

SANYO	No.2112B	2SB1201/2SD1801
	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 2SB1201/2SD1801-used sets smaller

() : 2SB1201

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V_{CBO}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)2	A
Collector Current(Pulse)	I_{CP}	(-)4	A
Collector Dissipation	P_C	0.8	W
		15	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}	$V_{CB} = (-)50V, I_E = 0$			(-)100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)2V, I_C = (-)100mA$	100*		560*	
	$h_{FE(2)}$	$V_{CE} = (-)2V, I_C = (-)1.5A$	40			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10V, I_C = (-)50mA$		150		MHz
Output Capacitance	c_{ob}	$V_{CE} = (-)10V, f = 1MHz$		(22)12		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1A, I_B = (-)50mA$		0.15	0.4	V
				(-0.3)	(-0.7)	

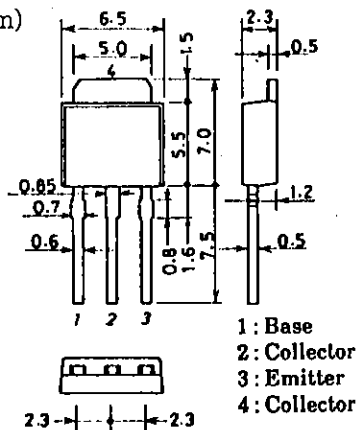
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* : The 2SB1201/2SD1801 are classified by 100mA h_{FE} as follows :

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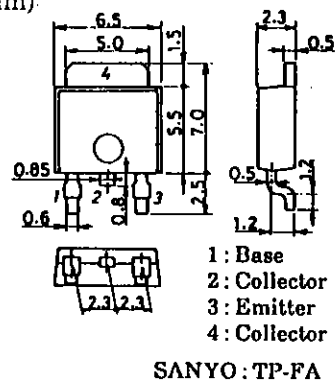
Package Dimensions 2045B

(unit : mm)



Package Dimensions 2044B

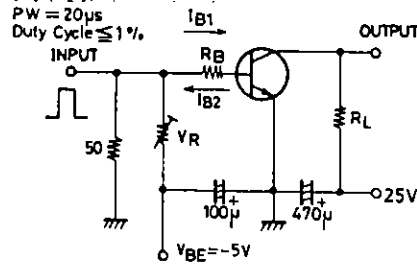
(unit : mm)



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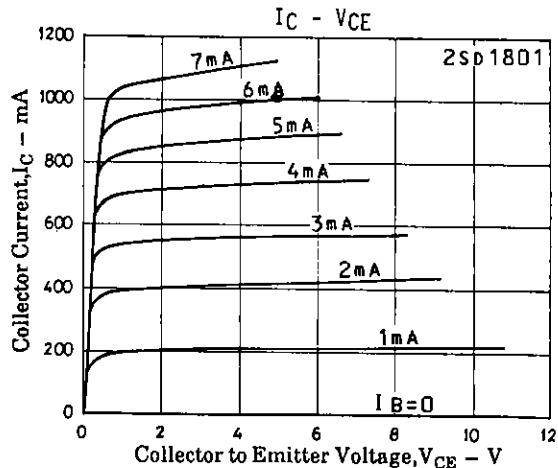
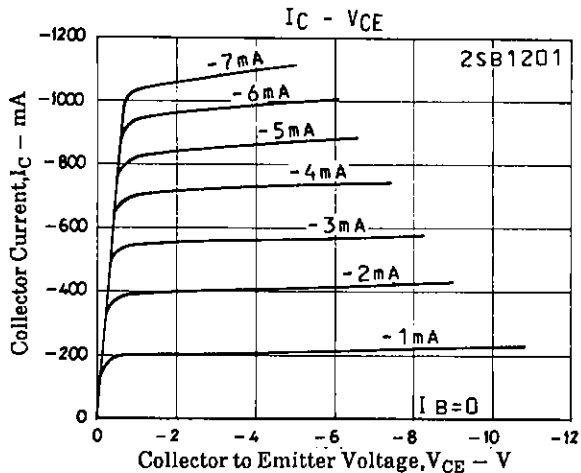
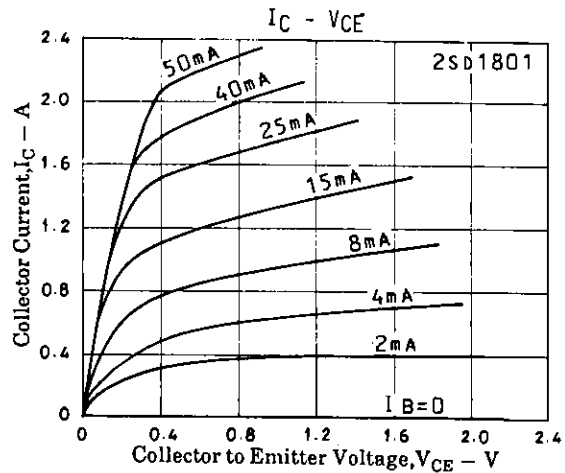
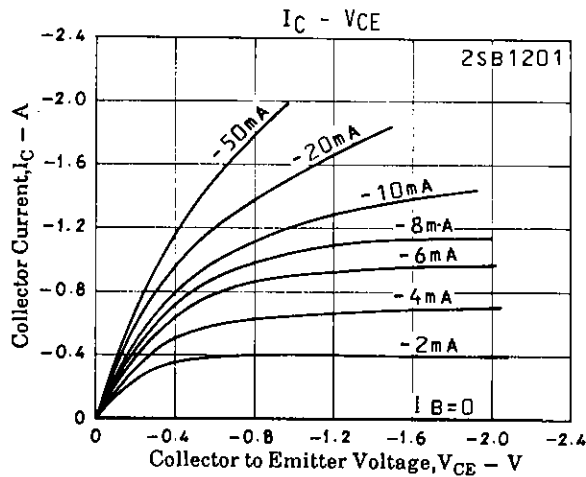
			min	typ	max	unit
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)1A, I_B = (-)50mA$		(-)0.9	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)6			V
Turn-on Time	t_{on}	See specified Test Circuit.		60		ns
Storage Time	t_{stg}			(450)550		ns
Fall Time	t_f			30		ns

