

<b>SANYO</b>	No.2555A	<b>2SB1302</b>
	PNP Epitaxial Planar Silicon Transistor High-Current Switching Applications	

**Applications**

- . DC-DC converters, motor drivers, relay drivers, lamp drivers

**Features**

- . Adoption of FBET, MBIT processes
- . Low collector to emitter saturation voltage
- . Large current capacity
- . Fast switching speed
- . Very small size making it easy to provide high-density, small-sized hybrid ICs

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

			unit
Collector to Base Voltage	V <sub>CB0</sub>	-25	V
Collector to Emitter Voltage	V <sub>CEO</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
Collector Dissipation	P <sub>C</sub>	1.3	W
		Mounted on ceramic board (250mm <sup>2</sup> x 0.8mm)	
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°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

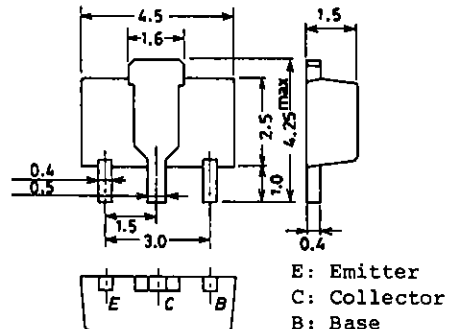
Continued on next page.

\*: The 2SB1302 is classified by 500mA h<sub>FE</sub> as follows:

