

No.1786A

2 S B 1 1 2 0

PNP/NPN Epitaxial Planar Silicon Transistor

## High-Current Driver Applications

## Applications

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

## **Features**

- . Low collector-to-emitter saturation volage (VCE(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

Absolute Maximum Ratings at Ta=	:25 <sup>0</sup> C		unit
Collector to Base Voltage	V <sub>CBO</sub>	<b>-</b> 20	V
Collector to Emitter Voltage	VCEO	-10	v
Emitter to Base Voltage	VEBO	<b>-</b> 7	V
Collector Current	IC	<b>-2.</b> 5	A
Collector Current(Pulse)	$I_{CP}$	<del>-</del> 5	A
Collector Dissipation	PC	500	mW
		on ceramic board (250mm <sup>2</sup> x 0.8mm) 1.3	W
Junction Temperature	Τj	150	ос
Storage Temperature	Tstg	-55 to +150	°C

<b>Electrical Characteristics</b>	at Ta=250	c	min	typ max	unit
Collector Cutoff Current	ICRO	$V_{CB}=-16V, I_{E}=0$		-100	nA
Emitter Cutoff Current	I <sub>EBO</sub>	$V_{EB} = -4V$ , $I_C = 0$		-100	nA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA	100 *	560	
	hFE(2)	V <sub>CE</sub> =-2V, I <sub>C</sub> =-3A	70		
Gain-Bandwidth Product	$\mathbf{f}_{\mathbf{T}}^{\mathbf{r}\mathbf{E}(\mathbf{z})}$	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA		250	$\mathtt{MHz}$
C-E Saturation Voltage	VCE(sat)	$I_{C} = -1.5A, I_{B} = -0.15A$	-(	0.25-0.45	V
C-B Breakdown Voltage	TOPICSALL	T 1011 A T - 0	-20		37

Gain-Bandwidth Product	$\mathbf{f}_{\mathbf{T}}^{\mathbf{T}}$	$V_{CE} = -10V$ , $I_{C} = -50mA$	250	$\mathtt{MHz}$
C-E Saturation Voltage	V <sub>CE(sat)</sub>	$I_{C} = -1.5A, I_{B} = -0.15A$	-0.25-0.45	V
C-B Breakdown Voltage	V(BR)CBO	$I_{C}=-10\mu A$ , $I_{E}=0$	-20	V
C-E Breakdown Voltage	V(BR)CEO	$I_{C}=-1$ mA, $R_{BE}=\infty$	-10	V
E-B Breakdown Voltage	V(BR)EBO	I <sub>E</sub> =-10μΑ, I <sub>C</sub> =0	-7	V
Output Capacitance	cob	$V_{CB}^2 = -10V, f = 1MHz$	70	-pF

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

100	E	200	160	F	320	280	G	560

Marking :BC

h<sub>FE</sub> rank :E,F,G

## Package Dimensions 2038

(unit:mm)

4.5

1.5

0.4

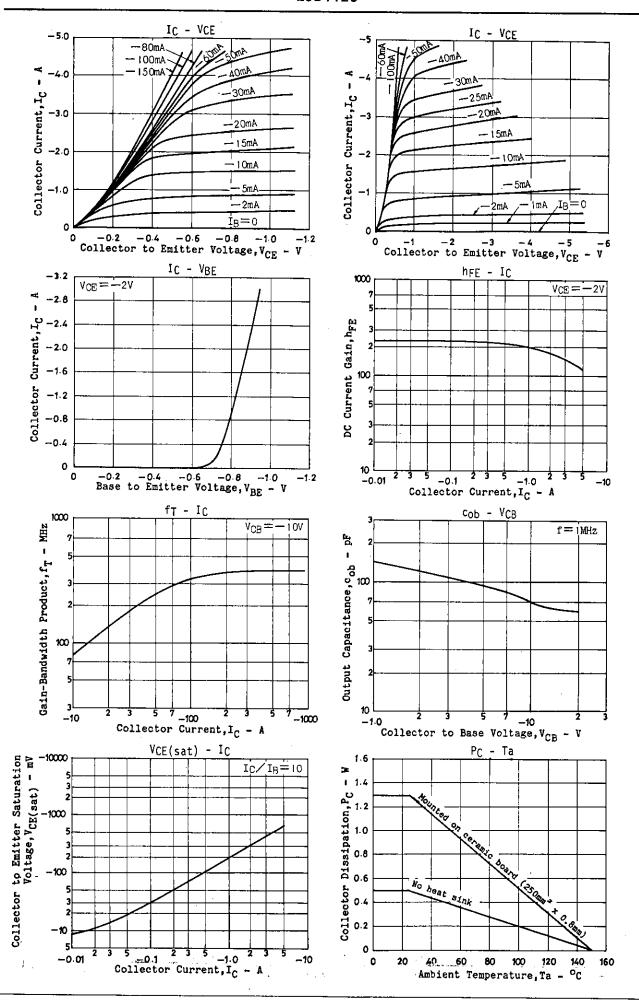
0.5

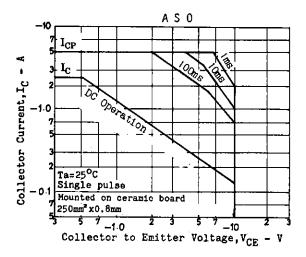
1.5

0.4

E: Emitter
C: Collector
B: Base

SANYO: PCP (Bottom View)





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