

**CPH5505****DC/DC Converter Applications****Applications**

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

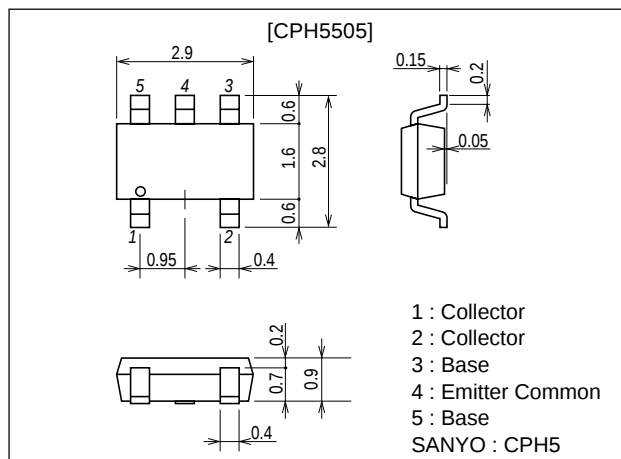
Features

- Composite type with two PNP transistors contained in a single package facilitating high-density mounting.
- The CPH5505 consists of two chips which are equivalent to the CPH3109 encapsulated in a package.
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm).

Package Dimensions

unit:mm

2182

**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}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C	Mounted on a ceramic board (600mm ² ×0.8mm)	0.9	W
Total Dissipation	P_T	Mounted on a ceramic board (600mm ² ×0.8mm)	1.2	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}	$V_{CB} = -30\text{V}, I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$		380		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		25		pF

Marking CPH5505 : EE

Continued on next page.

