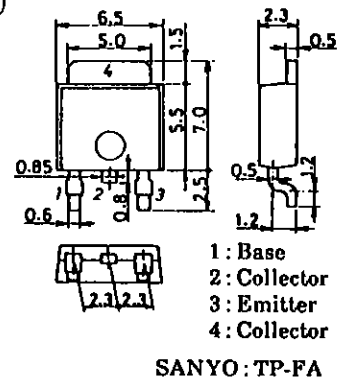
Package Dimensions 2045B

(unit : mm)



Package Dimensions 2044B

(unit : mm)

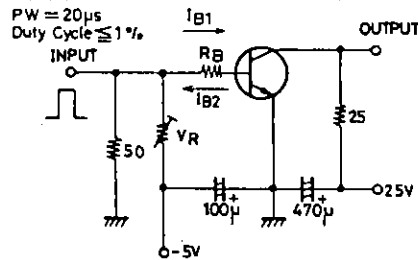


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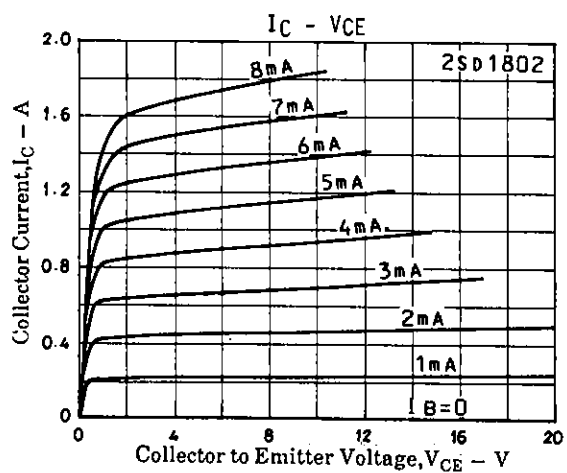
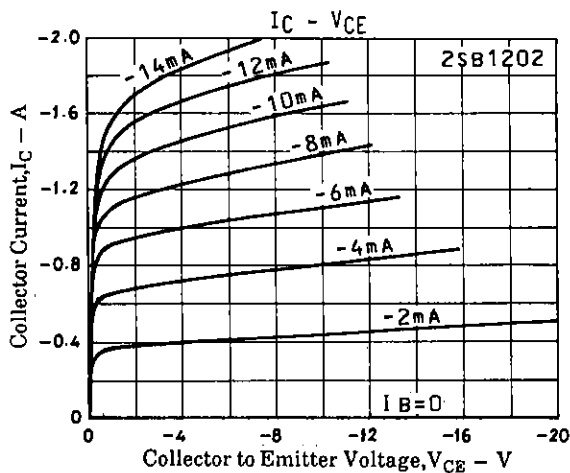
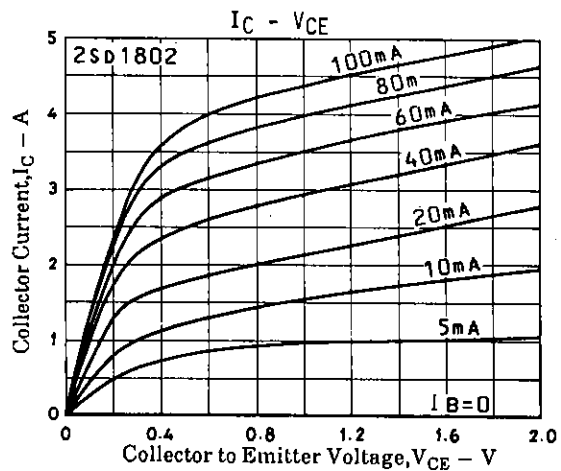
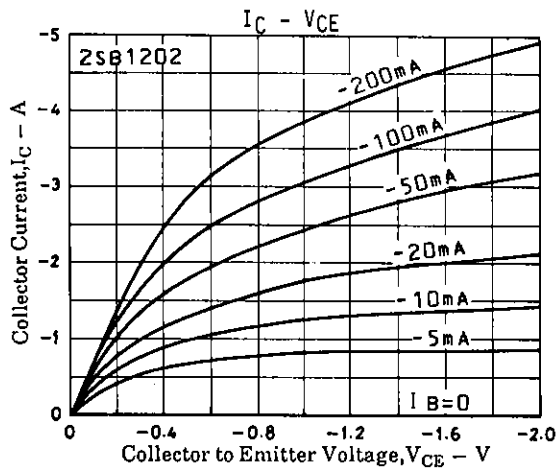
			min	typ	max	unit
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)2A, I_B = (-)100mA$		(-)0.94	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)6			V
Turn-on Time	t_{on}	See specified Test Circuit.		70		ns
Storage Time	t_{stg}	"	(450)650			ns
Fall Time	t_f	"		35		ns