Switching Time Test Circuit

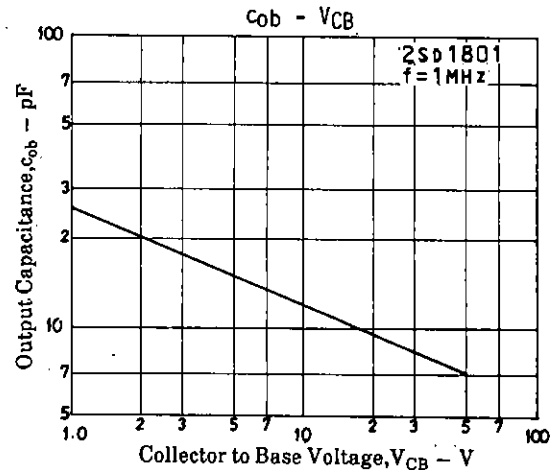
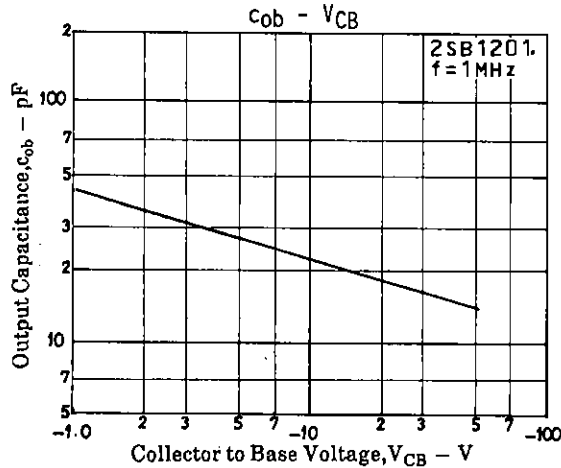
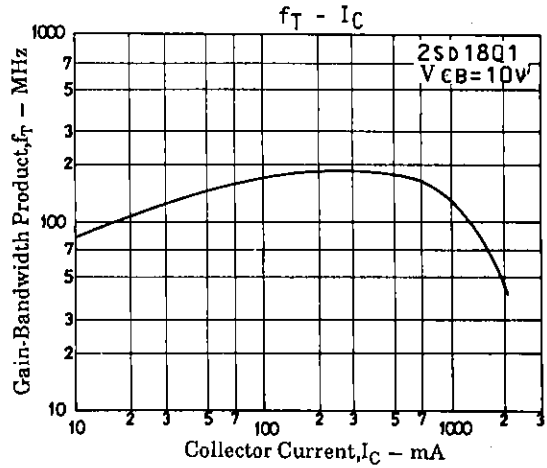
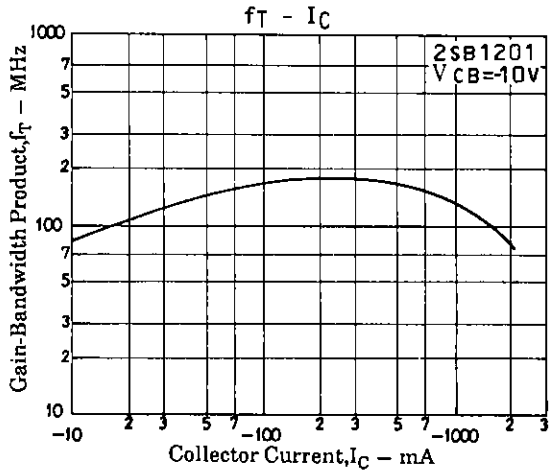
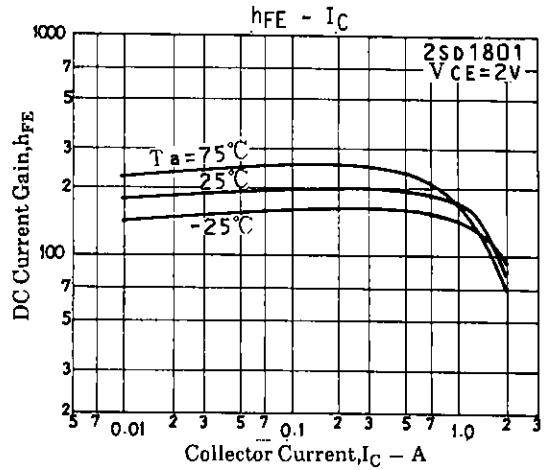
