

SANYO**CPH6101/CPH6201****High-Current Switching Applications****Applications**

- DC-DC converter, relay drivers, lamp drivers, motor drivers, strobes.

Features

- Adoption of FBET, MBIT processes.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Ultrasmall package permitting applied sets to be made small and slim (0.9mm).
- High allowable power dissipation.

() : CPH6101

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)30	V
Collector-to-Emitter Voltage	V_{CEO}		(-)30	V
Emitter-to-Base Voltage	V_{EBO}		(-)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)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(32)19		pF

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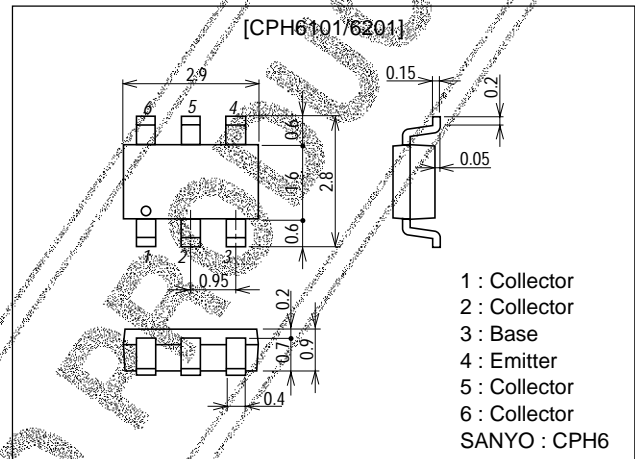
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Package Dimensions