100	R	200	140	S	280	200	T	400
-----	---	-----	-----	---	-----	-----	---	-----

Marking : BJ  
h<sub>FE</sub> rank : R,S,T

**Package Dimensions 2038**  
(unit:mm)



E: Emitter  
C: Collector  
B: Base

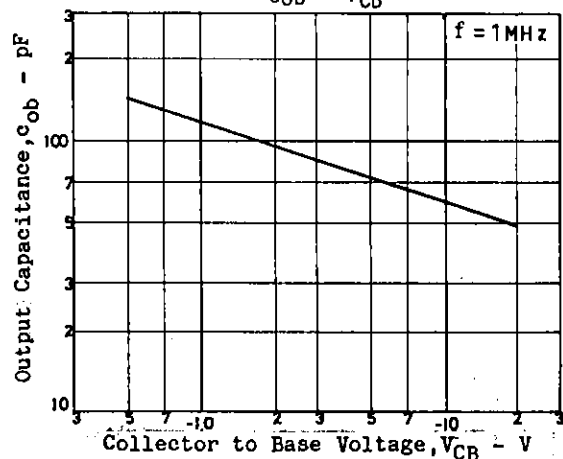
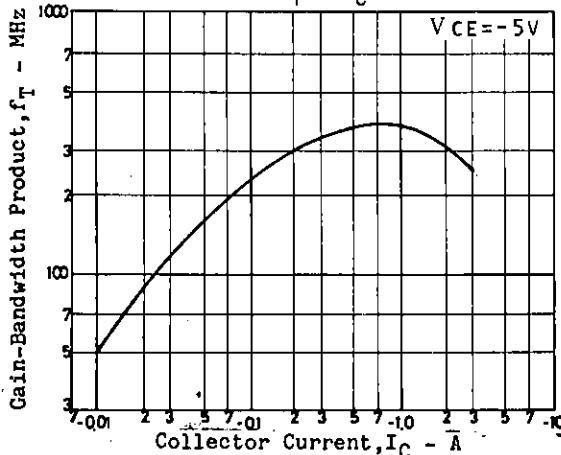
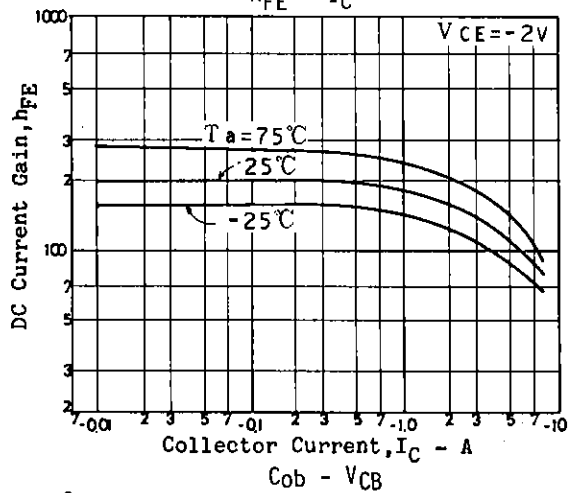
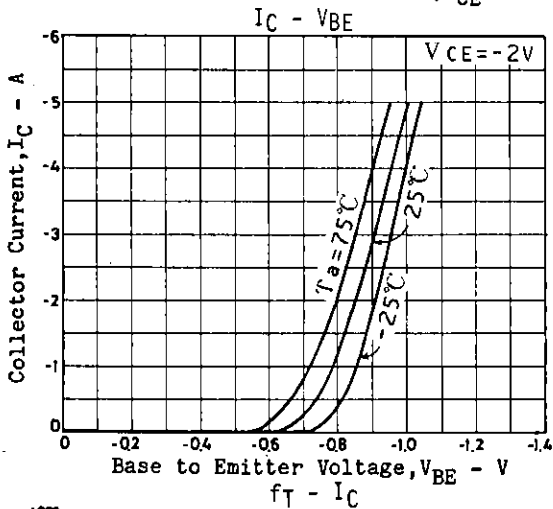
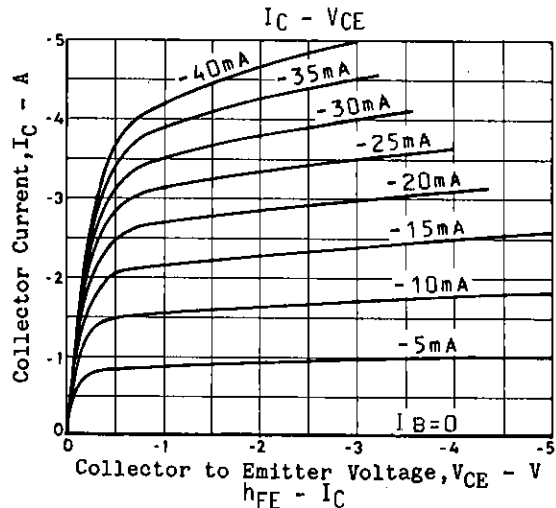
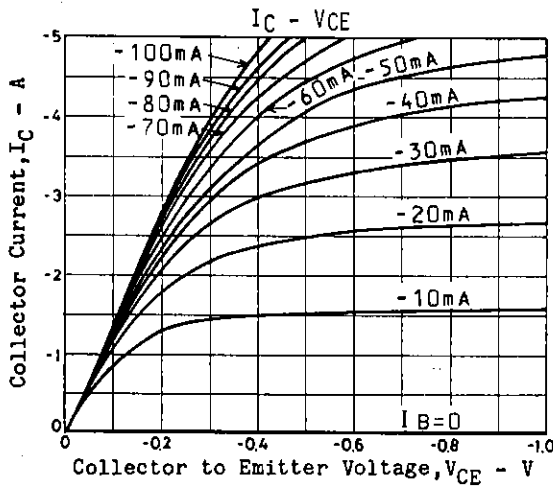
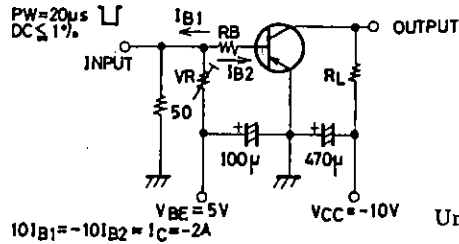
SANYO: PCP  
(Bottom View)

