

<b>SANYO</b>	No. 2930A	<b>2SC4306</b>
	NPN Epitaxial Planar Silicon Transistor	
High-Current Switching Applications		

**Features**

- Adoption of FBET, MBIT processes.
- Low saturation voltage.
- Fast switching speed.
- Large current capacity.
- Small and slim package making it easy to make 2SC4306-used set smaller

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

			unit
Collector to Base Voltage	V <sub>CB0</sub>	30	V
Collector to Emitter Voltage	V <sub>CE0</sub>	20	V
Emitter to Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	8	A
Collector Current(Pulse)	I <sub>CP</sub>	12	A
Base Current	I <sub>B</sub>	1.5	A
Collector Dissipation	P <sub>C</sub>	1	W
		15	W
		150	°C
Junction Temperature	T <sub>j</sub>		
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			1	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0			1	μA
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> = 6A	70			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 500mA		250		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> = 5A, I <sub>B</sub> = 250mA		220	400	mV
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 5A, I <sub>B</sub> = 250mA		1	1.3	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	30			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞	20			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V

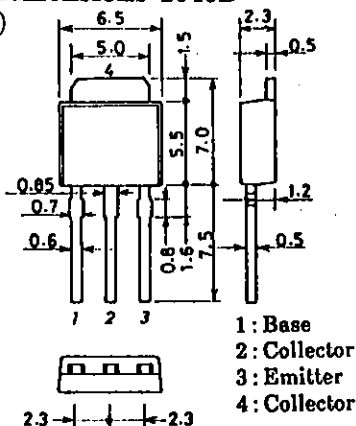
Continued on next page.

\* : The 2SC4306 is classified by 500mA h<sub>FE</sub> as follows :

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

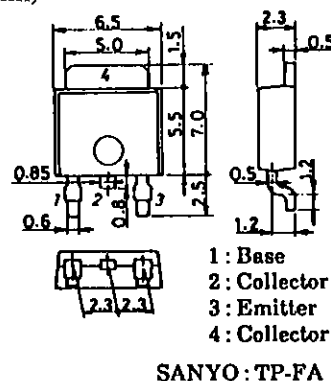
**Package Dimensions 2045B**

(unit : mm)



**Package Dimensions 2044B**

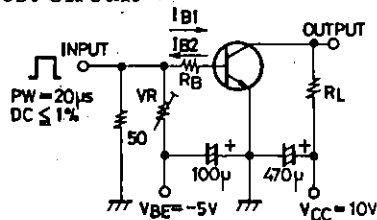
(unit : mm)



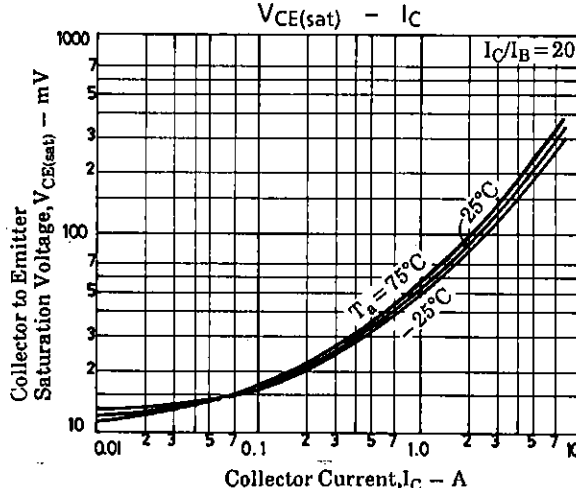
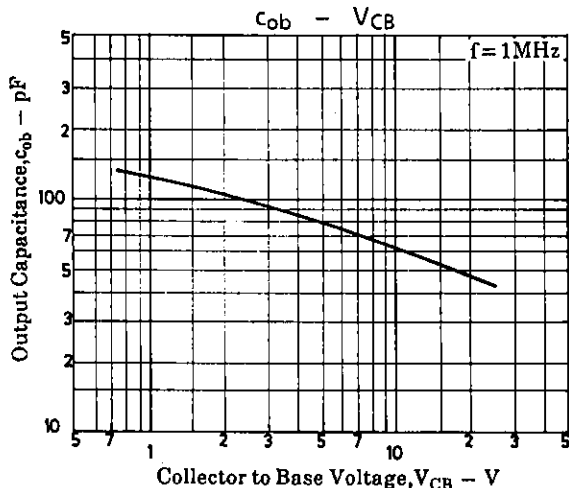
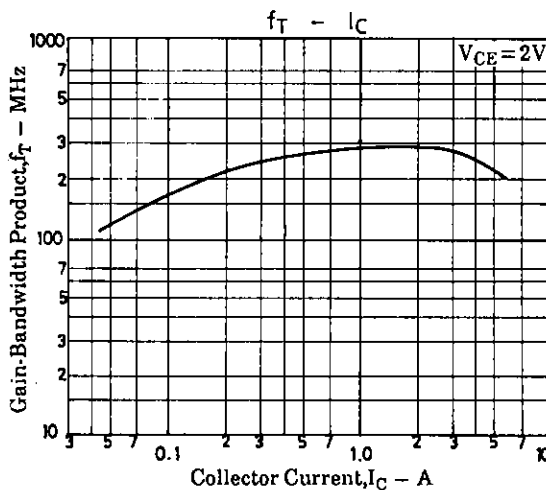
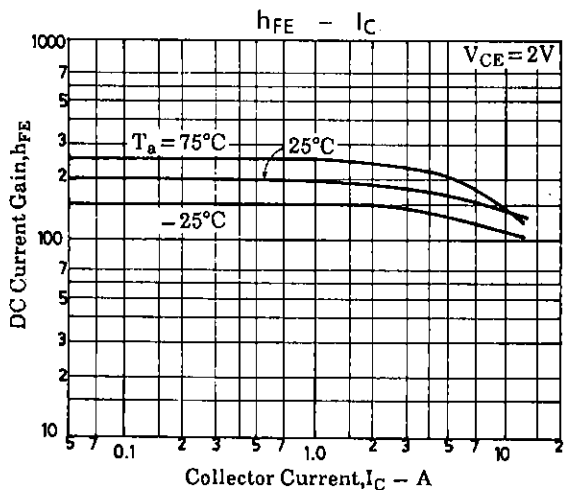
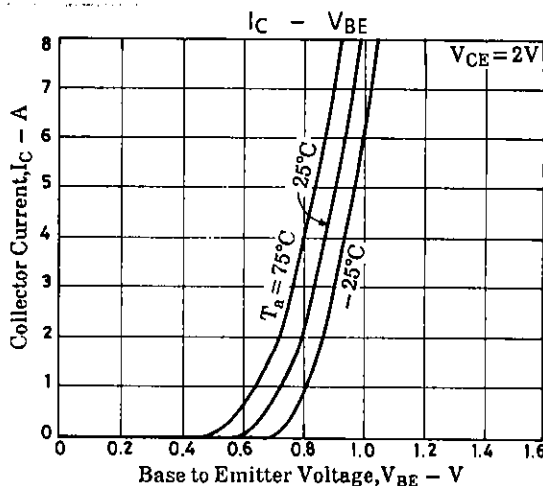
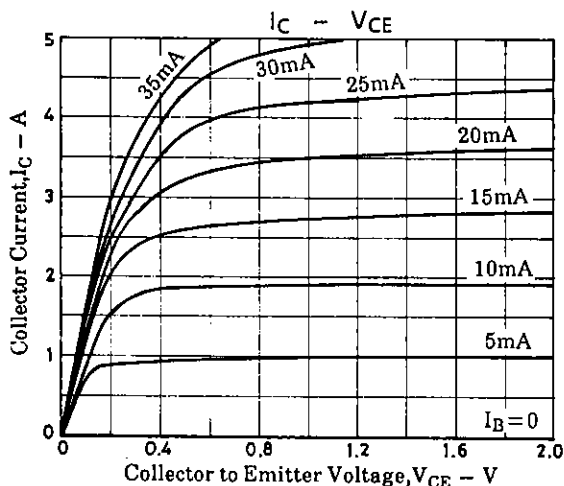
Continued from preceding page.

