



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## PCP1103 — PNP Epitaxial Planar Silicon Transistor DC / DC Converter Applications

### Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers, IGBT gate drivers.

### Features

- Adoption of 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	V <sub>CBO</sub>		-30	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		-30	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		-5	V
Collector Current	I <sub>C</sub>		-1.5	A
Collector Current (Pulse)	I <sub>CP</sub>		-5	A
Base Current	I <sub>B</sub>		-300	mA
Collector Dissipation	P <sub>C</sub>	When mounted on ceramic substrate (450mm <sup>2</sup> ×0.8mm)	1.3	W
		T <sub>C</sub> =25°C	3.5	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Marking : RF

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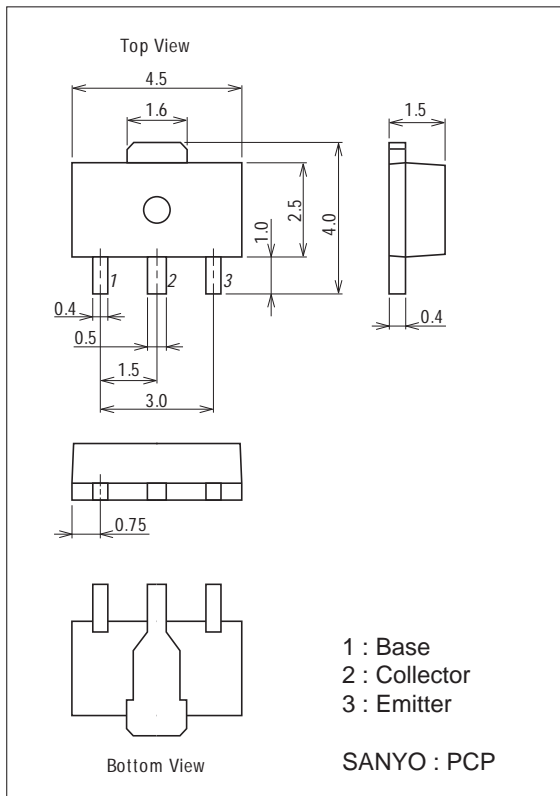
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> = -30V, I <sub>E</sub> =0A			-0.1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> = -4V, I <sub>C</sub> =0A			-0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -100mA	200		560	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -300mA		450		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f=1MHz		9		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -0.75A, I <sub>B</sub> = -15mA		-250	-375	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -0.75A, I <sub>B</sub> = -15mA		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I <sub>C</sub> = -10μA, I <sub>E</sub> =0A	-30			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I <sub>C</sub> = -1mA, R <sub>BE</sub> =∞	-30			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I <sub>E</sub> = -10μA, I <sub>C</sub> =0A	-5			V
Turn-On Time	t <sub>on</sub>	See specified Test Circuit.		35		ns
Storage Time	t <sub>stg</sub>	See specified Test Circuit.		115		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		30		ns

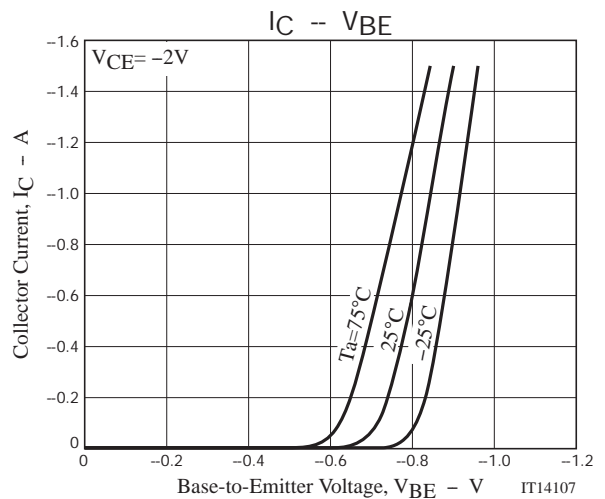
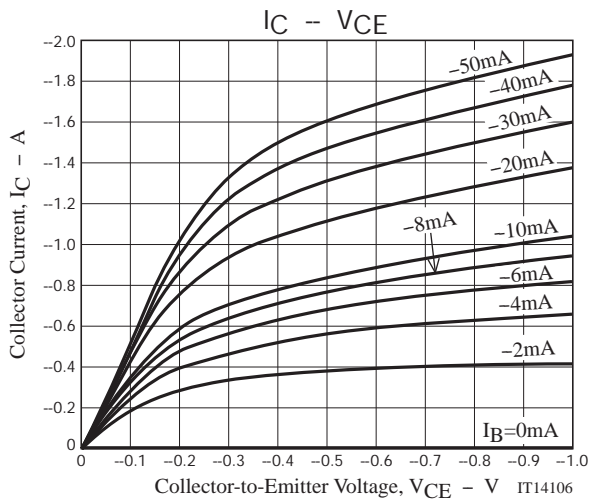
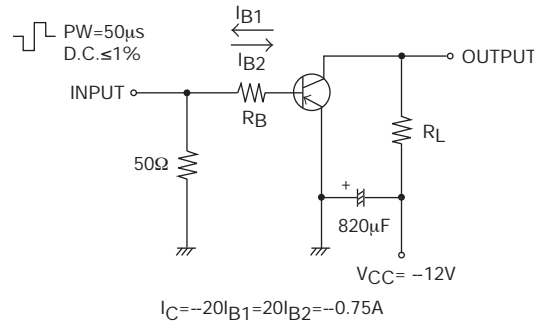
Package Dimensions

