

**2SB1120****High-Current Driver Applications****Applications**

- Strobes, voltage regulators, relay drivers, lamp drivers.

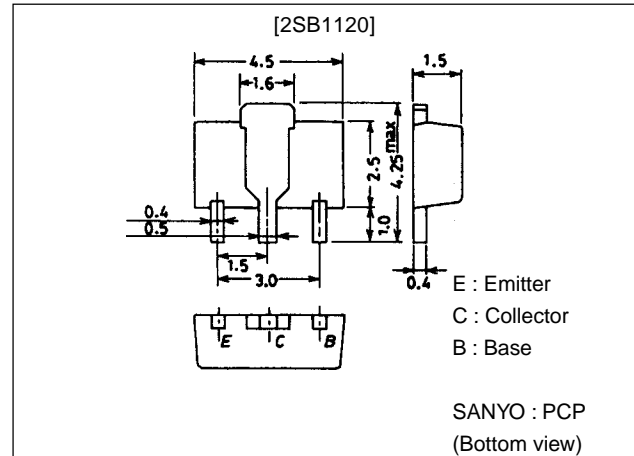
Features

- Low collector-to-emitter saturation voltage : $V_{CE(sat)max} = -0.45V$.
- Large current capacity : $I_C = -2.5A$, $I_{CP} = -5A$.
- Very small size making it easy to provide high-density, small-sized hybrid IC's.

Package Dimensions

unit:mm

2038

**Specifications****Absolute Maximum Ratings at $T_a = 25^\circ C$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-20	V
Collector-to-Emitter Voltage	V_{CEO}		-10	V
Emitter-to-Base Voltage	V_{EBO}		-7	V
Collector Current	I_C		-2.5	A
Collector Current (Pulse)	I_{CP}		-5	A
Collector Dissipation	P_C		500	mW
		Mounted on ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -16V$, $I_E = 0$			-100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V$, $I_C = 0$			-100	nA
DC Current Gain	h_{FE1}	$V_{CE} = -2V$, $I_C = -500mA$	100*		560*	
	h_{FE2}	$V_{CE} = -2V$, $I_C = -3A$	70			
Gain-Bandwidth Product	f_T	$V_{CE} = -10V$, $I_C = -50mA$		250		MHz

* ; The 2SB1120 is classified by 500mA h_{FE} as follows :