Switching Time Test Circuit

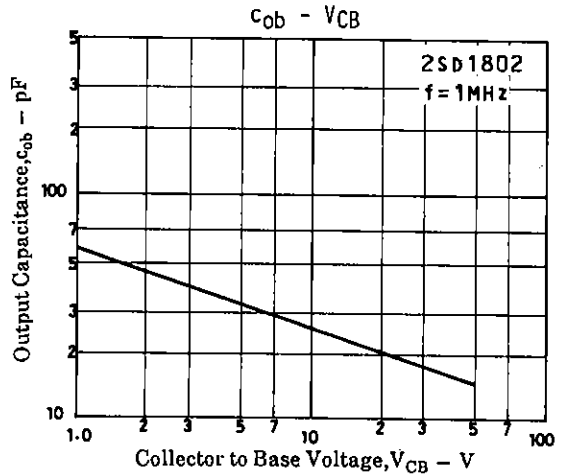
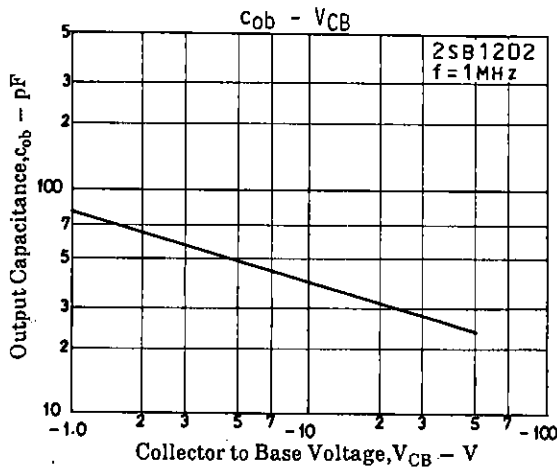
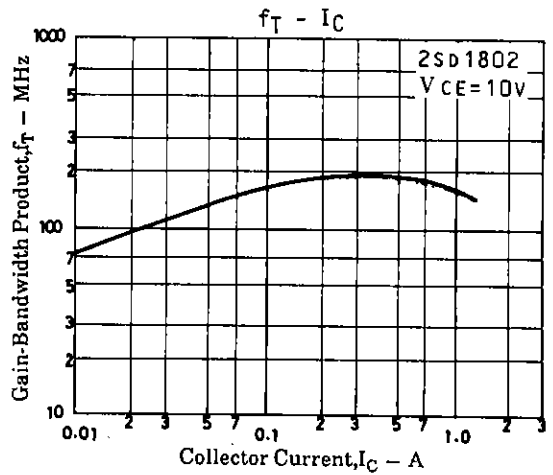
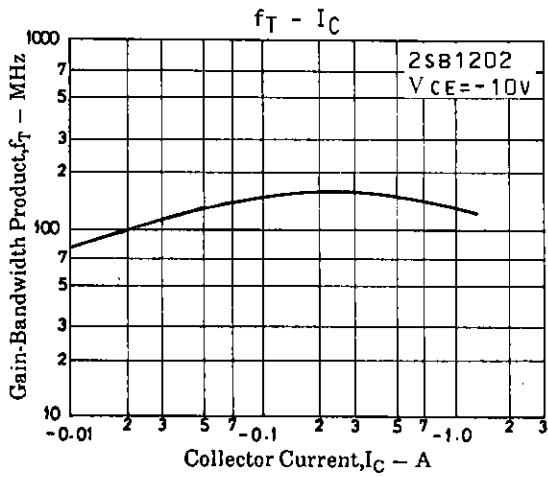