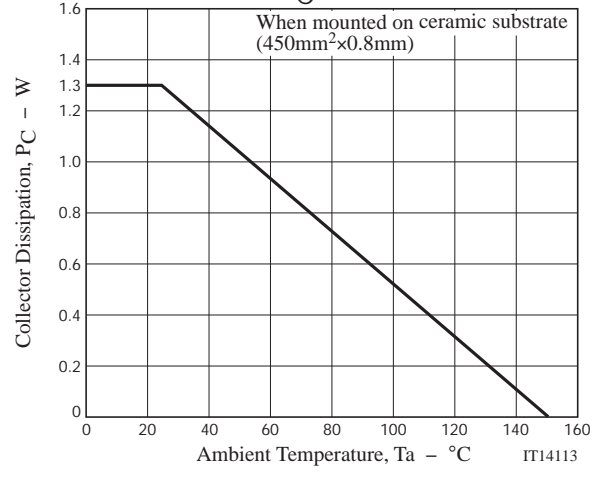
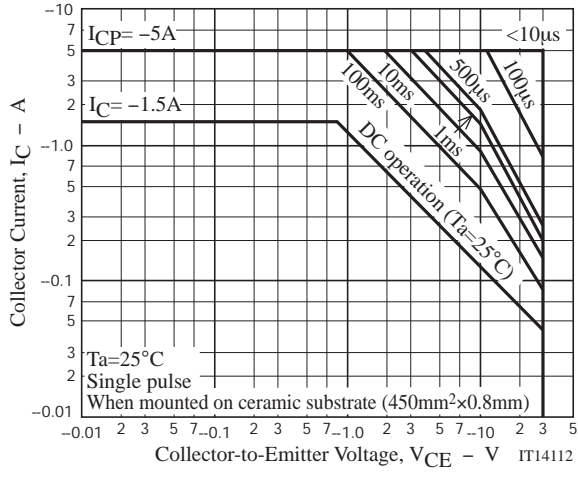
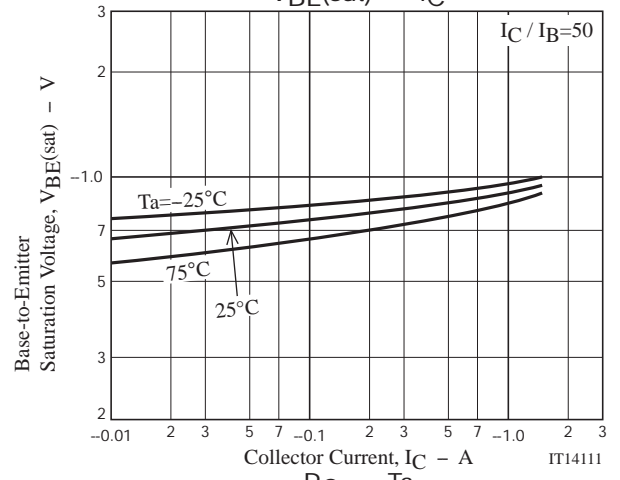
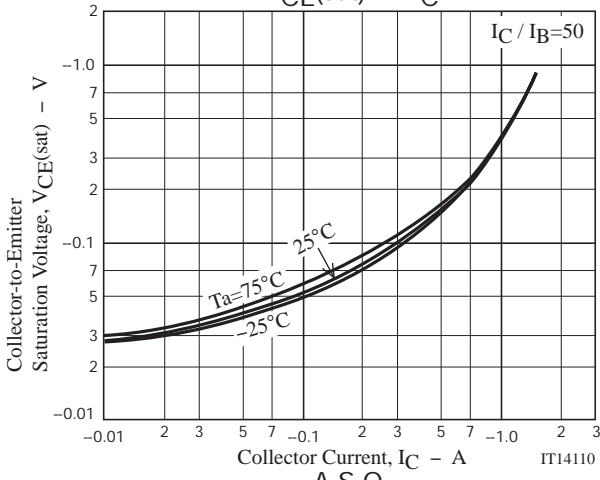
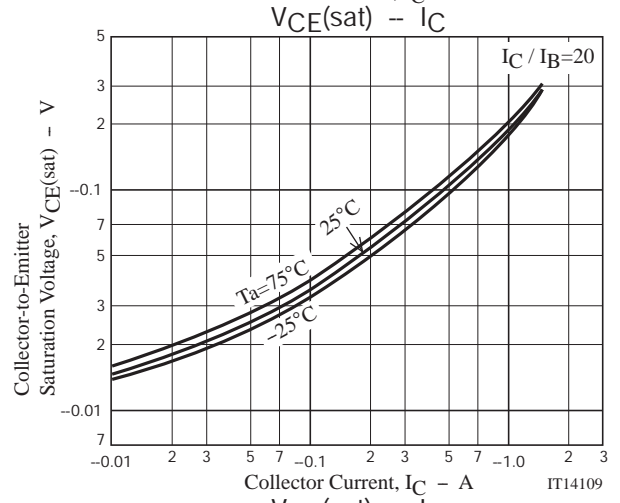
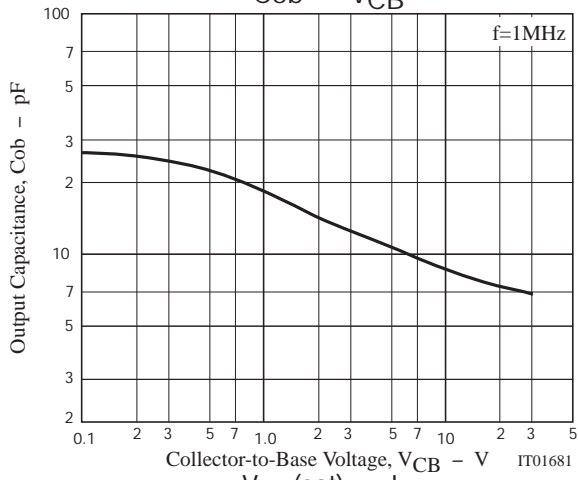
