



PCP1203 — NPN Epitaxial Planar Silicon Transistor

DC / DC Converter Applications

Applications

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

Features

- Adoption of FBET, MBIT processes.
- 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 _{CBO}		40	V
Collector-to-Emitter Voltage	V _{CEO}		30	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		1.5	A
Collector Current (Pulse)	I _{CP}		5	A
Base Current	I _B		300	mA
Collector Dissipation	P _C	When mounted on ceramic substrate (450mm ² ×0.8mm)	1.3	W
		T _C =25°C	3.5	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Marking : QJ

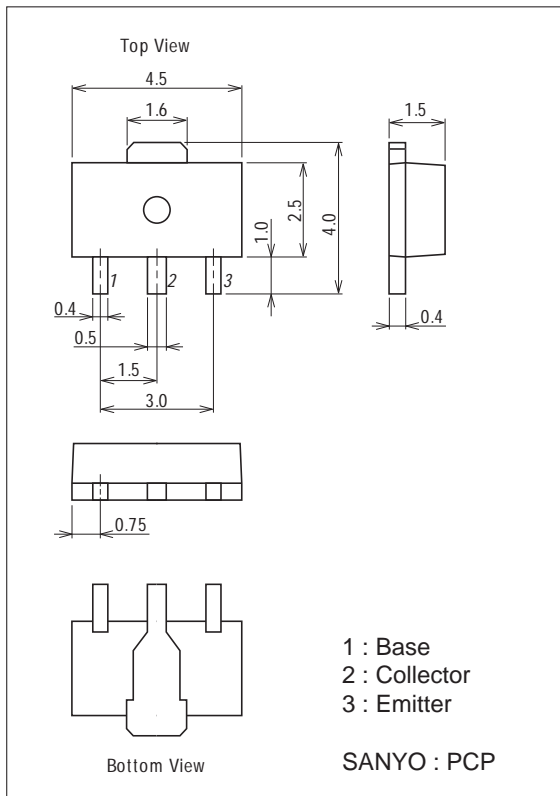
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Electrical Characteristics at Ta=25°C

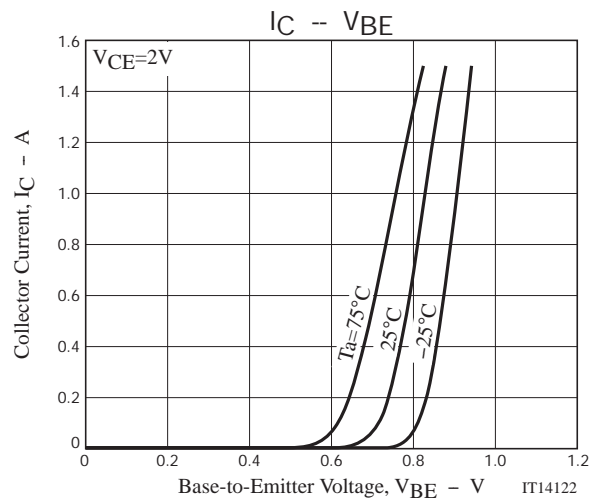
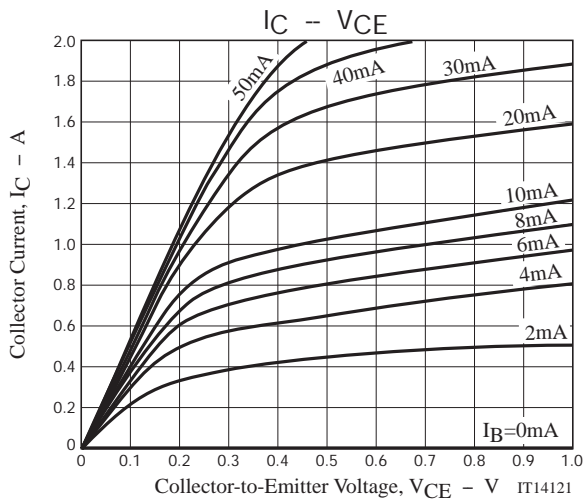
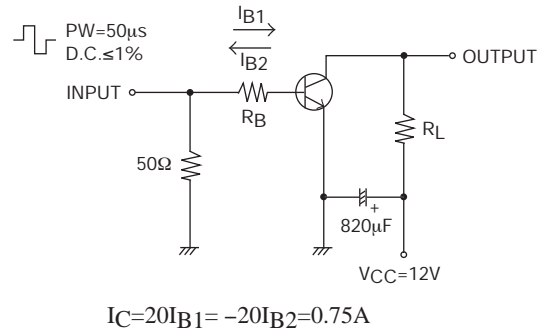
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =30V, I _E =0A			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =4V, I _C =0A			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =2V, I _C =100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =300mA		500		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		8		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =0.75A, I _B =15mA		150	225	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =0.75A, I _B =15mA		0.85	1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =10μA, I _E =0A	40			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =1mA, R _{BE} =∞	30			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0A	5			V
Turn-On Time	t _{on}	See specified Test Circuit.		35		ns
Storage Time	t _{stg}	See specified Test Circuit.		205		ns
Fall Time	t _f	See specified Test Circuit.		30		ns

