



SANYO Semiconductors

DATA SHEET

PCP1204

 — 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}		80	V
Collector-to-Emitter Voltage	V _{CEO}		50	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		1.5	A
Collector Current (Pulse)	I _{CP}		3	A
Base Current	I _B		200	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 : QK

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PCP1204

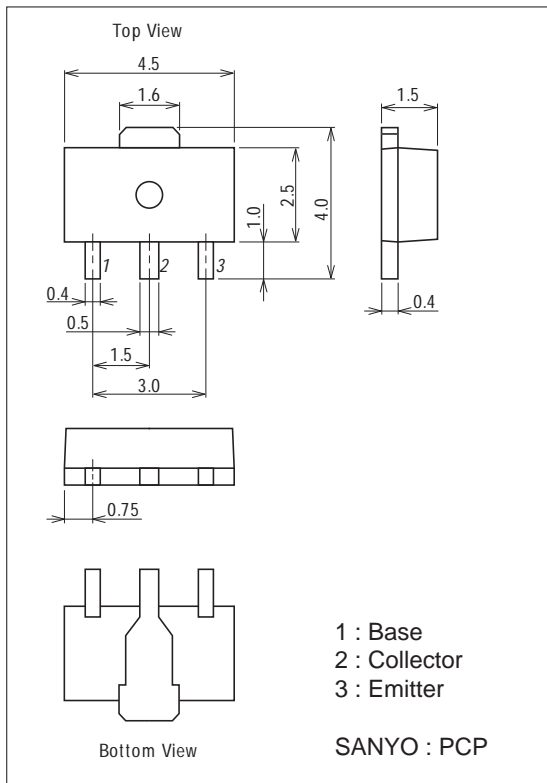
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40V, I_E=0A$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0A$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=2V, I_C=100mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=300mA$		420		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=0.5A, I_B=10mA$		130	190	mV
	$V_{CE(sat)2}$	$I_C=0.3A, I_B=6mA$		90	135	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=0.5A, I_B=10mA$		0.81	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0A$	5			V
Turn-On Time	t_{on}	See specified Test Circuit.		35		ns
Storage Time	t_{stg}	See specified Test Circuit.		330		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

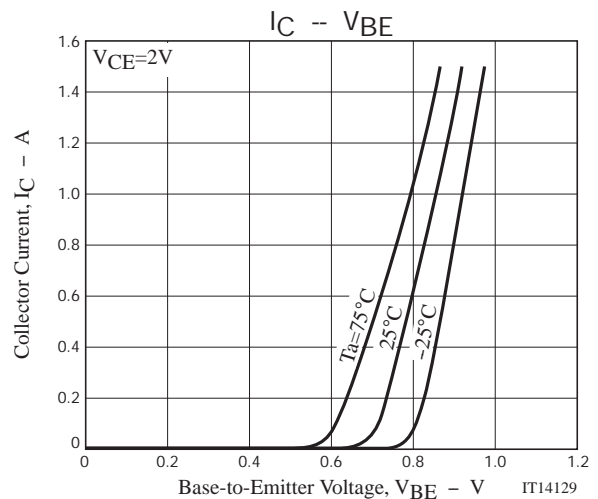
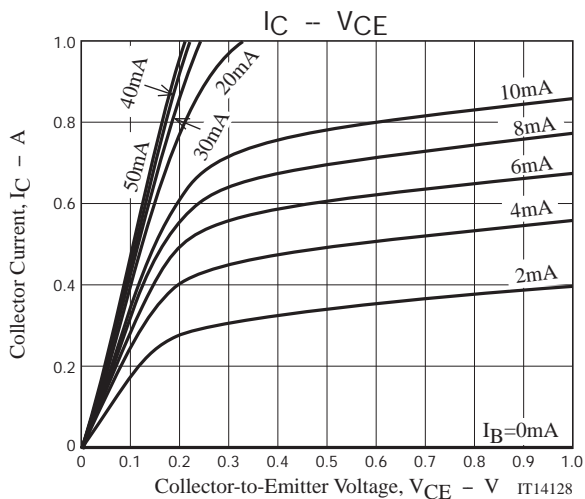
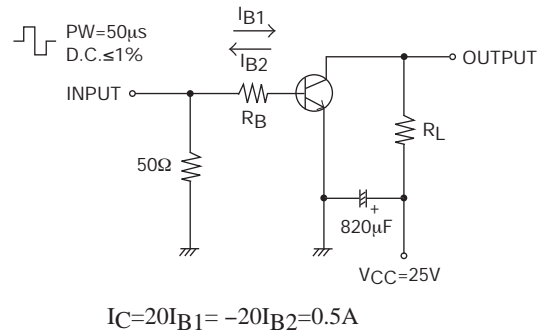
Package Dimensions