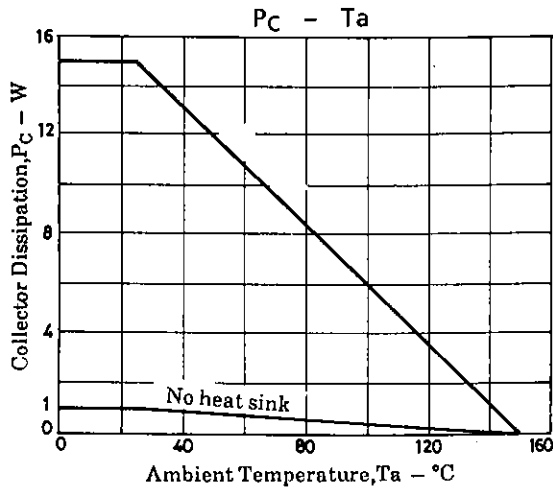
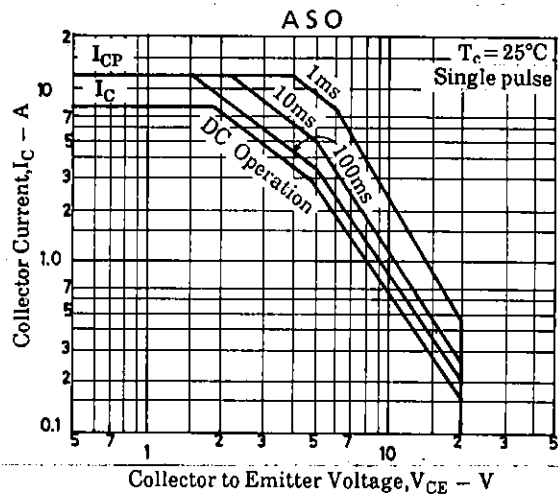
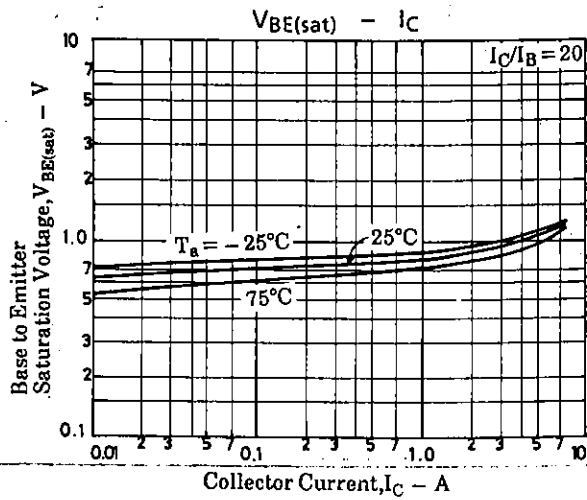
		min	typ	max	unit
Turn-on Time	$t_{on}$		30	300	ns
Storage Time	$t_{stg}$		250	1000	ns
Fall Time	$t_f$		15	150	ns

Switching Time Test Circuit



$20I_{B1} = -20I_{B2} = I_C = 5A$  Unit (Resistance :  $\Omega$ , Capacitance : F)





■ 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.