unit:mm

2146A

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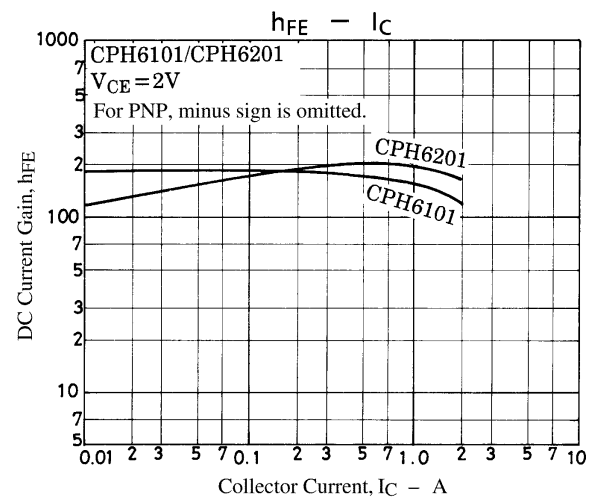
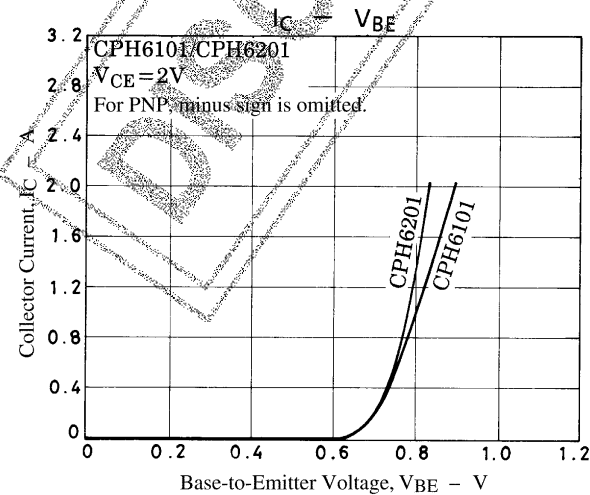
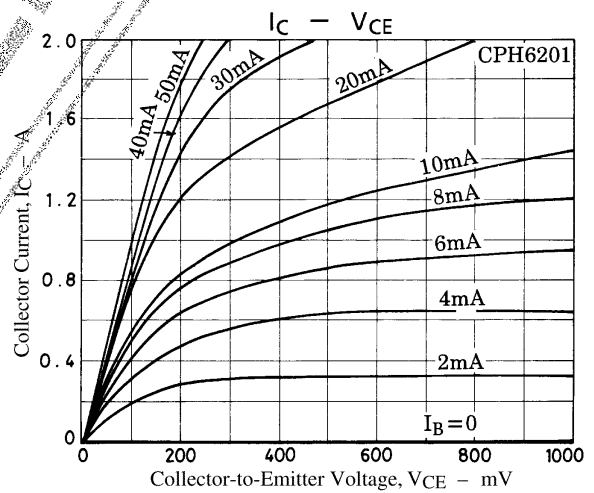
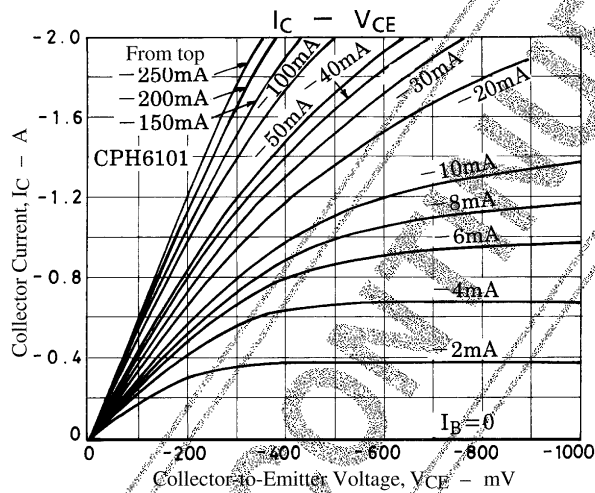
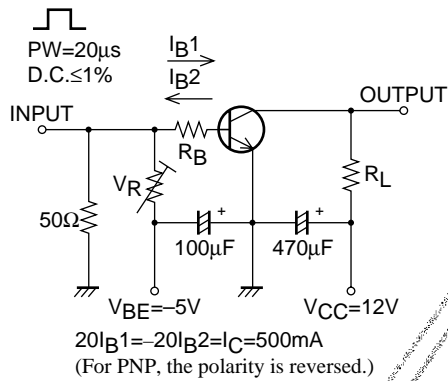
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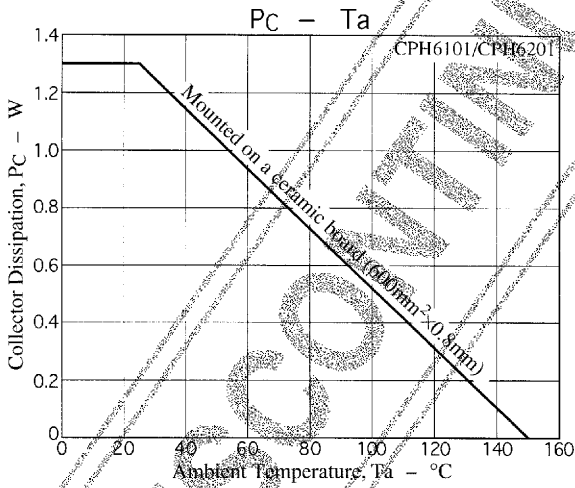
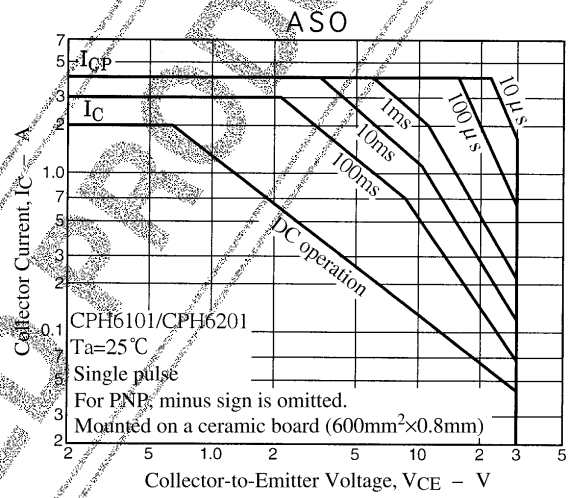
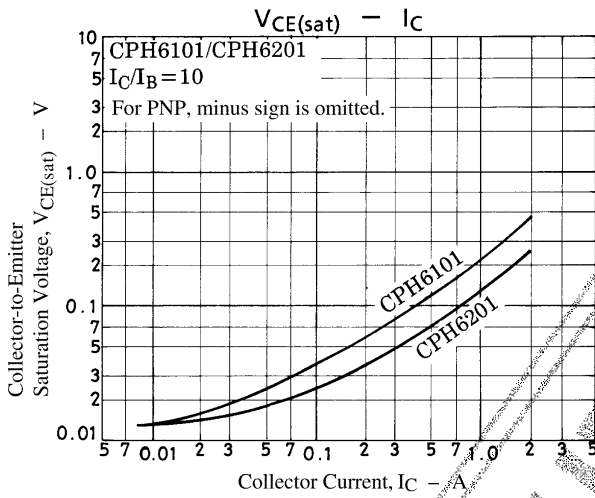
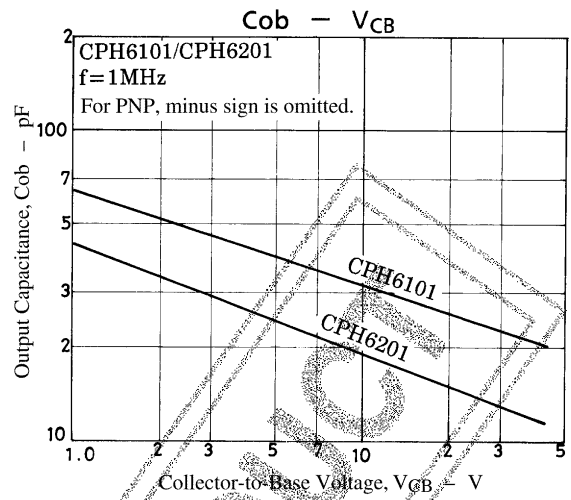
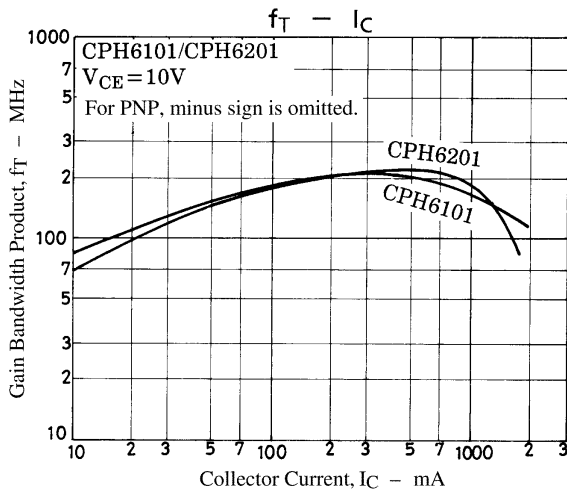
