

Ordering number:EN6006

PNP/NPN Silicon Epitaxial Planar Transistors



CPH3101/3201

DC/DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, strobes.

Features

- Adoption of FBET and MBIT processes.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Ultrasmall-sized package permitting applied sets to be made small and slim.
- High allowable power dissipation.

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Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)30	V
Collector-to-Emitter Voltage	V _{CE0}		(-)30	V
Emitter-to-Base Voltage	V _{EB0}		(-)6	V
Collector Current	I _C		(-)2	A
Collector Current (Pulse)	I _{CP}		(-)4	A
Base Current	I _B		(-)400	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² ×0.8mm)	0.9	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)20V, I _E =0			(-)0.1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} =(-)3V, I _C =0			(-)0.1	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)100mA	200		400	
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)50mA		150		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		19(32)		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)1.5A, I _B =(-)75mA		180	400	mV
				(-350)	(-600)	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)1.5A, I _C =(-)75mA		(-)0.85	(-)1.2	V

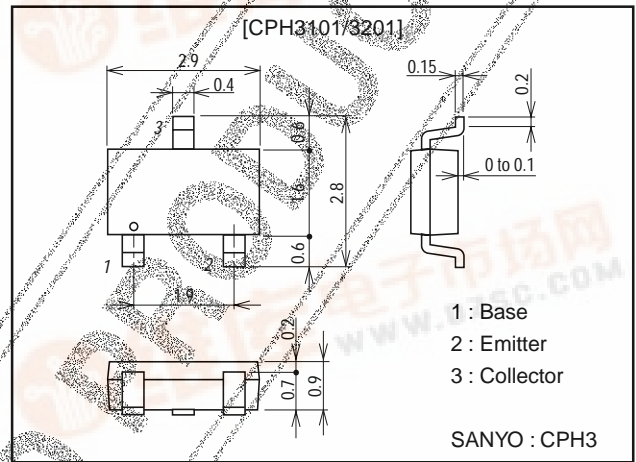
Marking : CPH3101 : AA, CPH3201 : CA

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Package Dimensions

unit:mm

2150



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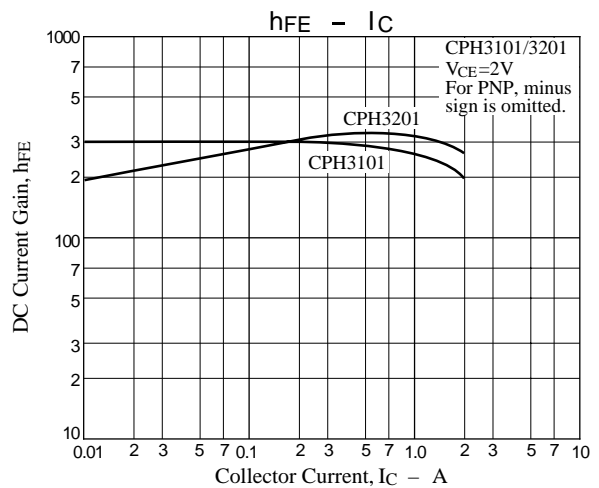
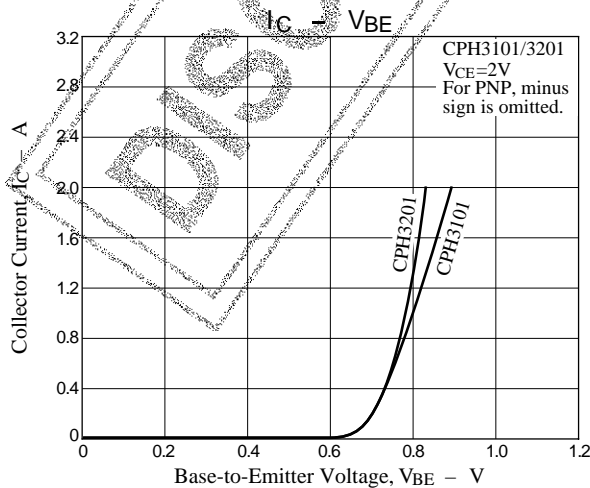
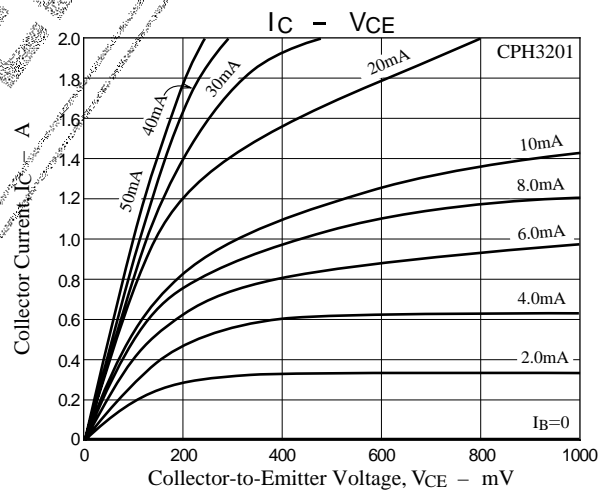
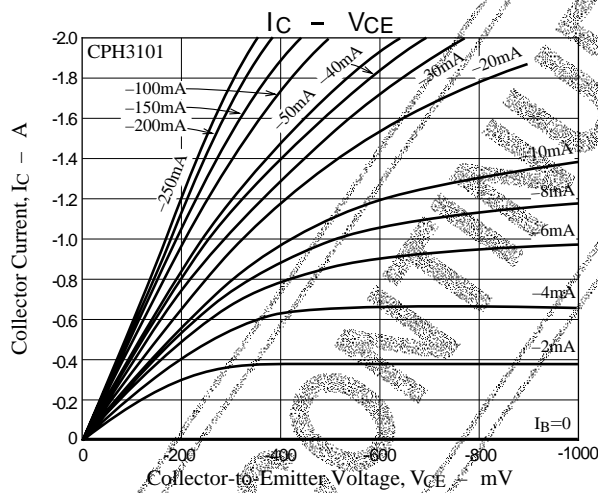
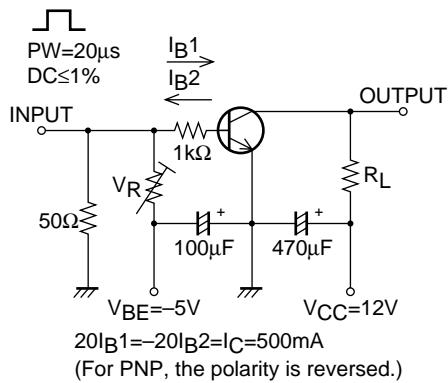


