



SANYO Semiconductors

DATA SHEET

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 IC's.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		-15	V
Collector-to-Emitter Voltage	VCEO		-10	V
Emitter-to-Base Voltage	VEBO		-7	V
Collector Current	IC		-3	A
Collector Current (Pulse)	ICP		-5	A
Collector Dissipation	PC	Mounted on a ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =-12V, I _E =0A			-100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-6V, I _C =0A			-100	nA

Marking : BO

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2SB1396

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	hFE1	VCE=-2V, IC=-0.5A	140*		560*	
	hFE2	VCE=-2V, IC=-3A	70			
Gain-Bandwidth Product	fT	VCE=-2V, IC=-0.3A		400		MHz
Output Capacitance	Cob	VCB=-10V, f=1MHz		26		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=-1.5A, IB=-30mA		-220	-400	mV
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=-1.5A, IB=-30mA		-0.9	-1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=-10μA, IE=0A	-15			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=-1mA, RBE=∞	-10			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=-10μA, IC=0A	-7			V

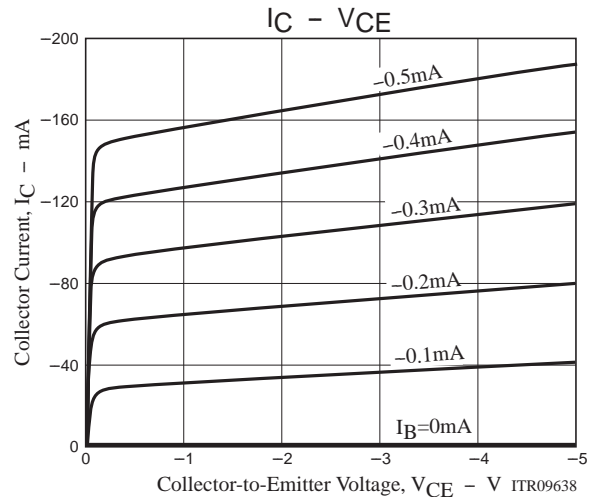
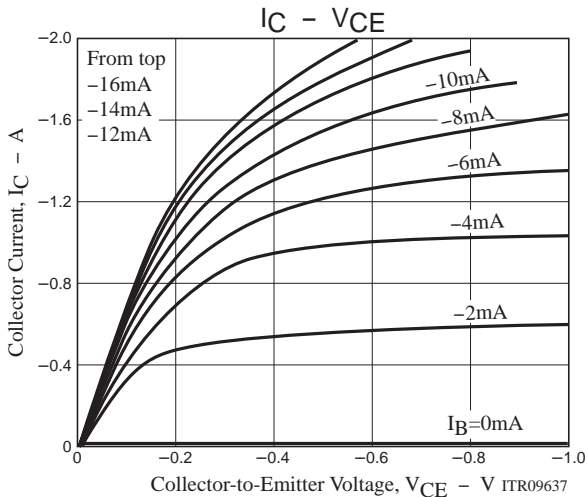
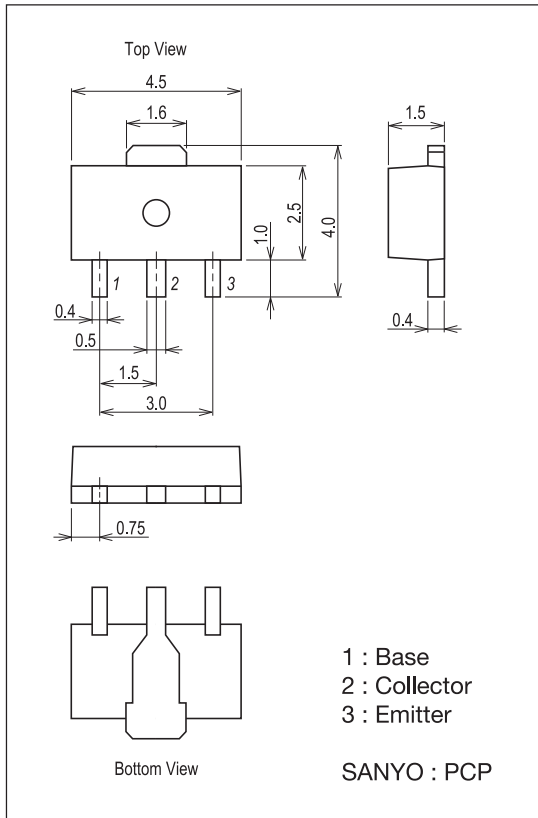
*: The 2SB1396 is classified by 0.5A hFE as follows:

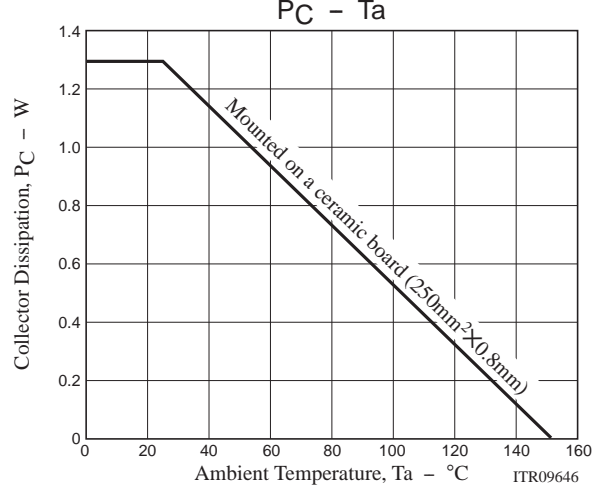
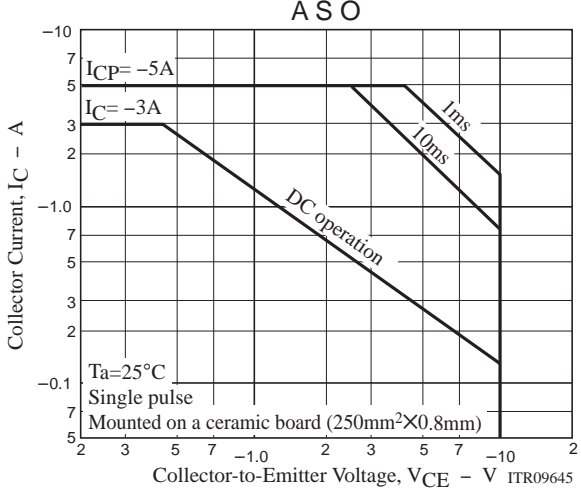
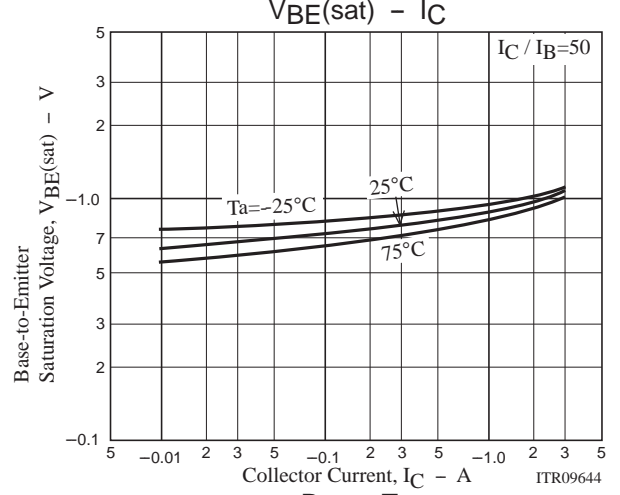
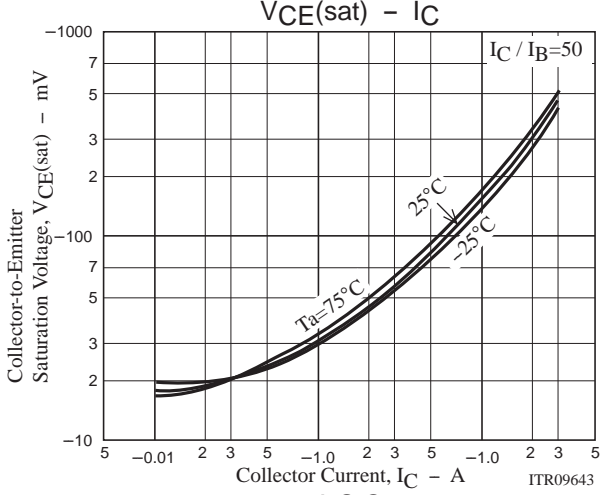
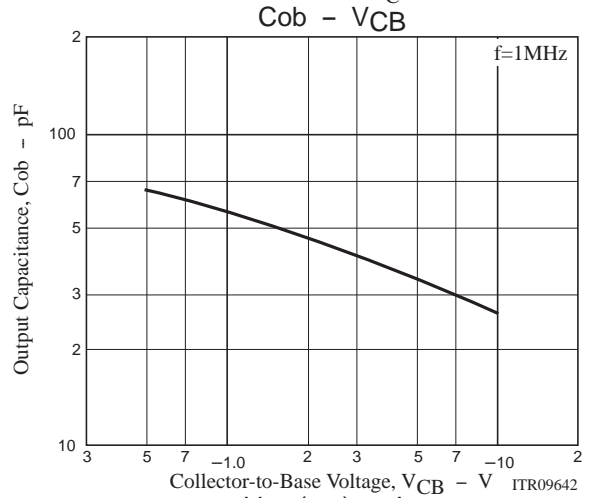
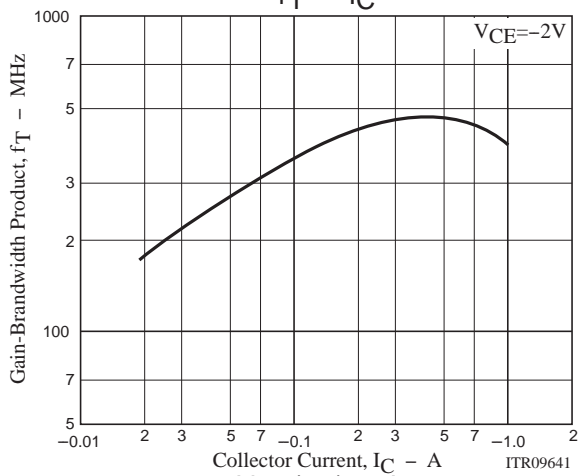