100	E	200	160	F	320	280	G	560
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Marking BC

h_{FE} rank : E, F, G

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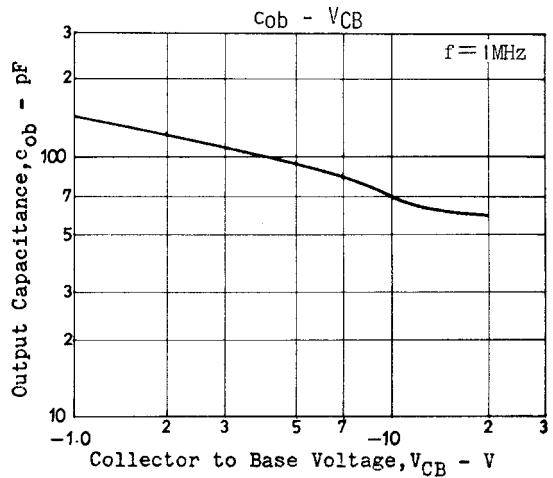
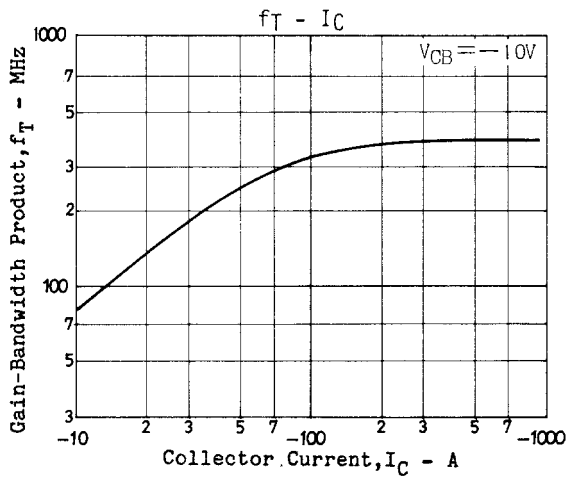
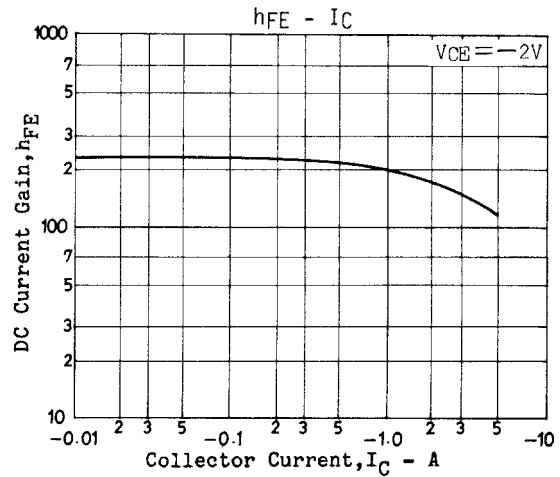
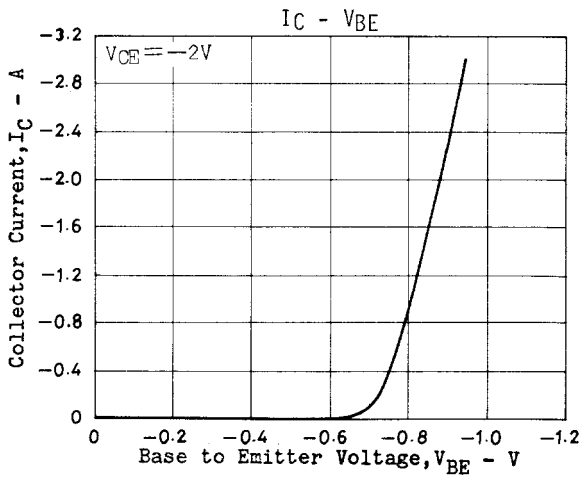
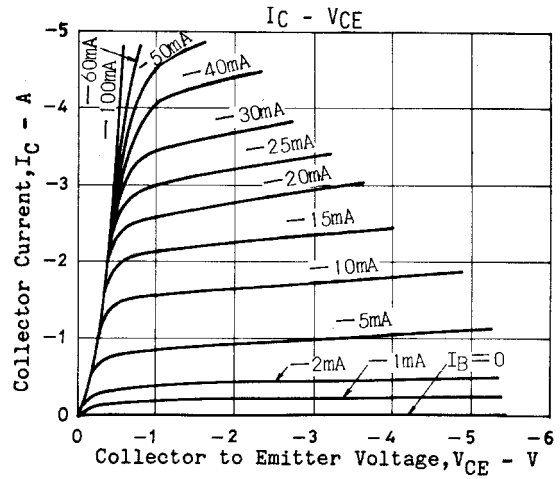
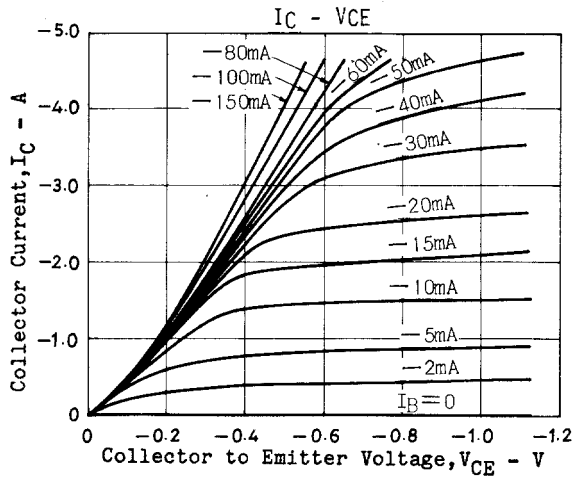
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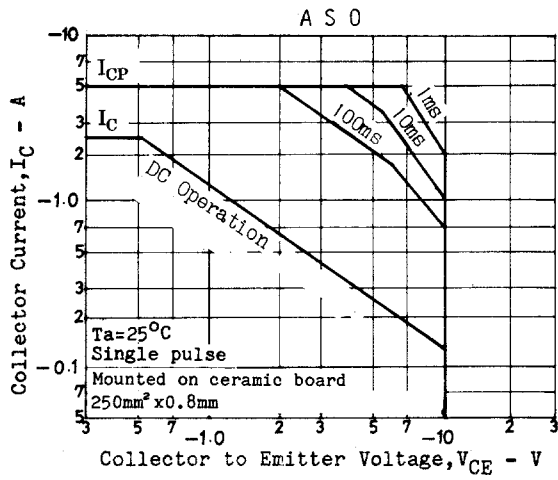
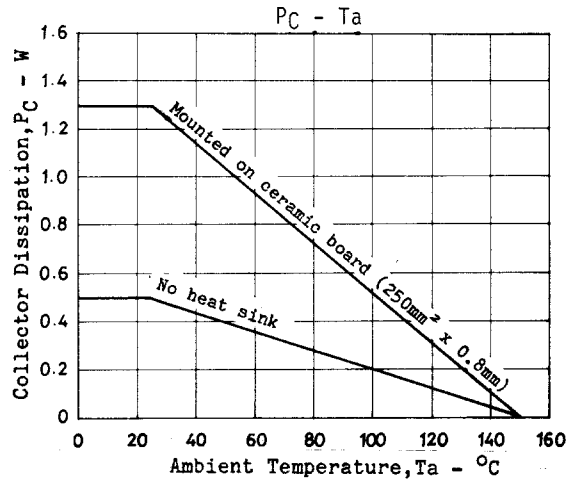
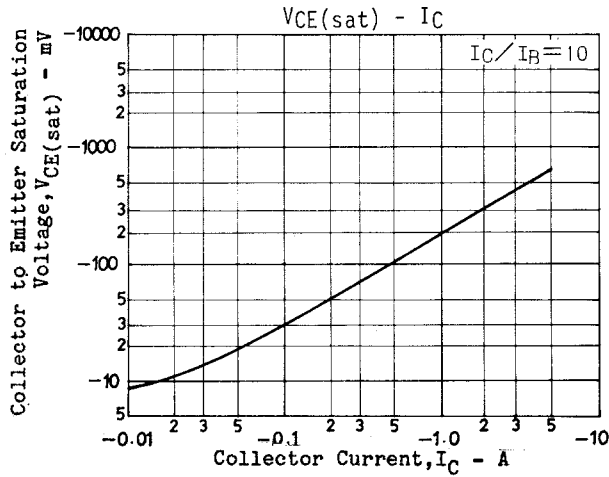
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5A, I_B = (-)0.15A$		-0.25	-0.45	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-10			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-7			V
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		70		pF



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