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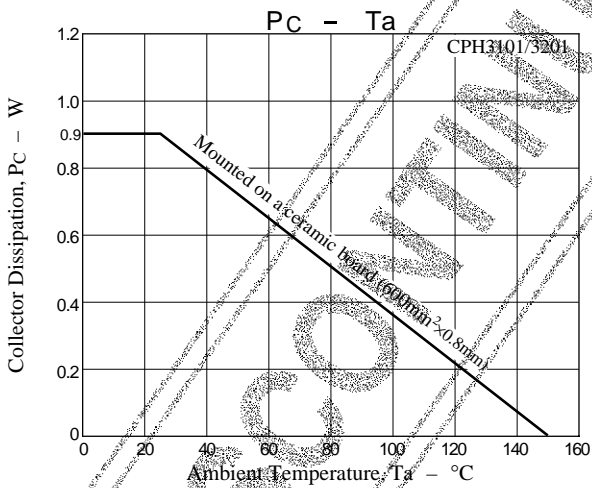
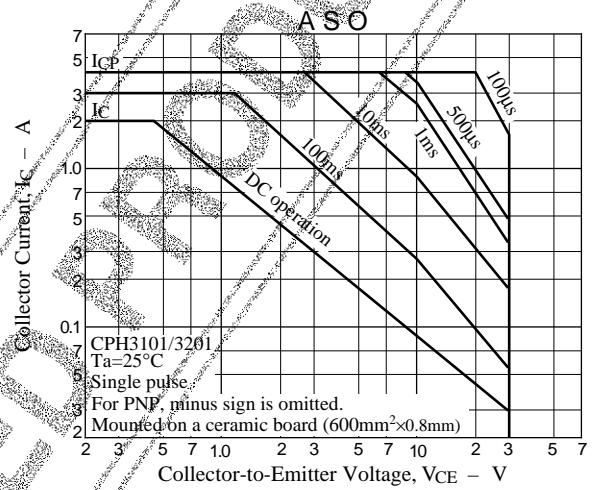
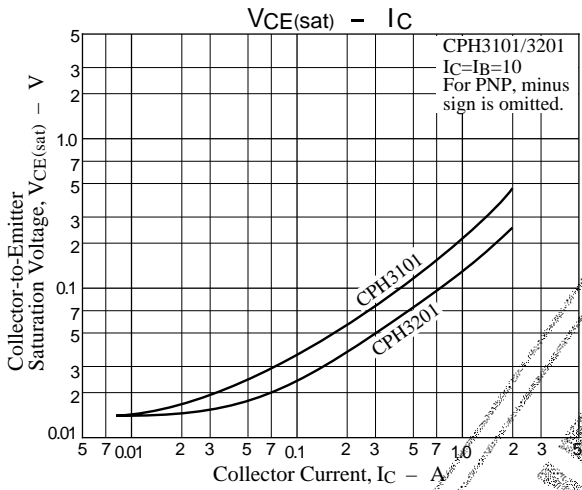
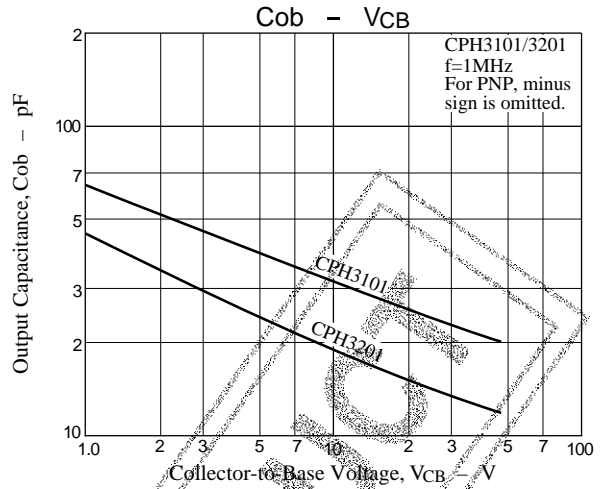
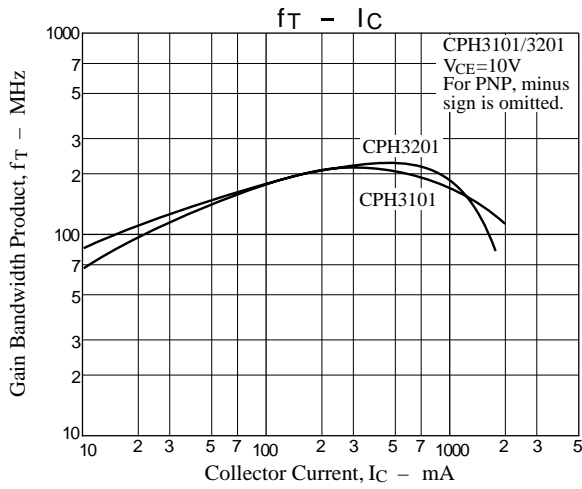
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-30)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-30)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = (-)10\mu A, I_C = 0$	(-6)			V
Turn-ON Time	t_{on}	See specified test circuit.		60(60)		ns
Storage Time	t_{stg}	See specified test circuit.		500 (350)		ns
Turn-OFF Time	t_f	See specified test circuit.		25(25)		ns

Switching Time Test Circuit



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