



DC / DC Converter Applications

Applications

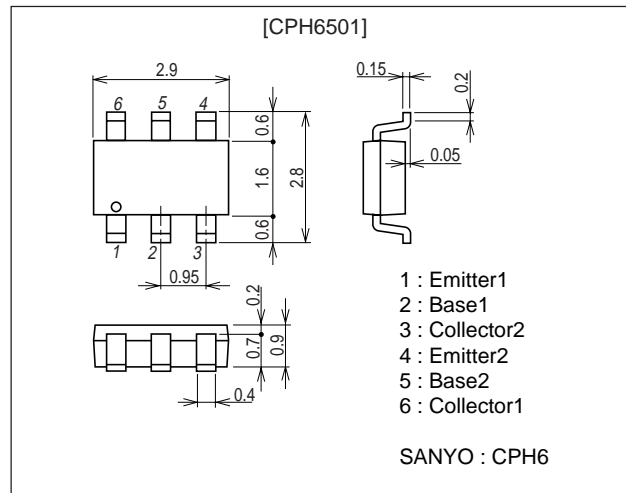
- Relay drivers, lamp drivers, motor drivers.

Features

- Composite type with two NPN transistors contained in one package, facilitating high-density mounting.
- The CPH6501 consists of with two chips which are equivalent to the CPH3215.
- Ultrasmall-sized package permitting facilitates miniaturization in end products (0.9mm).

Package Dimensions

unit : mm
2187



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		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}		3	A
Base Current	I _B		300	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² X0.8mm)	0.9	W
Total Dissipation	P _T	Mounted on a ceramic board (600mm ² X0.8mm)	1.2	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =30V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA

Marking : EA

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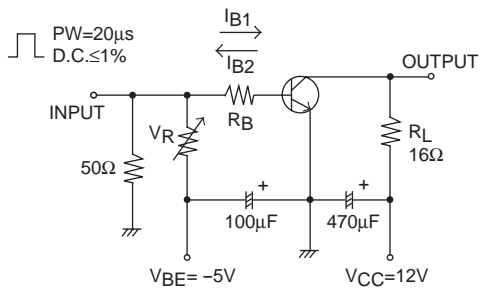
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CPH6501

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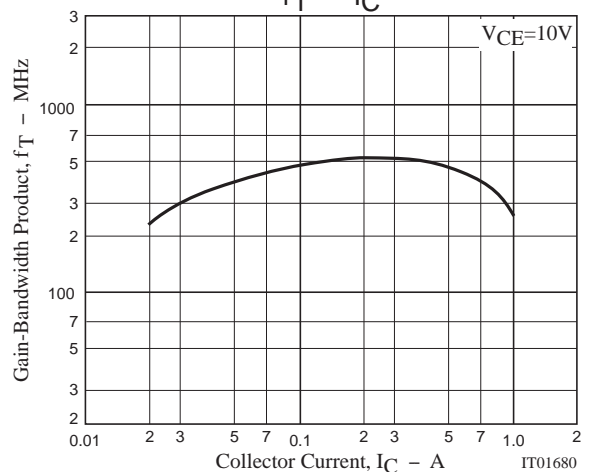
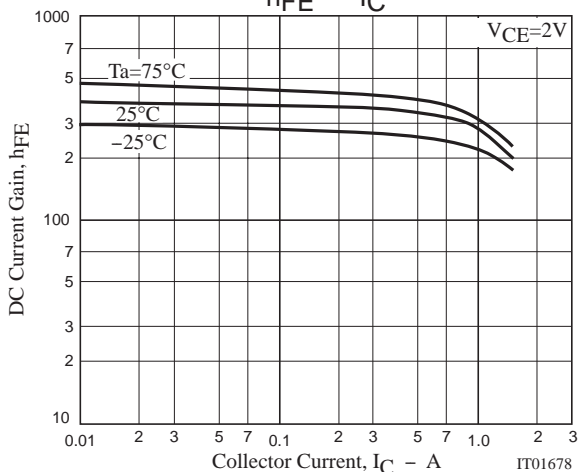
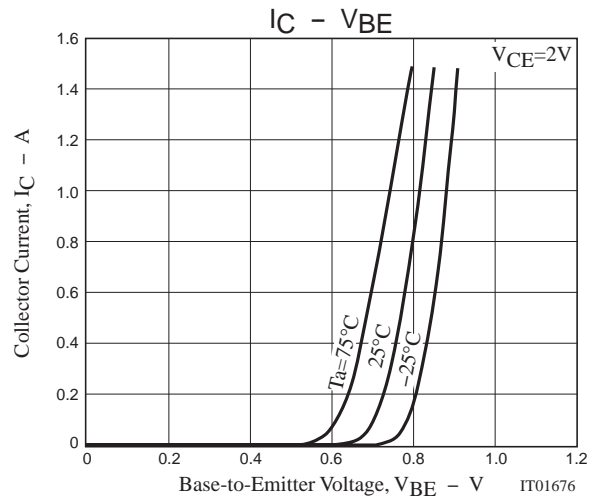
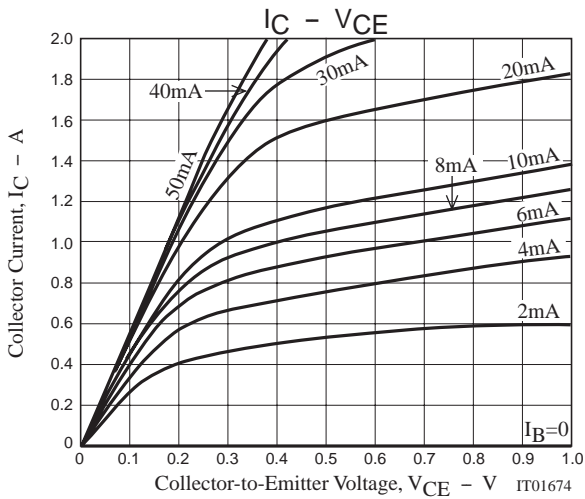
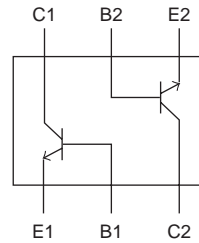
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE}	$V_{CE}=2V, I_C=100mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=300mA$		500		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=750mA, I_B=15mA$		150	225	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=750mA, I_B=15mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	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