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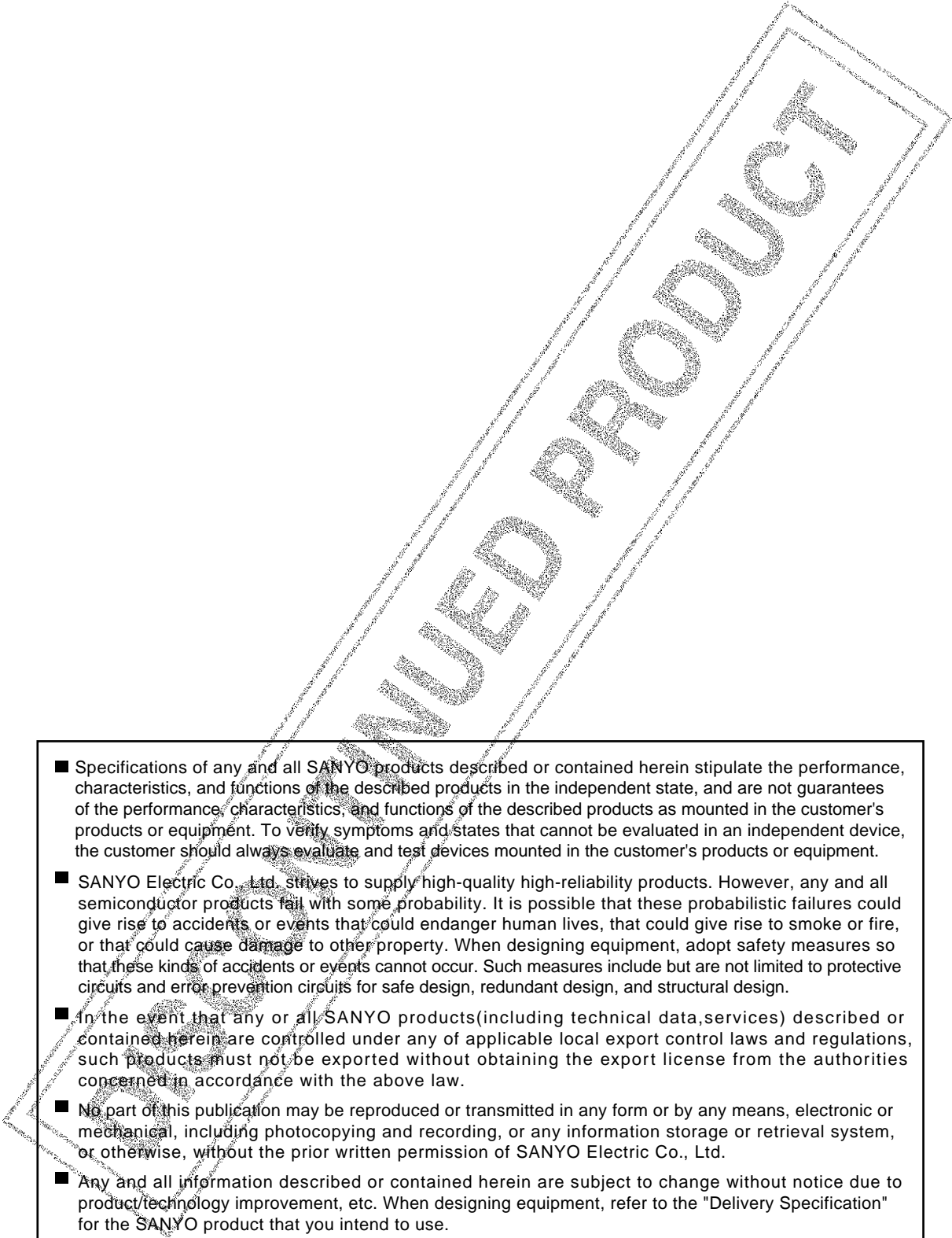
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)1.5A, I_B = (-)75mA$		(-350)	(-600)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)1.5A, I_B = (-)75mA$		180	400	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-)6			V
Turn-ON Time	t_{on}	See specified test circuit.		60(60)		ns
Storage Time	t_{stg}	See specified test circuit.		500		ns
Fall Time	t_f	See specified test circuit.		(350)		ns
				25(25)		ns

Switching Time Test Circuit



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