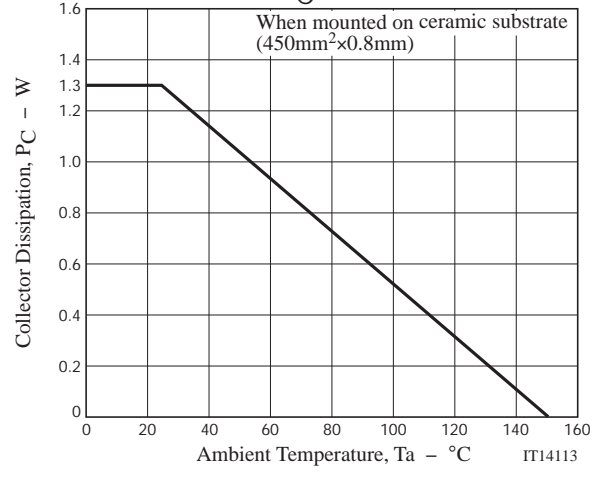
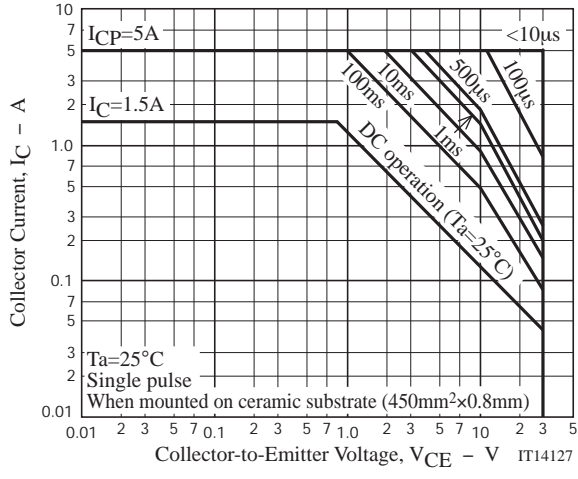
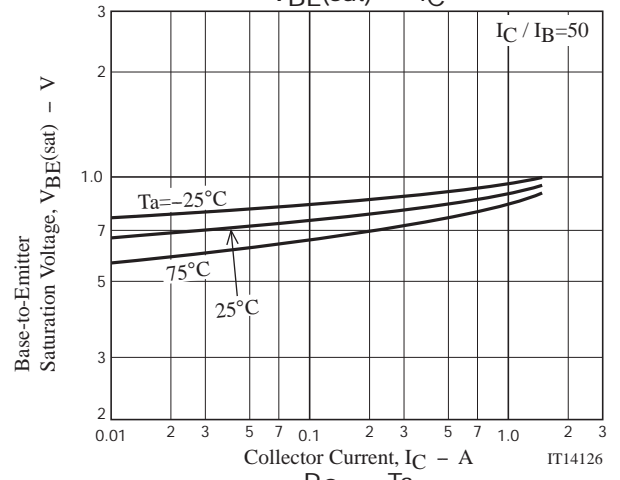
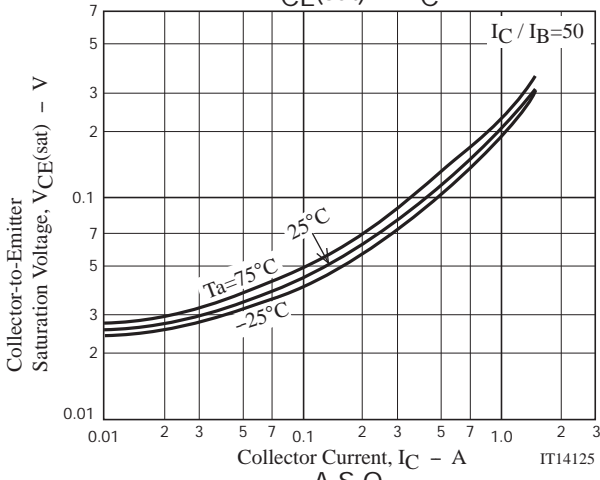
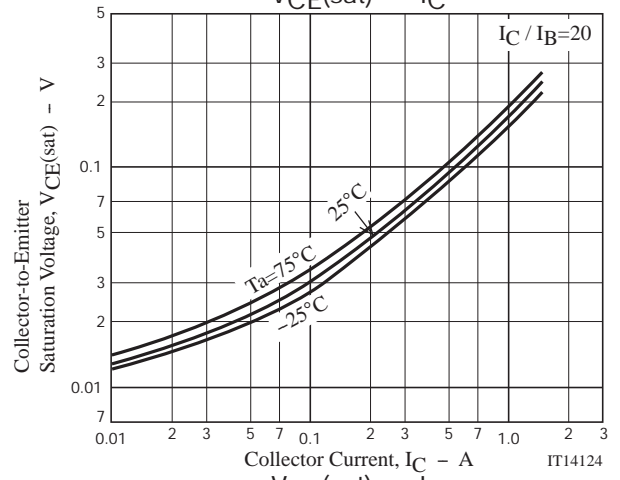
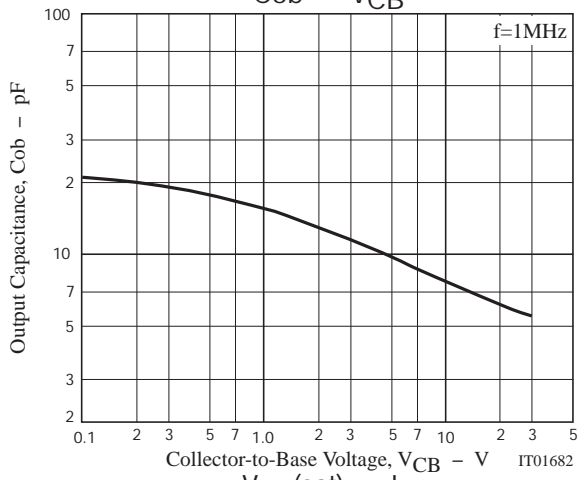