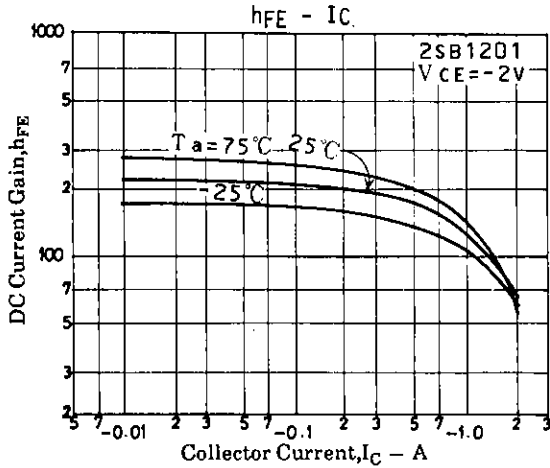
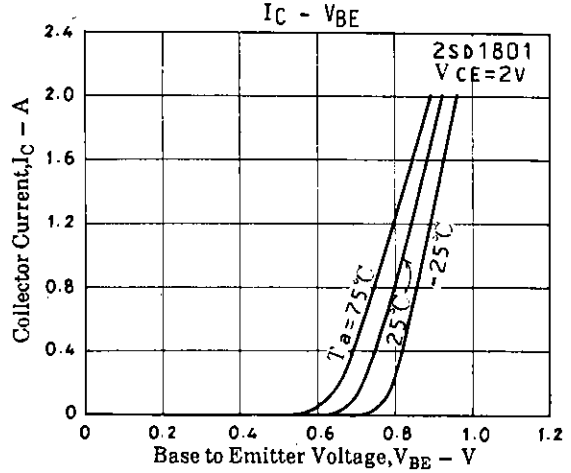
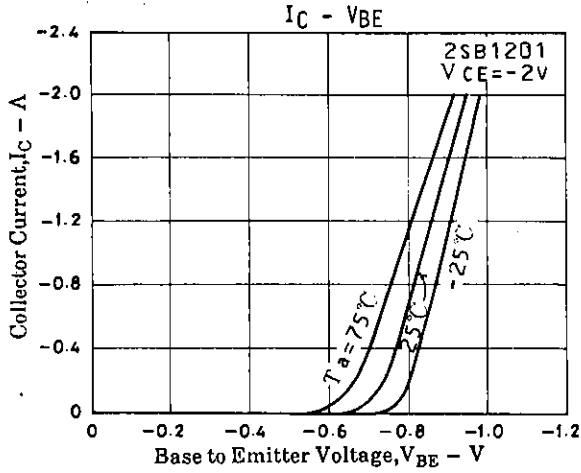


$I_C = 10 I_B = -10 I_{B2} = 500mA, V_{CC} = 25V$
 (For PNP, the polarity is reversed.)

