



SANYO Semiconductors

DATA SHEET

ECH8101

 — PNP Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- High-power IGBT / MOSFET gate drivers, DC / DC converters, lamp drivers, motor drivers.

Features

- Adoption of FBET, MBIT process.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High speed switching.
- High allowable power dissipation.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		-50	V
Collector-to-Emitter Voltage	VCES		-50	V
Collector-to-Emitter Voltage	VCEO		-50	V
Emitter-to-Base Voltage	VEBO		-6	V
Collector Current	IC		-10	A
Collector Current (Pulse)	ICP		-20	A
Base Current	IB		-1	A
Collector Dissipation	PC	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.6	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Marking : GA

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ECH8101

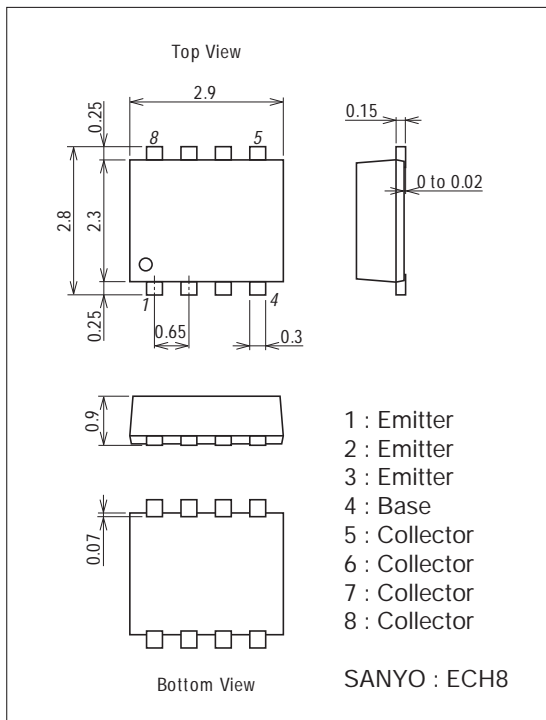
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} = -40V, I _E = 0A			-0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} = -4V, I _C = 0A			-0.1	μA
DC Current Gain	h _{FE1}	V _{CE} = -2V, I _C = -500mA	200		560	
	h _{FE2}	V _{CE} = -2V, I _C = -4A	140			
	h _{FE3}	V _{CE} = -2V, I _C = -10A	90			
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _C = -500mA		140		MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, f = 1MHz		115		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)1}	I _C = -6A, I _B = -300mA		-100	-170	mV
	V _{CE(sat)2}	I _C = -2A, I _B = -40mA		-70	-120	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C = -2A, I _B = -40mA		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E = 0A	-50			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CES}	I _C = -100μA, R _{BE} = 0Ω	-50			V
	V _{(BR)CEO}	I _C = -1mA, R _{BE} = ∞	-50			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E = -10mA, I _C = 0A	-6			V
Turn-On Time	t _{on}	See specified Test Circuit.		80		ns
Storage Time	t _{stg}	See specified Test Circuit.		137		ns
Fall Time	t _f	See specified Test Circuit.		23		ns

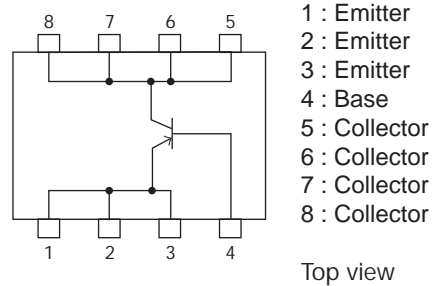
Package Dimensions

unit : mm (typ)