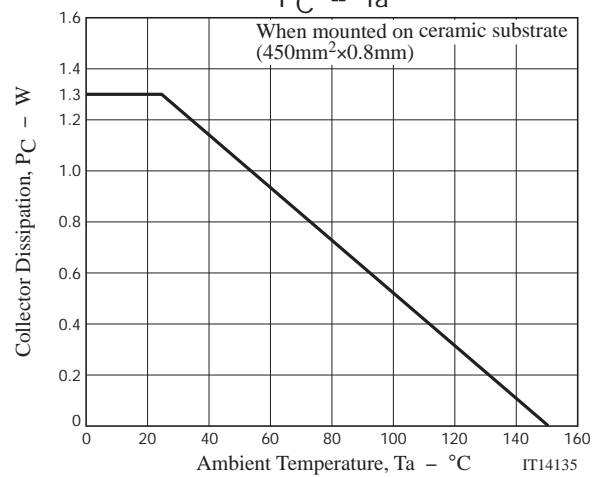
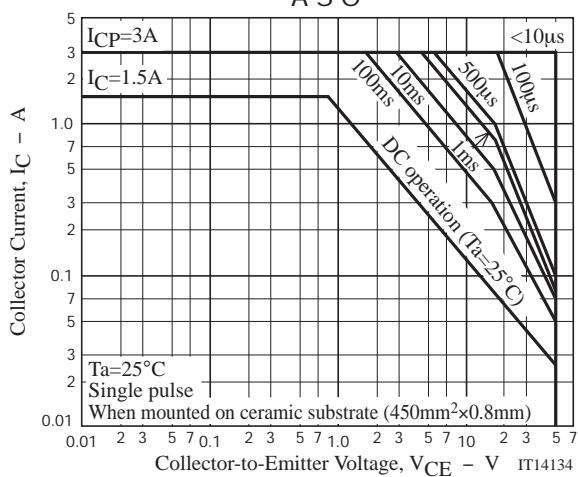
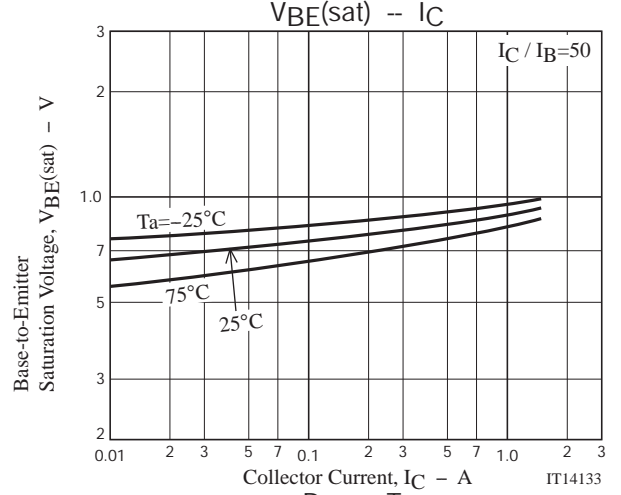
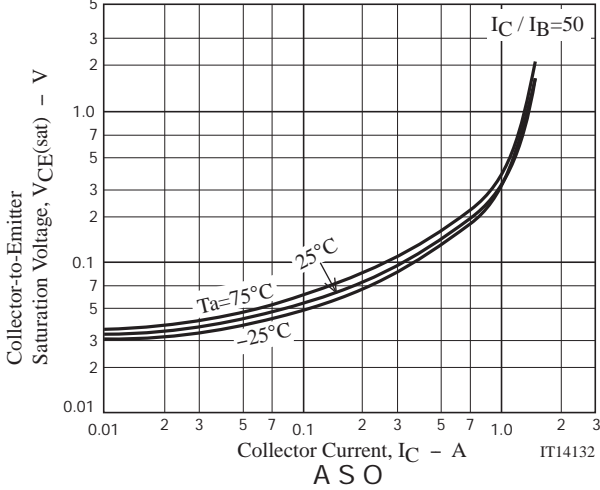
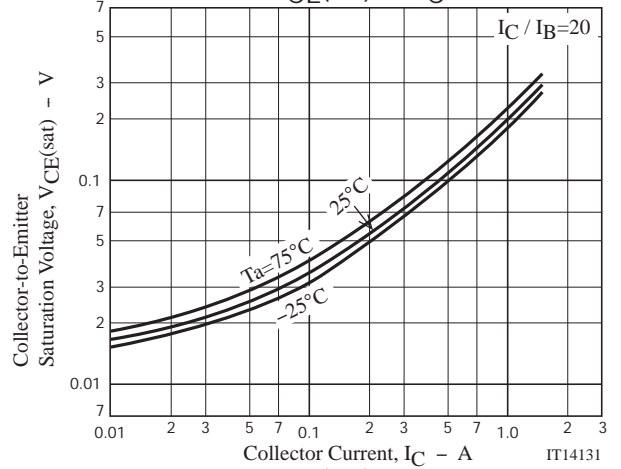
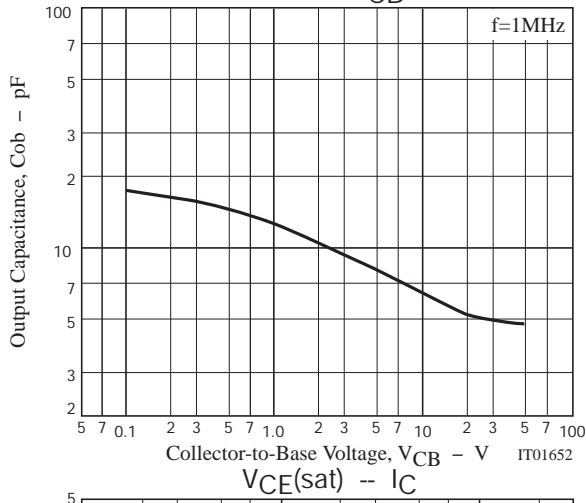