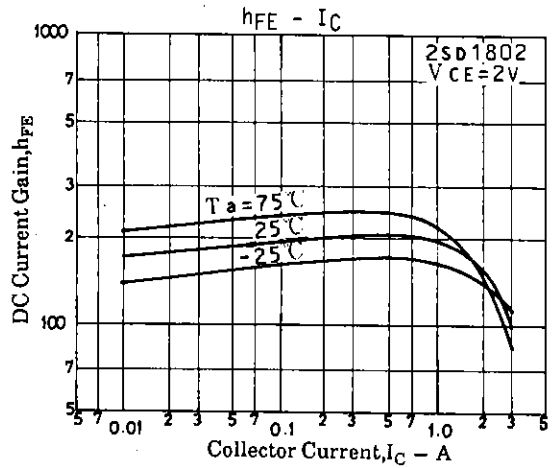
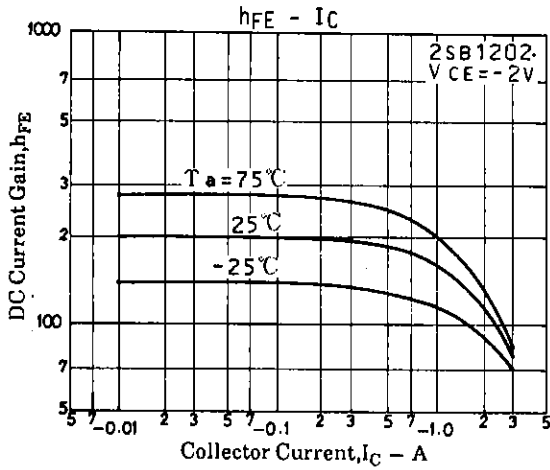
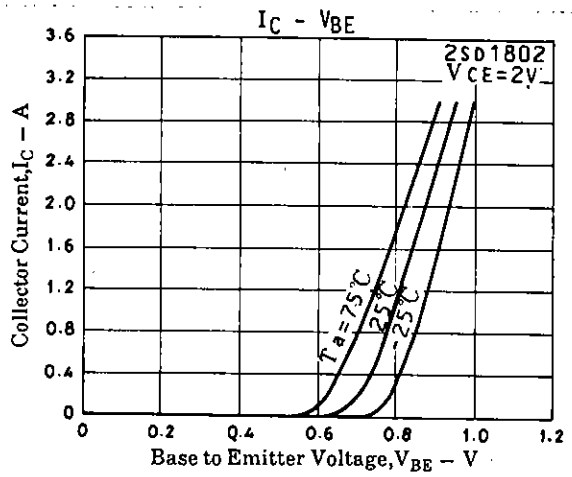
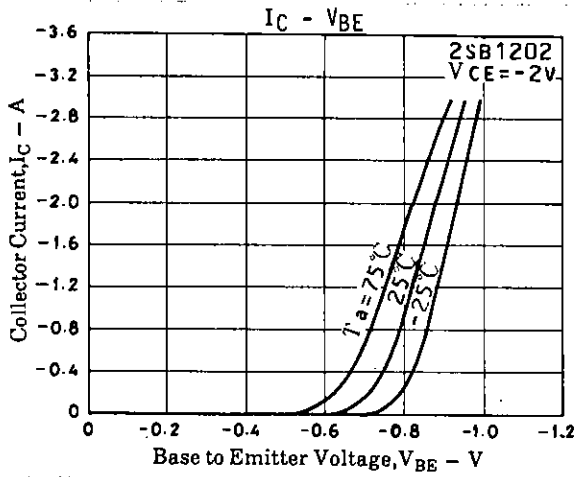


