

<b>SANYO</b>	No.2069A	<b>2SB1140</b>
		PNP Epitaxial Planar Silicon Transistor
<b>20V/5A Switching Applications</b>		

**Applications**

- Strobes, power supplies, relay drivers, lamp drivers.

**Features**

- Adoption of FBET, MBIT processes.
- Low saturation voltage.
- Large current capacitx.
- Short switching time.

**Absolute Maximum Ratings at Ta = 25°C**

			unit
Collector-to-Base Voltage	V <sub>CB0</sub>	-25	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>	-20	V
Emitter-to-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-5	A
Collector Current (Pulse)	I <sub>CP</sub>	-8	A
Base Current	I <sub>B</sub>	-0.5	A
Collector Dissipation	P <sub>C</sub>	1.5	W
		10	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

T<sub>c</sub> = 25°C

**Electrical Characteristics at Ta = 25°C**

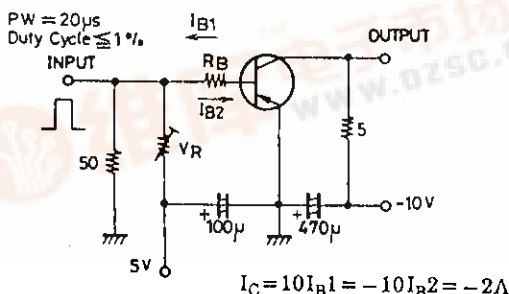
			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = -20V, I <sub>E</sub> = 0			-500	nA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0			-500	nA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA	100*		400*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = -2V, I <sub>C</sub> = -4A	60			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -200mA		320		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f = 1MHz		60		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -3A, I <sub>B</sub> = -60mA	-250	-500		mV
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -3A, I <sub>B</sub> = -60mA	-1.0	-1.3		V

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\*: The 2SB1140 is classified by 500mA h<sub>FE</sub> as follows

100 R	200	140 S	280	200 T	400
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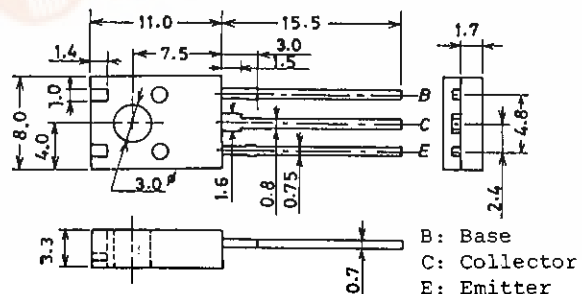
**Switching Time Test Circuit**



Unit (Resistance : Ω, Capacitance : F)

**Package Dimensions 2042A**

(unit : mm)