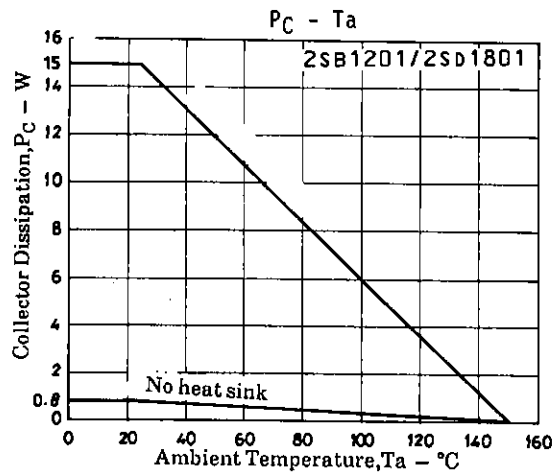
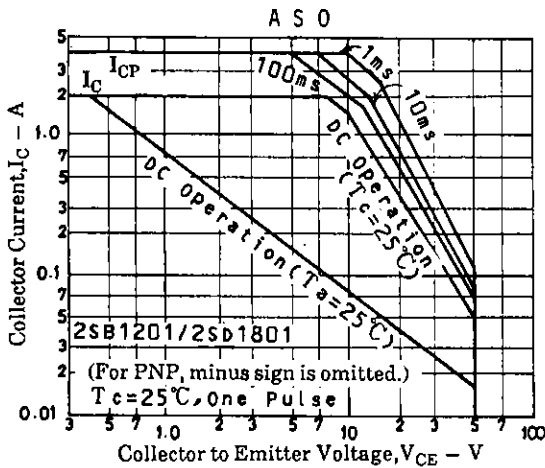
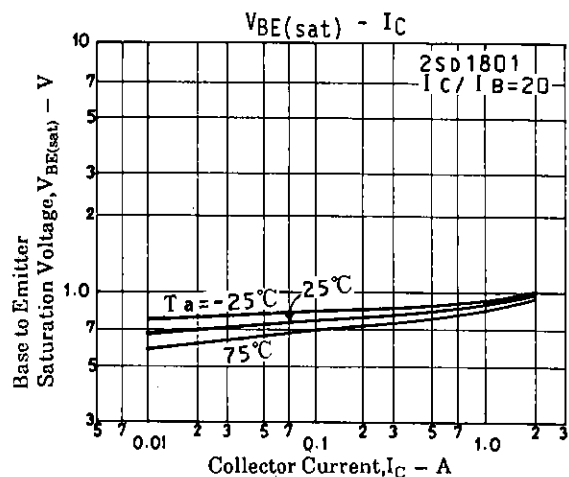
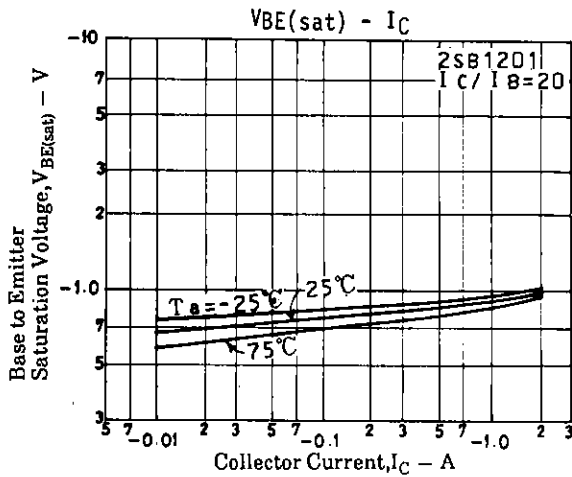
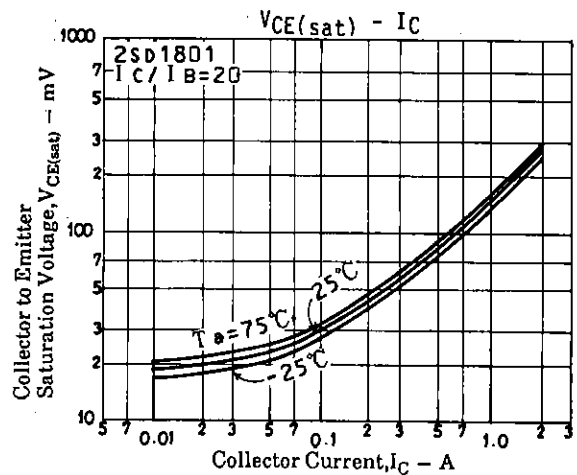
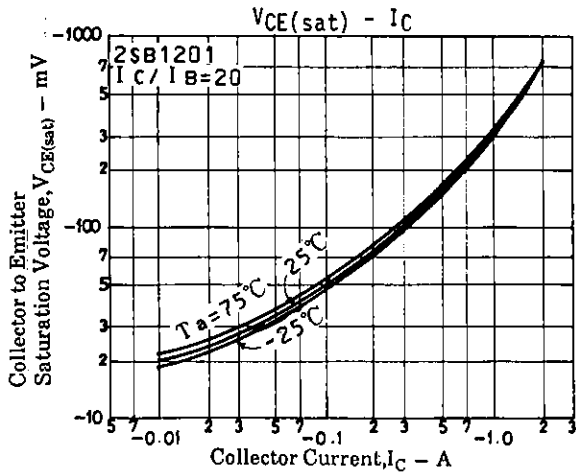
Unit (Resistance : Ω , Capacitance : F)



2SB1201/2SD1801



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