Switching Time Test Circuit

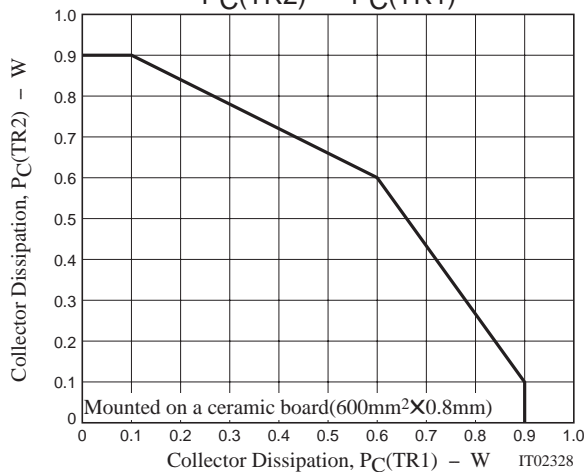
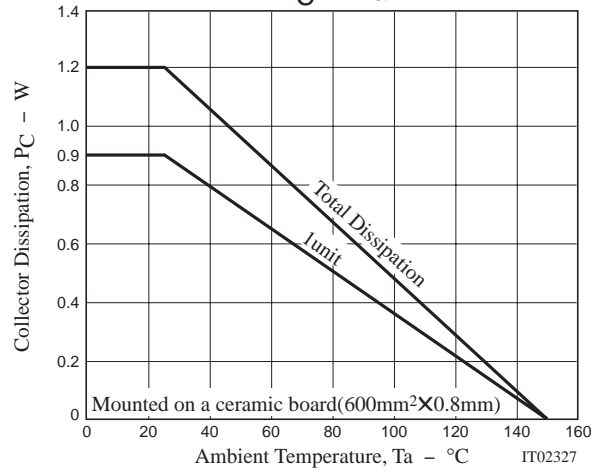
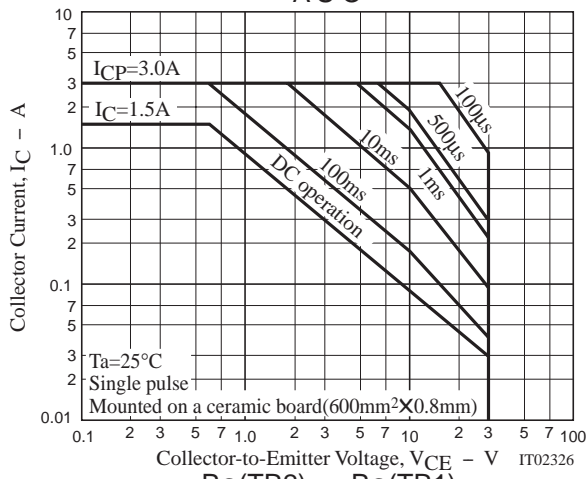
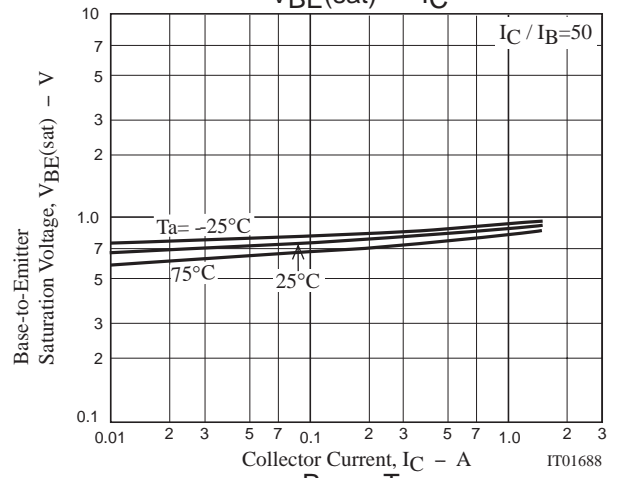
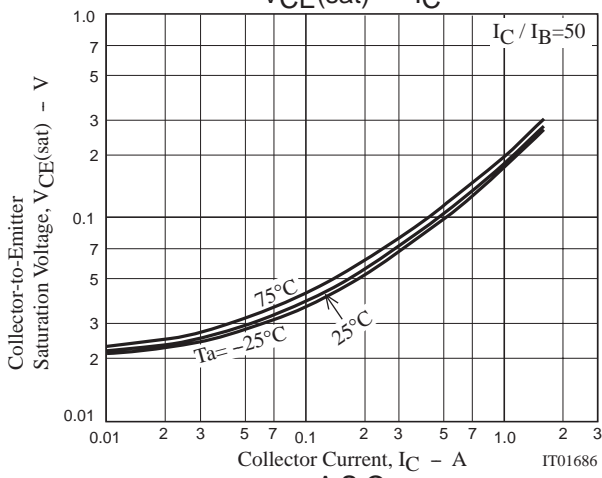