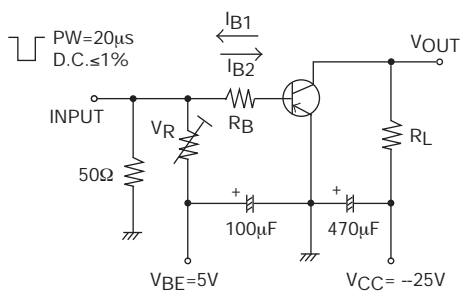
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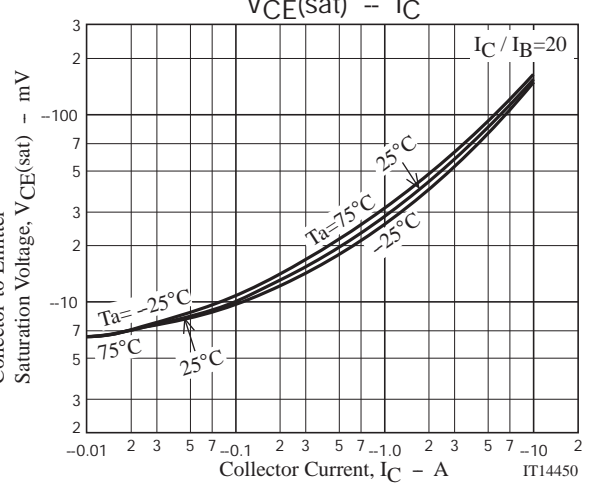
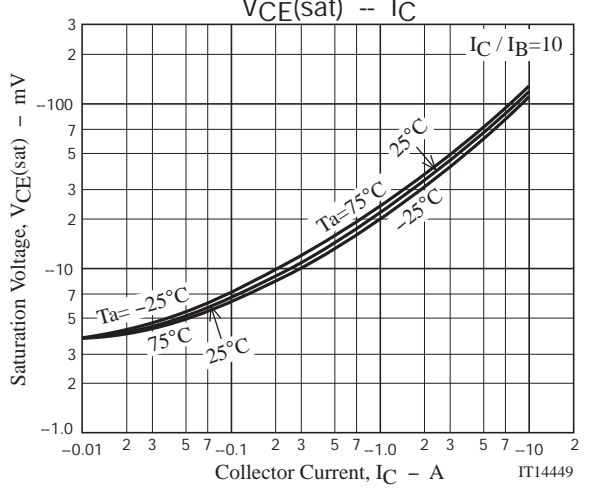
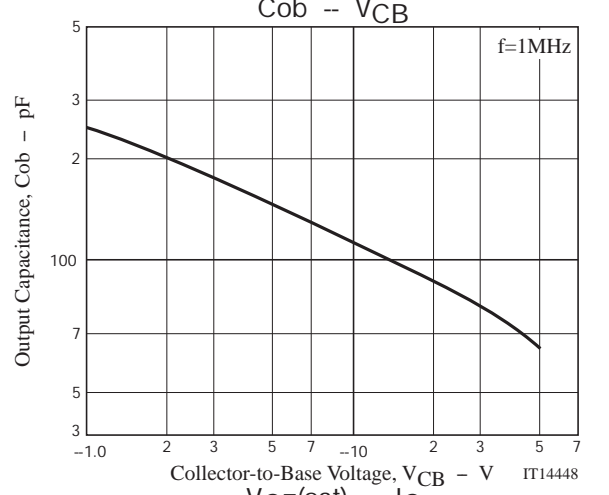