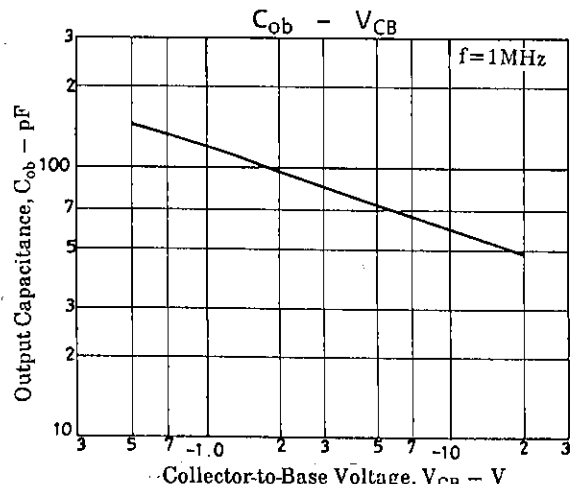
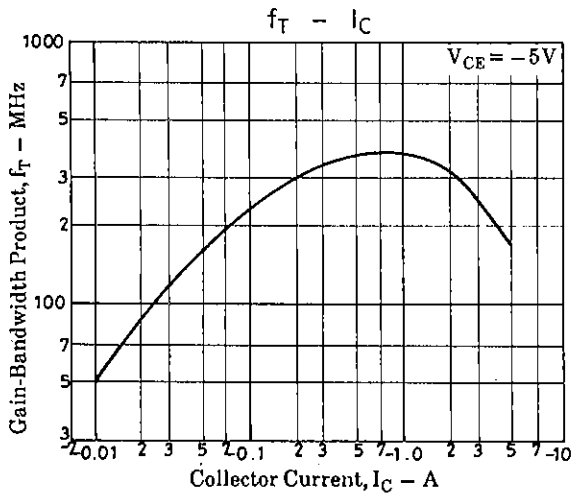
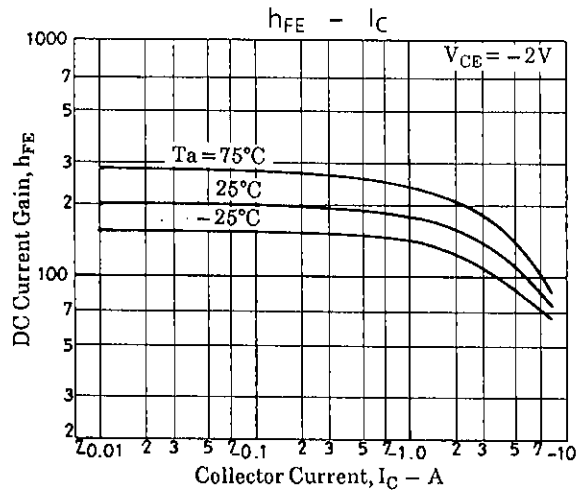
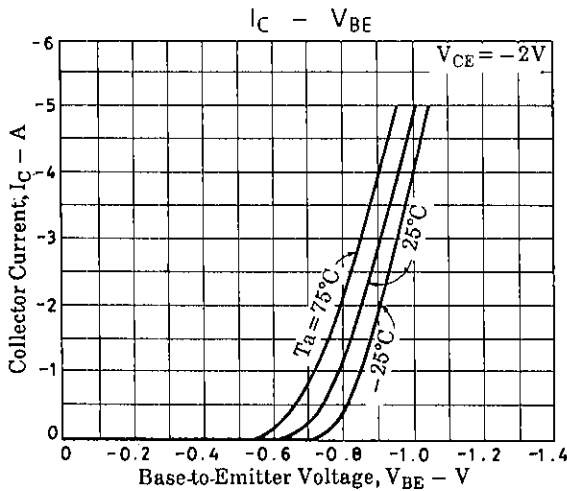
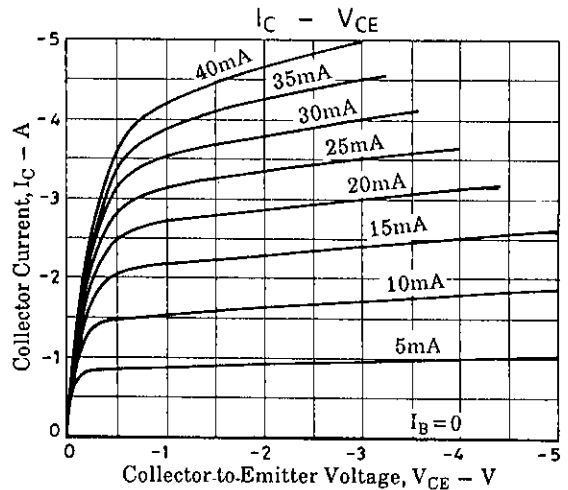
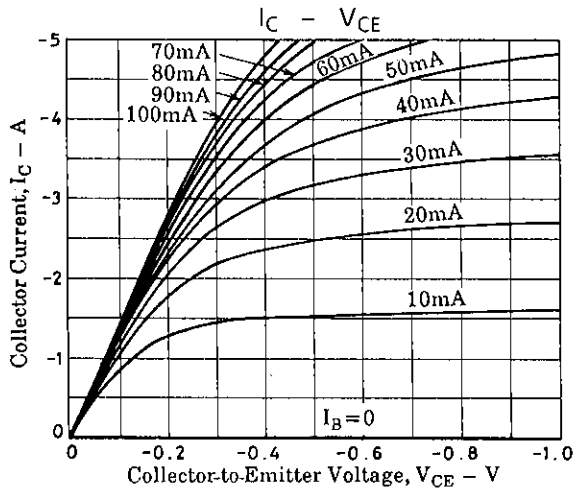