$I_C = 10 I_{B1} = -10 I_{B2} = 1A$
(For PNP, the polarity is reversed.)

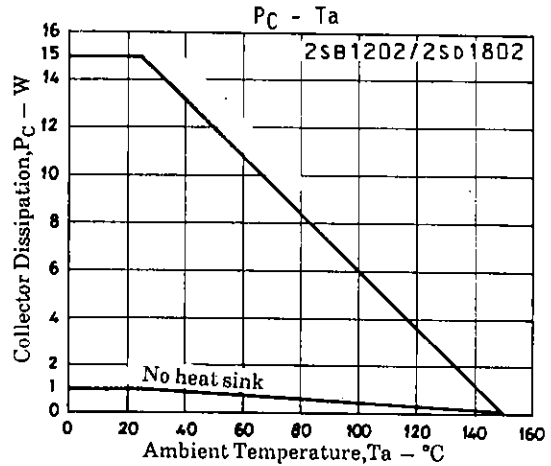
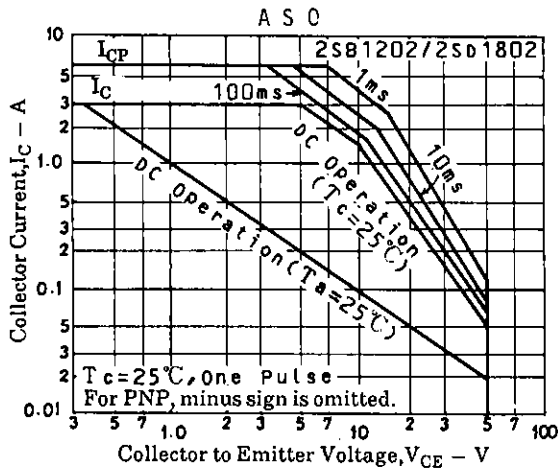
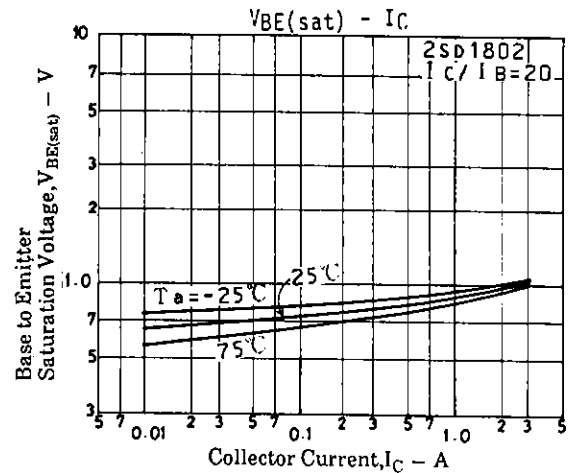
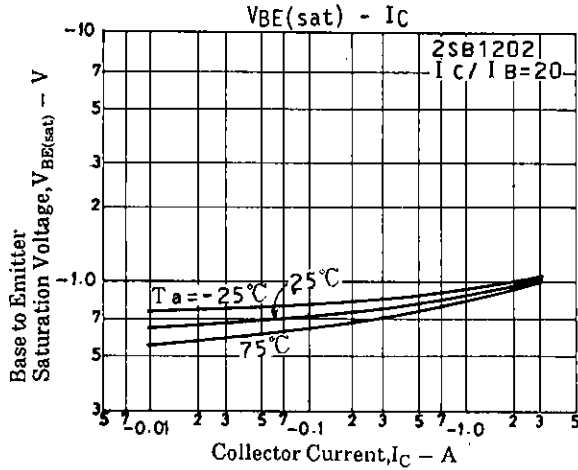
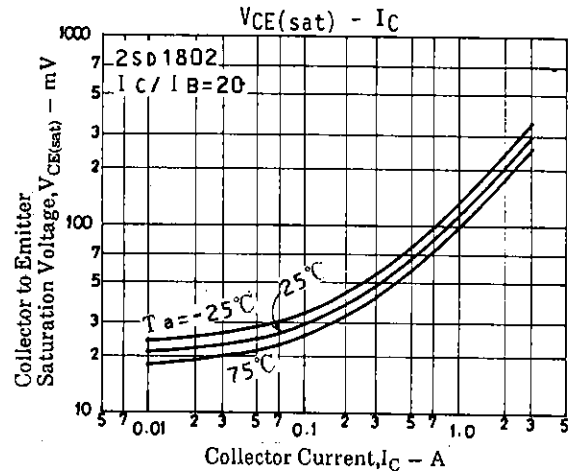
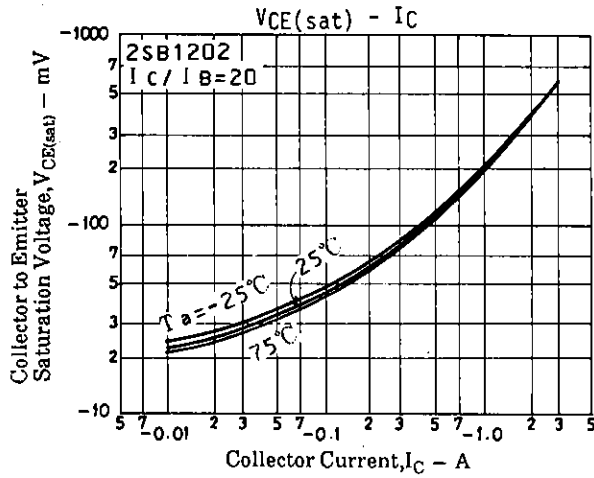
Unit (Resistance : Ω , Capacitance : F)



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