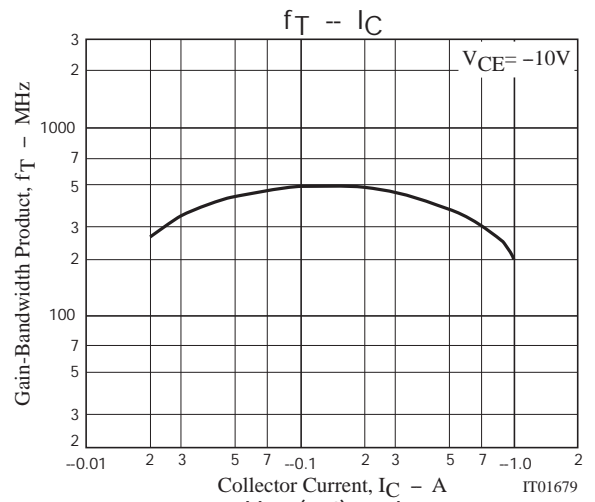
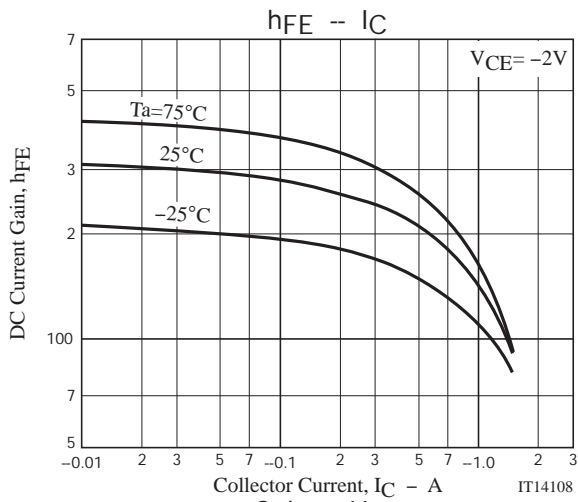
unit : mm (typ)

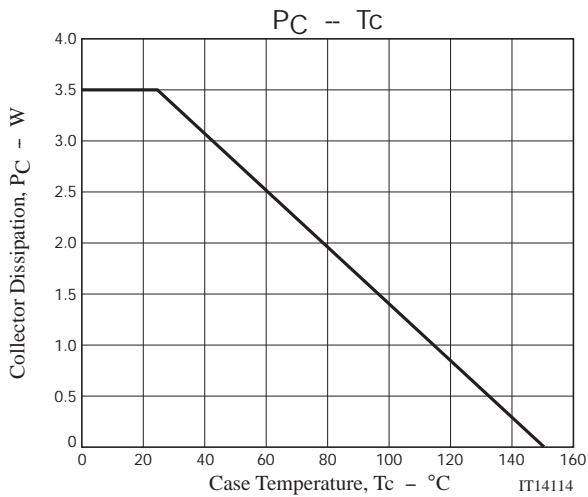
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Switching Time Test Circuit







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