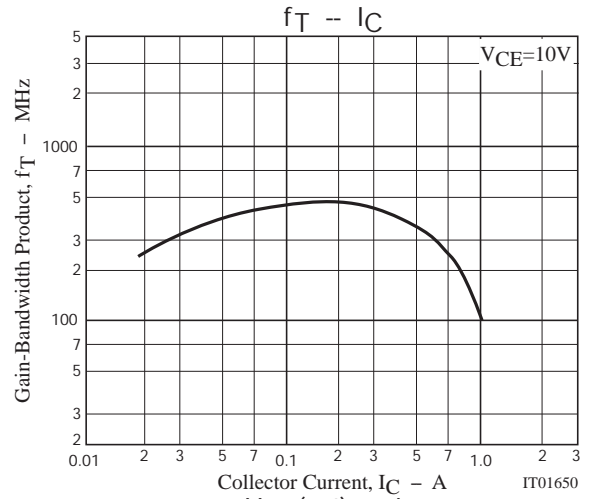
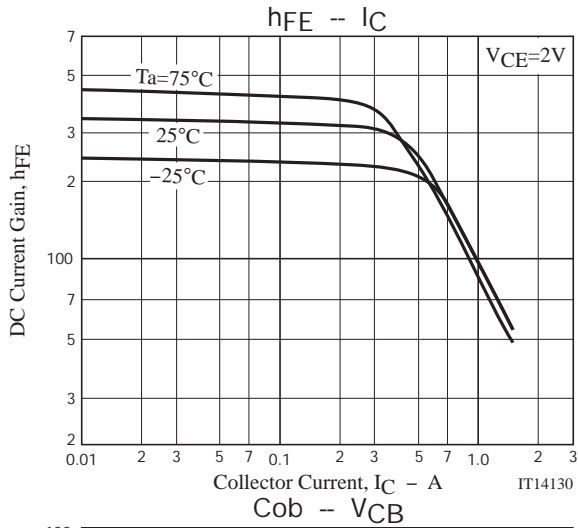
unit : mm (typ)

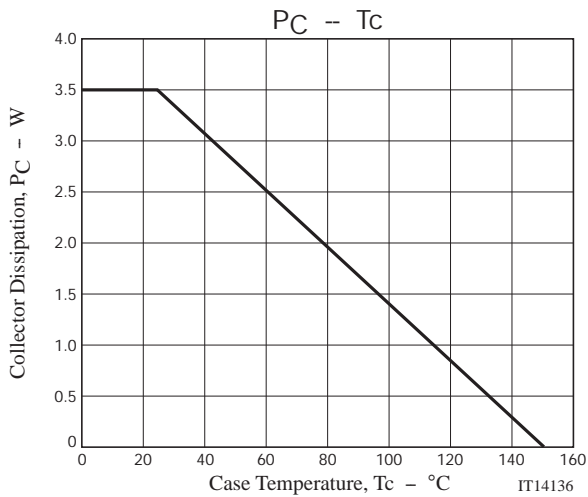
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Switching Time Test Circuit







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