

SANYO**CPH3101/3201****DC/DC Converter Applications****Applications**

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

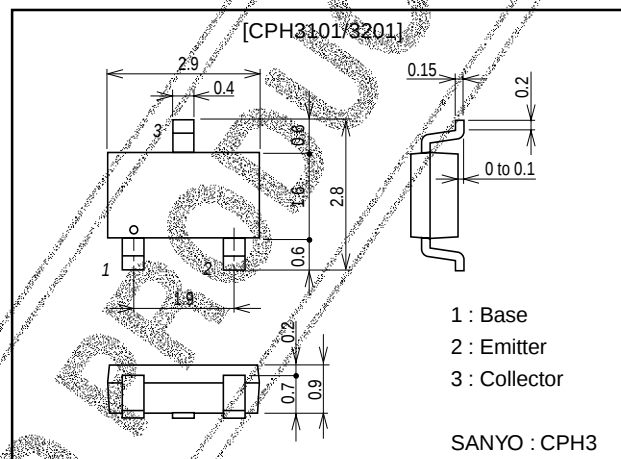
Features

- 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.

Package Dimensions

unit:mm

2150



() : CPH3101

Specifications**Absolute Maximum Ratings** at $T_a = 25^\circ\text{C}$

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 $\times$ 0.8mm)	0.9	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings		Unit
			min	typ	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)20\text{V}$, $I_E=0$			(-)0.1 μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)3\text{V}$, $I_C=0$			(-)0.1 μA
DC Current Gain	h_{FE}	$V_{CE}=(-)2\text{V}$, $I_C=(-)100\text{mA}$	200		400
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}$, $I_C=(-)50\text{mA}$		150	MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}$, $f=1\text{MHz}$		19(32)	pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)1.5\text{A}$, $I_B=(-)75\text{mA}$		180	400 mV
				(-350)	(-600) mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1.5\text{A}$, $I_C=(-)75\text{mA}$		(-)0.85	(-)1.2 V

