

**SANYO**

No.2911

**2SB1396**

PNP Epitaxial Planar Silicon Transistor

DC-DC Converter,  
Motor Driver Applications**Features**

- Adoption of FBET, MBIT processes
- Large current capacity
- Low collector to emitter saturation voltage
- 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>	-15	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-10	V
Emitter to Base Voltage	V <sub>EBO</sub>	-7	V
Collector Current	I <sub>C</sub>	-3	A
Collector Current(Pulse)	I <sub>CP</sub>	-5	A
Collector Dissipation	P <sub>C</sub>	Mounted on ceramic PCB (250mm <sup>2</sup> × 0.8mm)	1.3 W
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> = -12V, I <sub>E</sub> = 0			-100	nA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -6V, I <sub>C</sub> = 0			-100	nA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.5A	*140		*560	
	h <sub>FE(2)</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -3A	70			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.3A		400		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = -10V, f = 1MHz		26		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1.5A, I <sub>B</sub> = -30mA	-220	-400		mV
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -1.5A, I <sub>B</sub> = -30mA	-0.9	-1.2		V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA, I <sub>E</sub> = 0	-15			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-10			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	-7			V

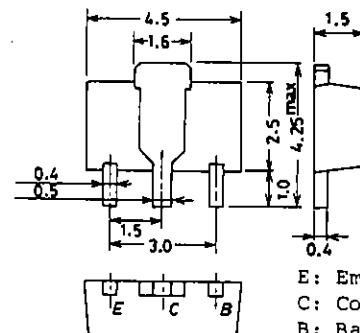
\* : The 2SB1396 is classified by 0.5A h<sub>FE</sub> as follows:

140	S	280	200	T	400	280	U	560
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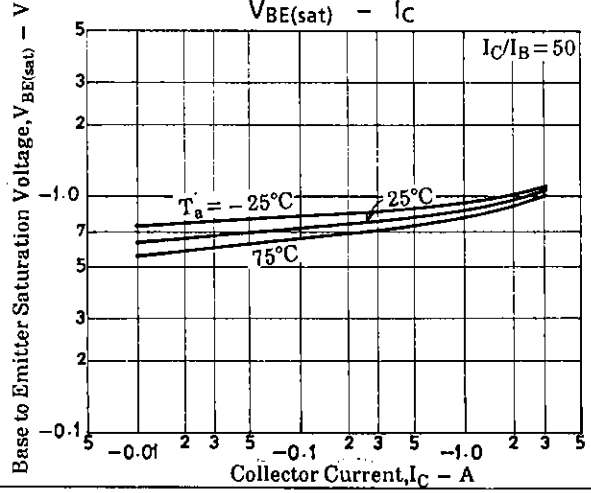
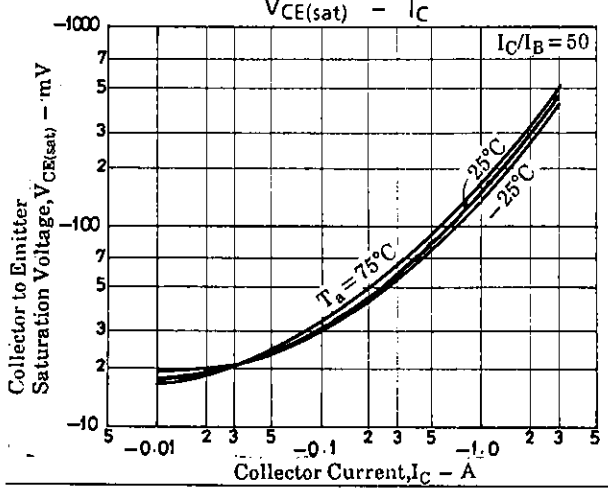
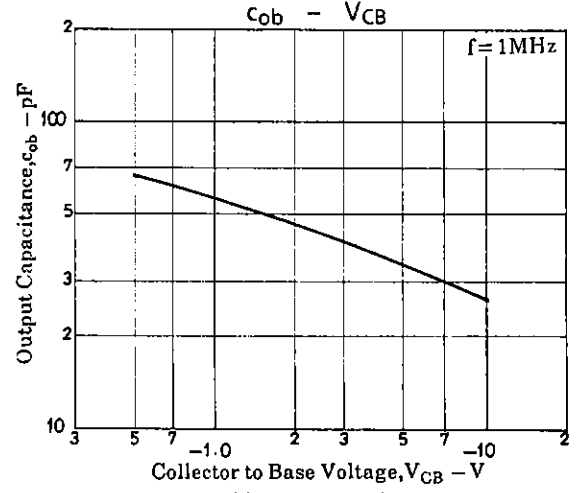
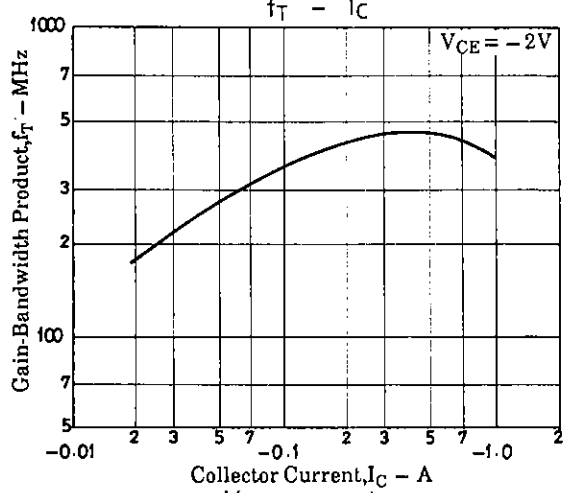
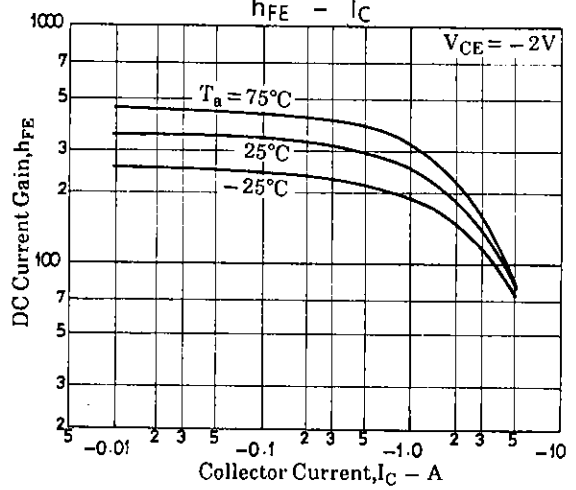
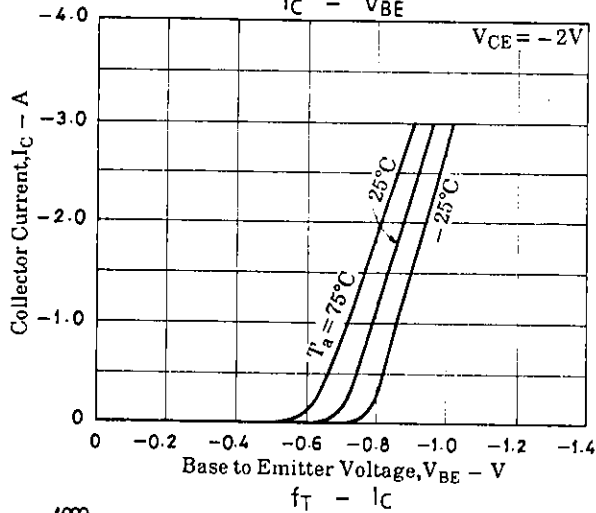
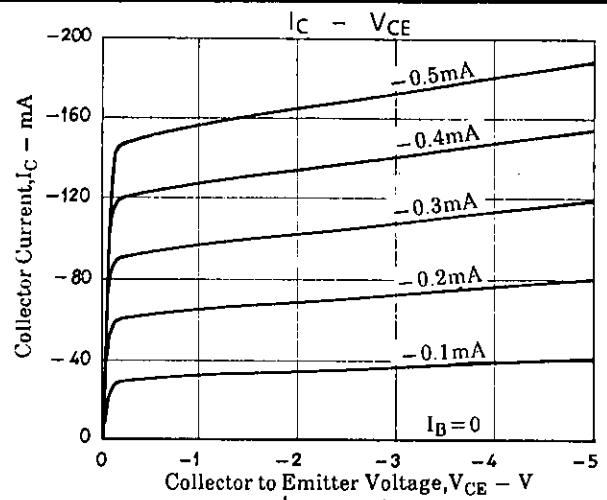
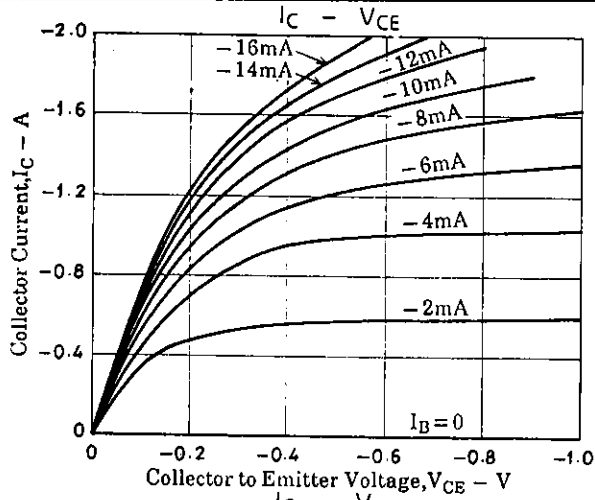
Marking : BO