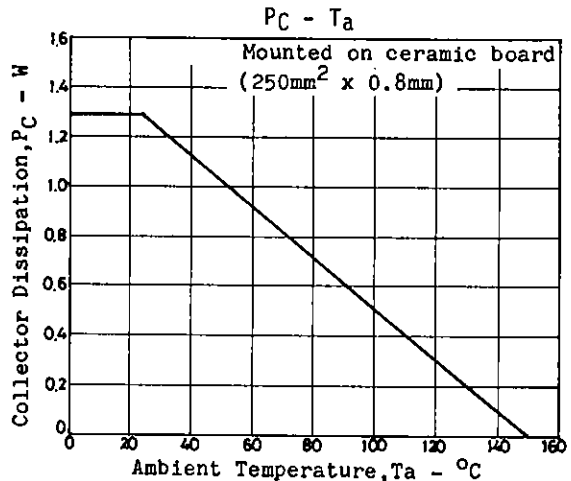
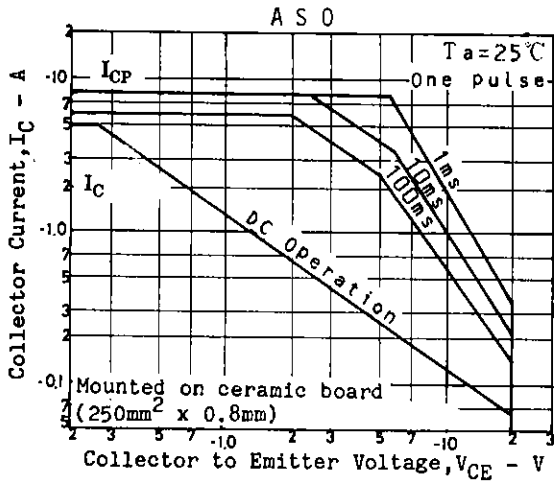
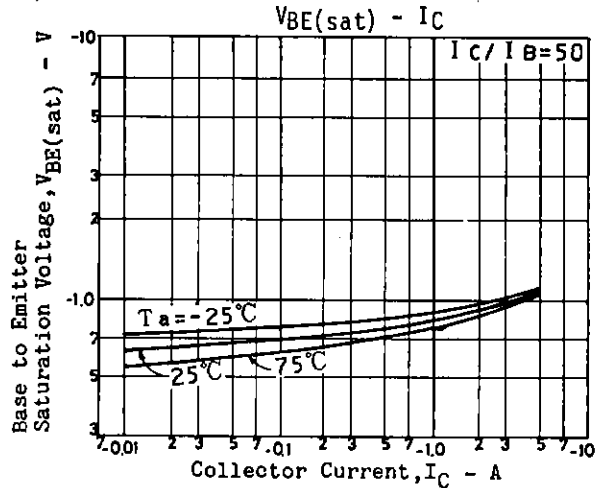
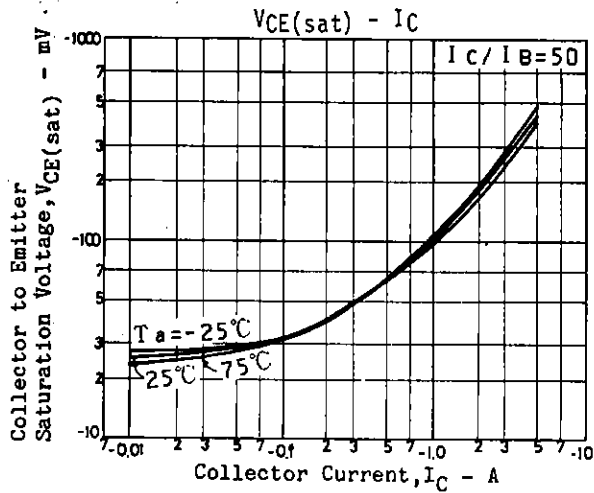
2SB1302

Continued from preceding page.

			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

Switching Time Test Circuit





■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.