Marking : CPH3101 : AA, CPH3201 : CA

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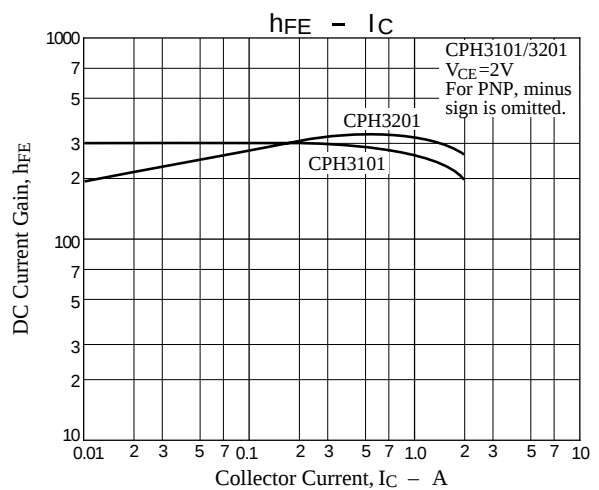
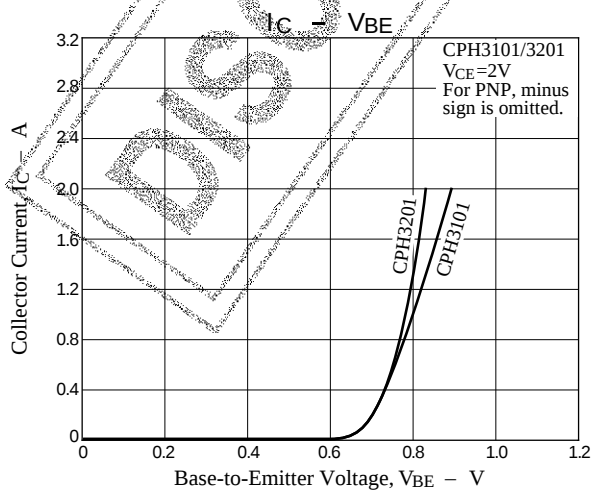
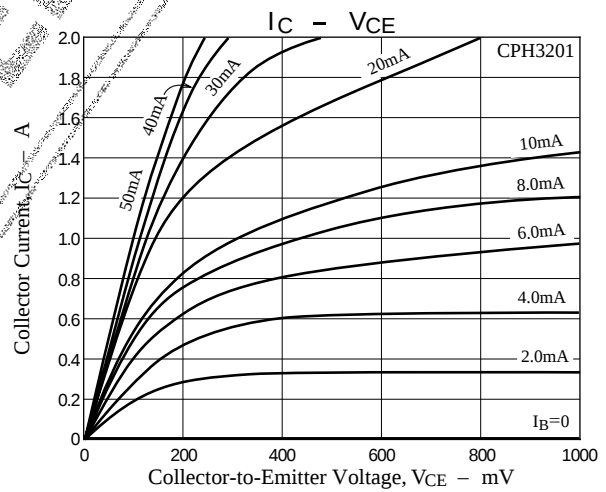
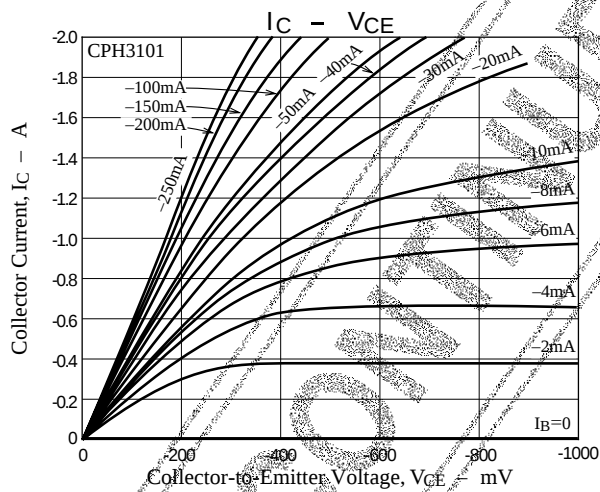
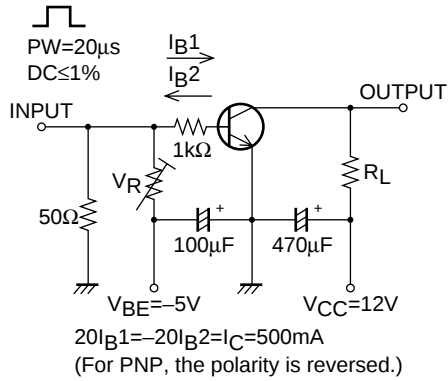
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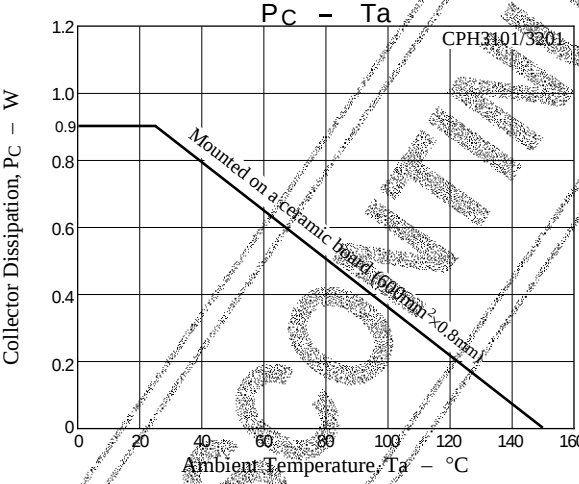
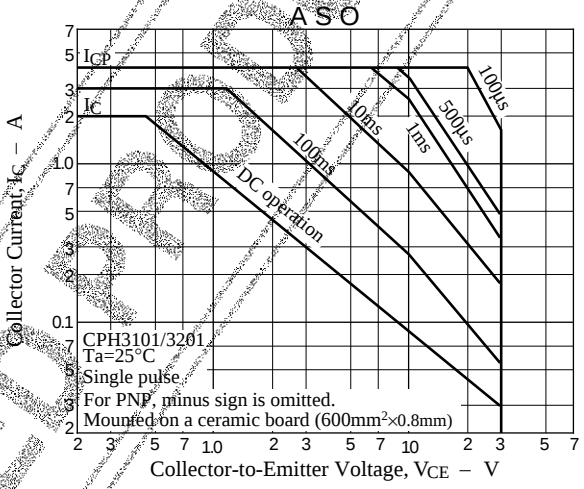
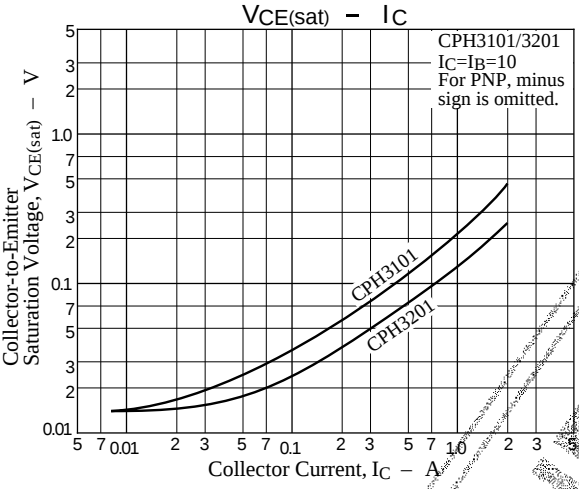