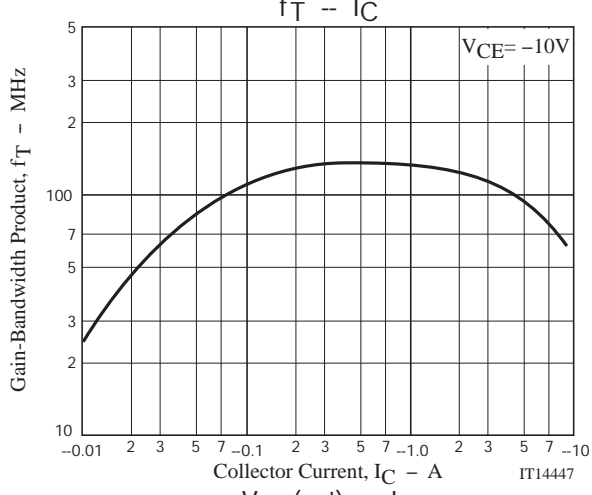
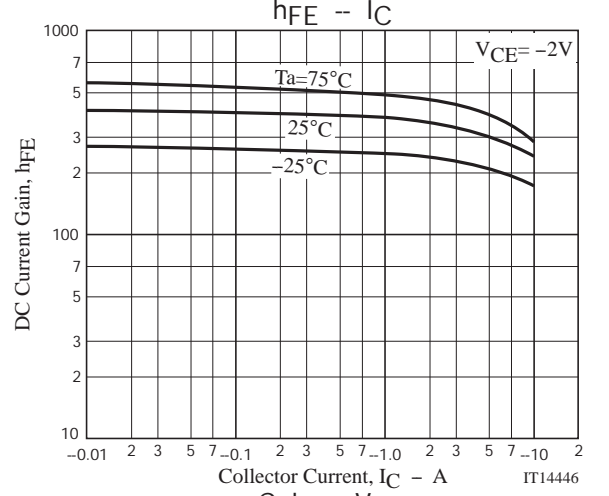
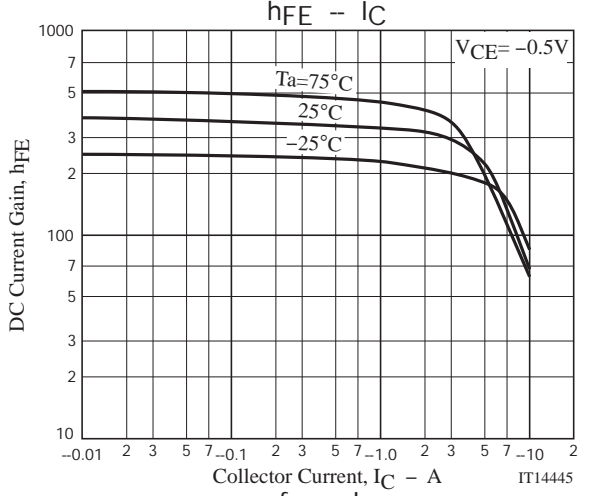
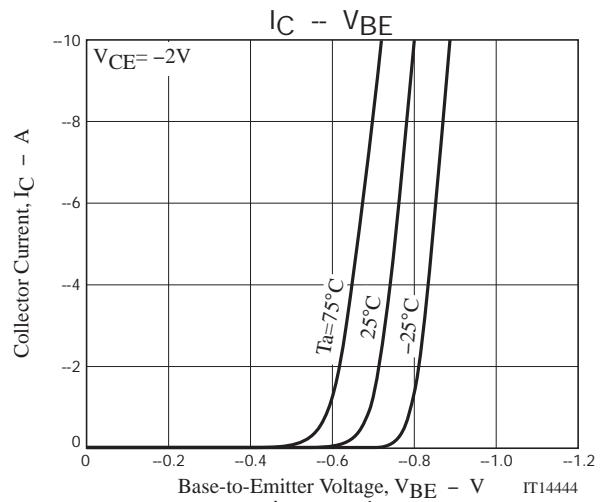
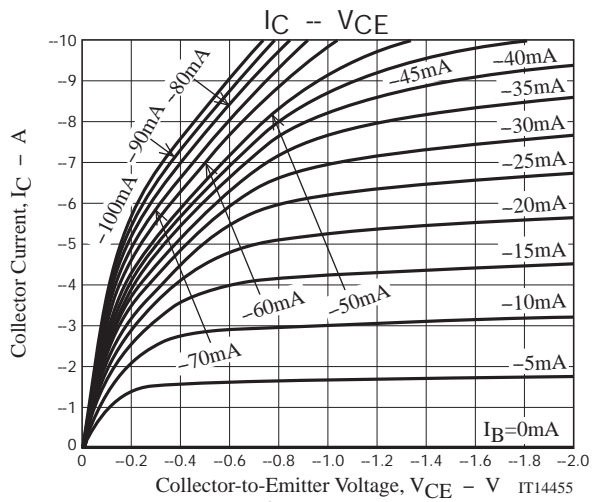
Electrical Connection