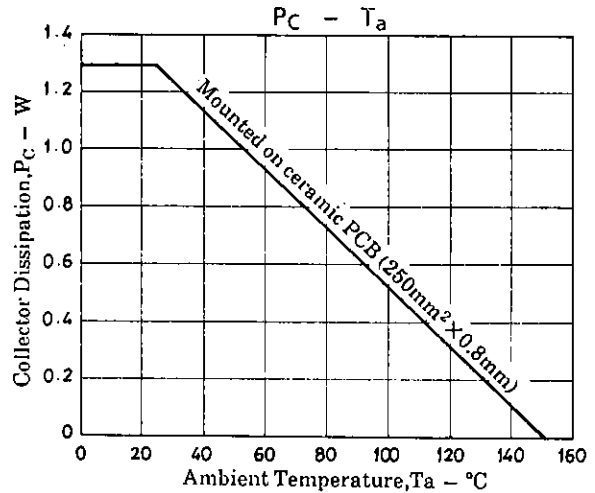
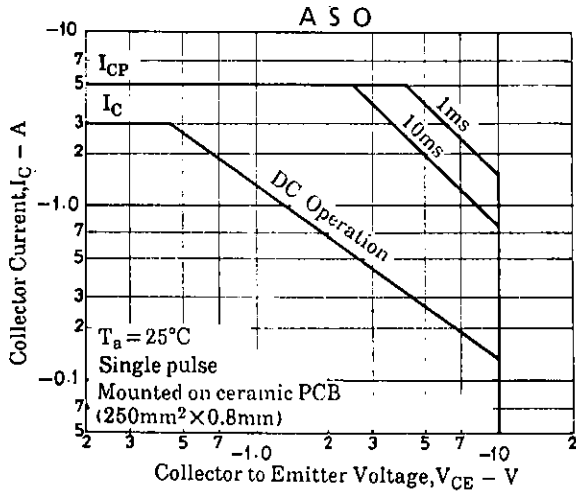
h<sub>FE</sub> rank : S,T,U**Package Dimensions 2038**

(unit : mm)

E: Emitter  
C: Collector  
B: BaseSANYO: PCP  
(Bottom View)

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