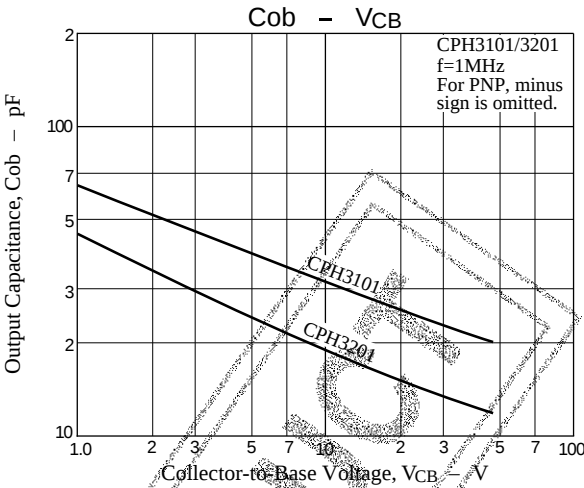
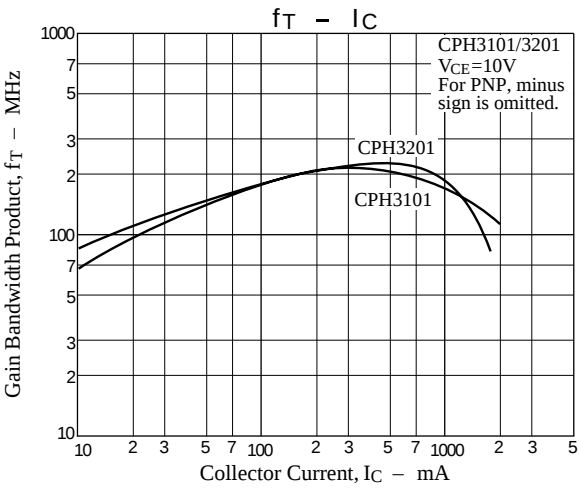
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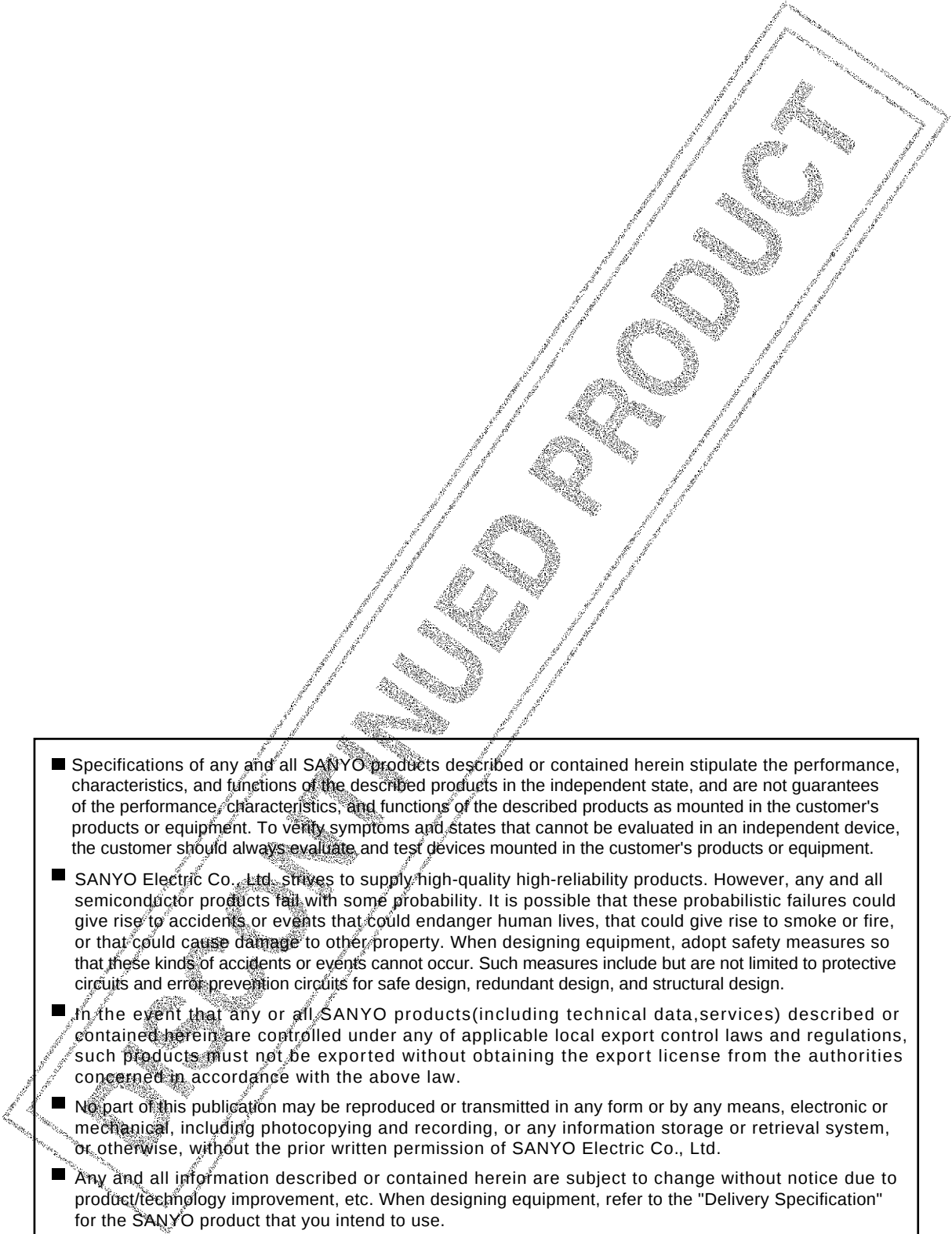
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	$(-)-30$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)-30$			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=(-)10\mu A, I_C=0$	$(-)-6$			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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