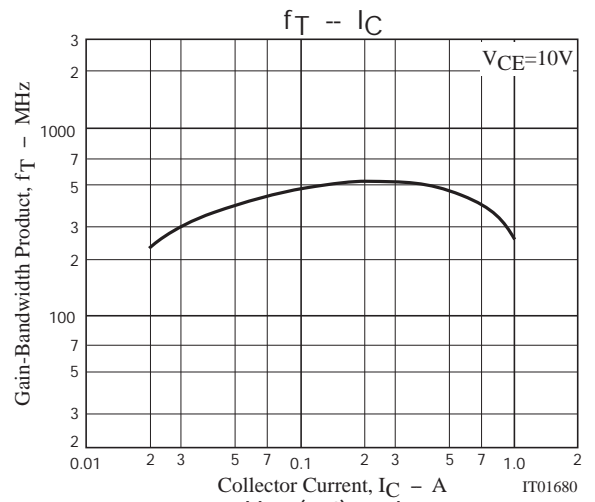
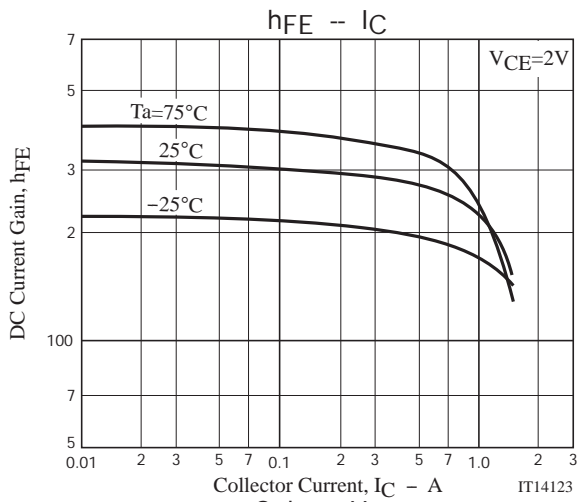
Package Dimensions

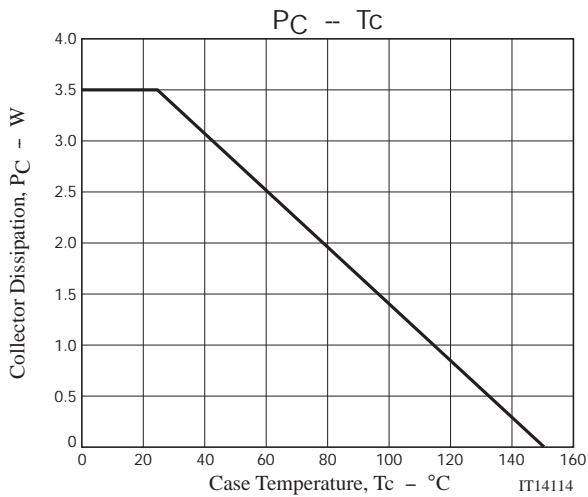
unit : mm (typ)
7007A-004



Switching Time Test Circuit







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