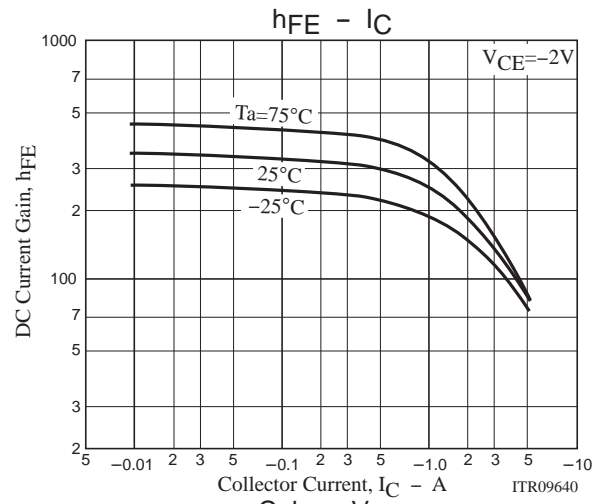
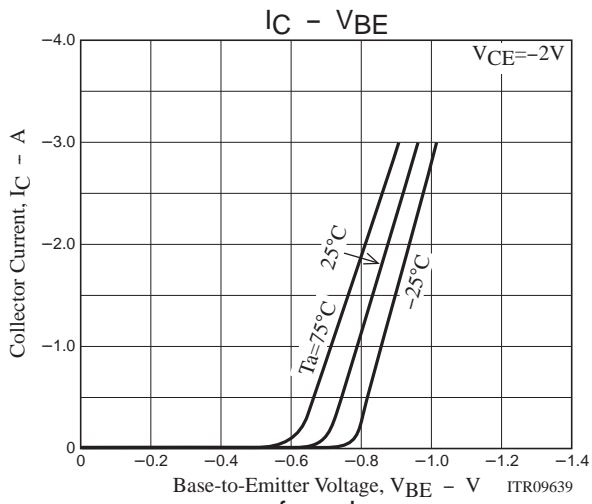
Rank	S	T	U
hFE	140 to 280	200 to 400	280 to 560

Package Dimensions

unit : mm (typ)

7007B-004





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