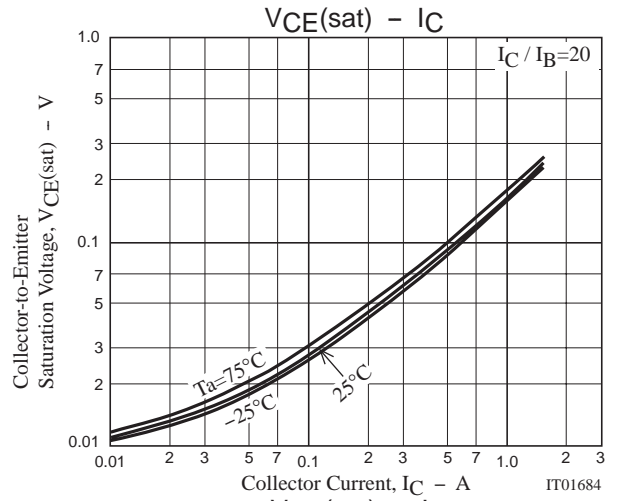
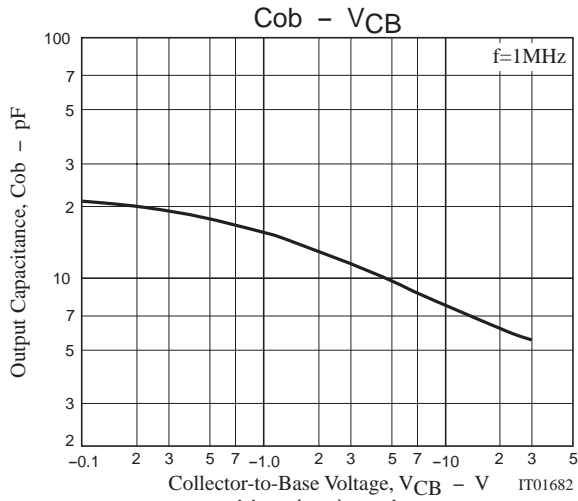


$$20I_{B1} = -20I_{B2} = I_C = 750mA$$

Electrical Connection



CPH6501



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