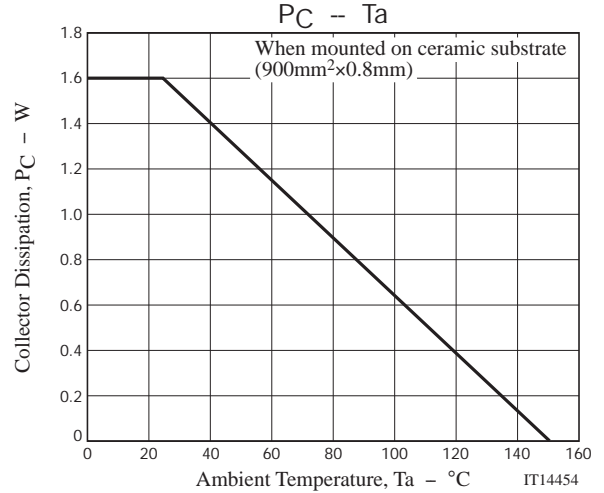
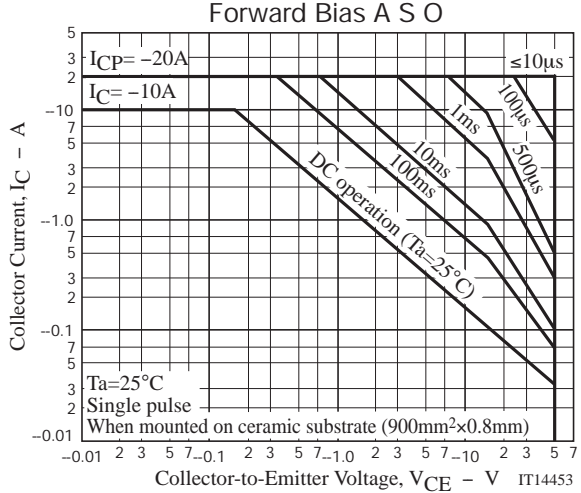
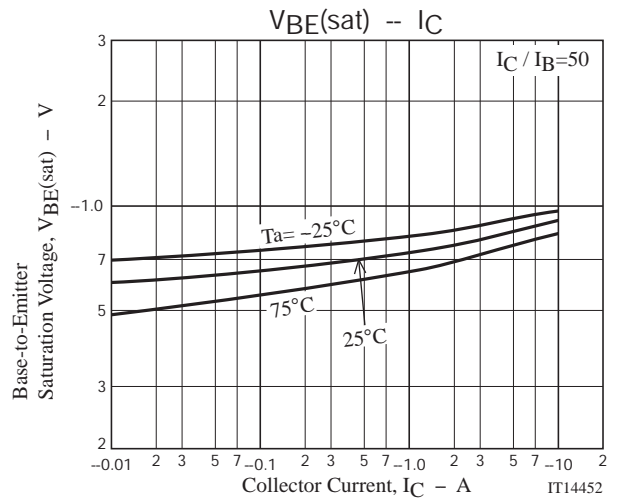
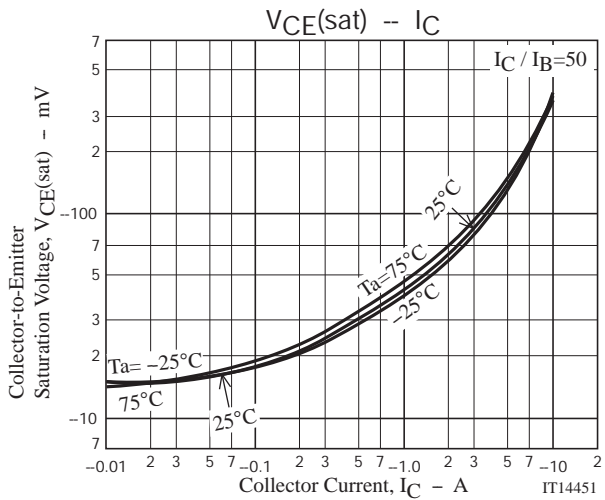


Switching Time Test Circuit



$$I_C = -50I_{B1} = 25I_{B2} = -5A$$





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