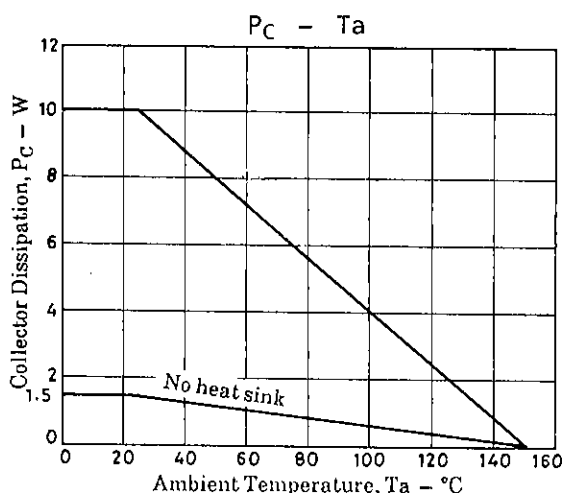
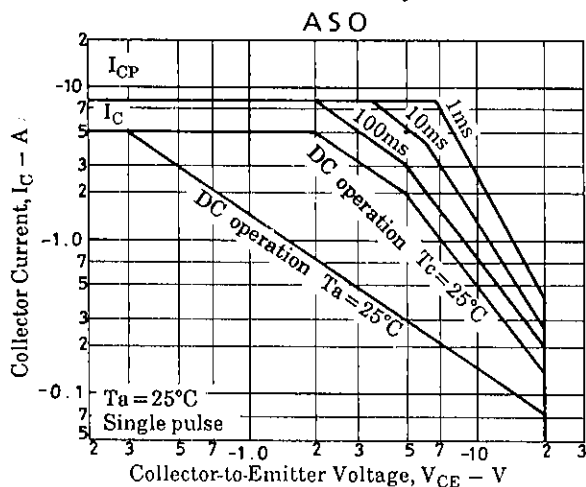
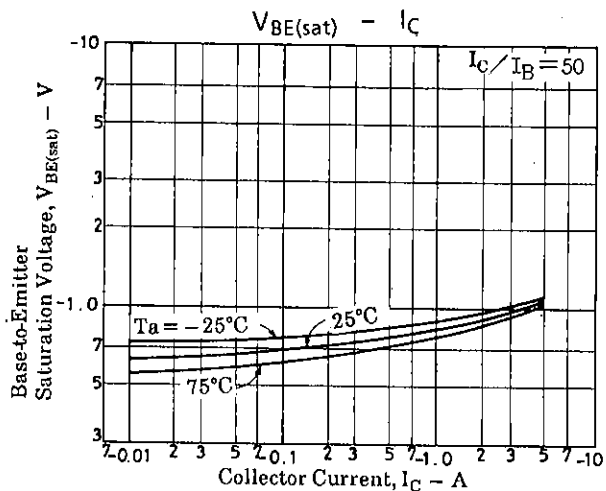
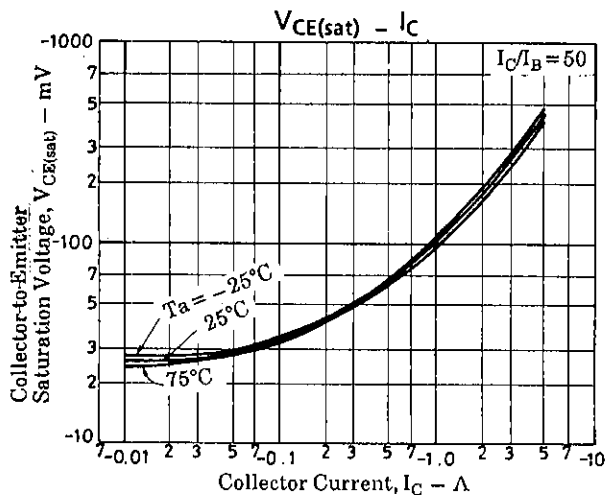
SANYO: T0126ML

## 2SB1140

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			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Turn-on Time	$t_{on}$	See specified Test Circuit.		40		ns
Storage Time	$t_{stg}$	"		200		ns
Fall Time	$t_f$	"		10		ns





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