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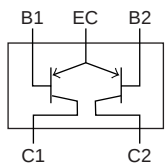
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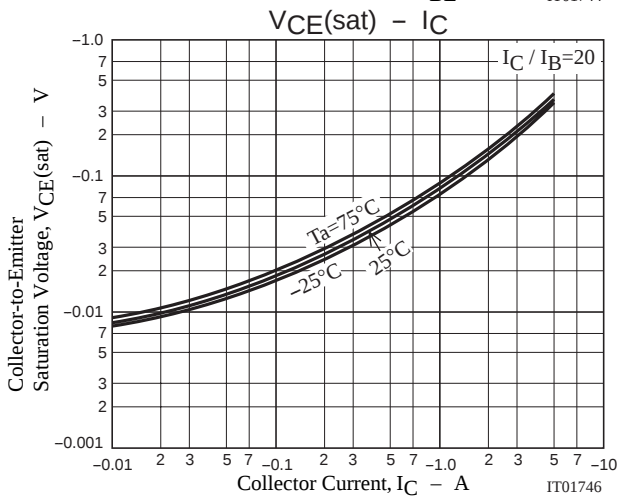
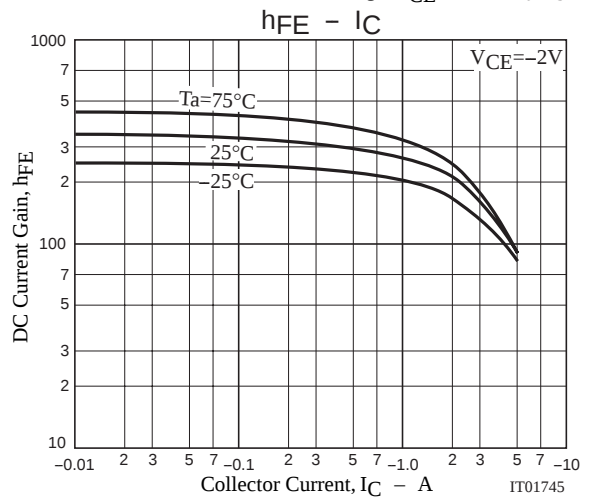
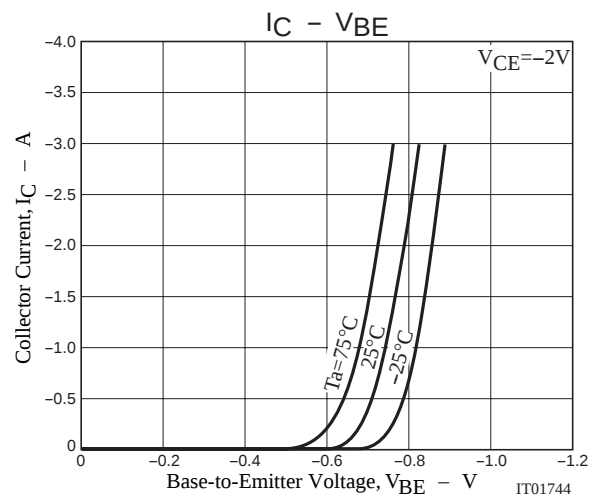
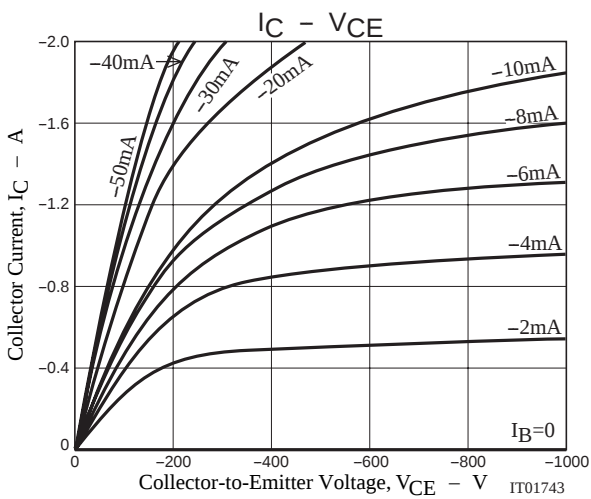
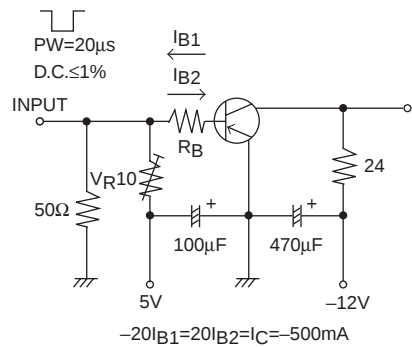
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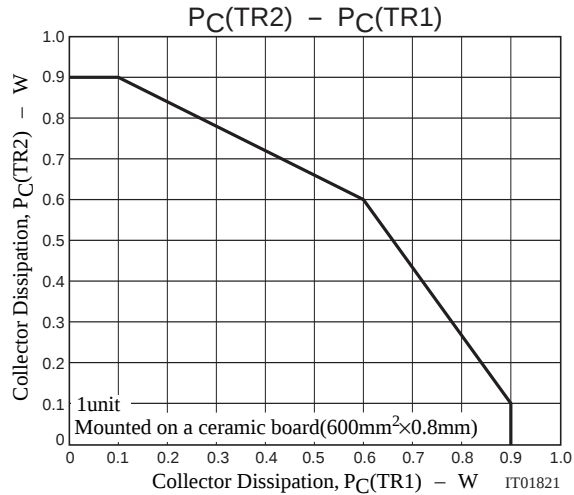
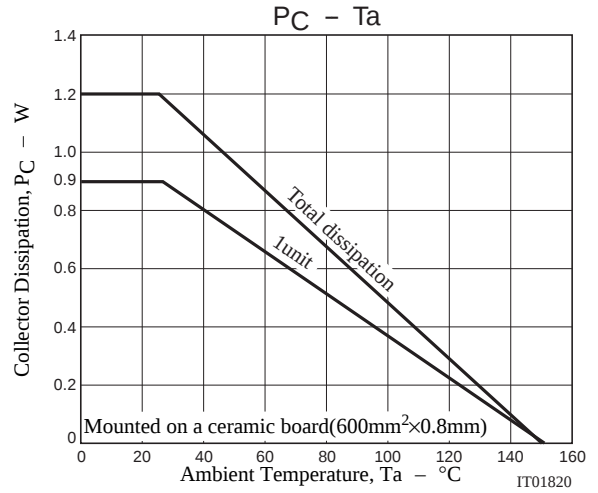
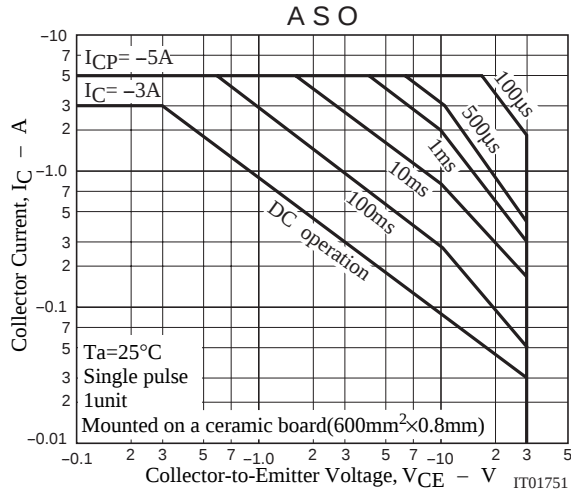
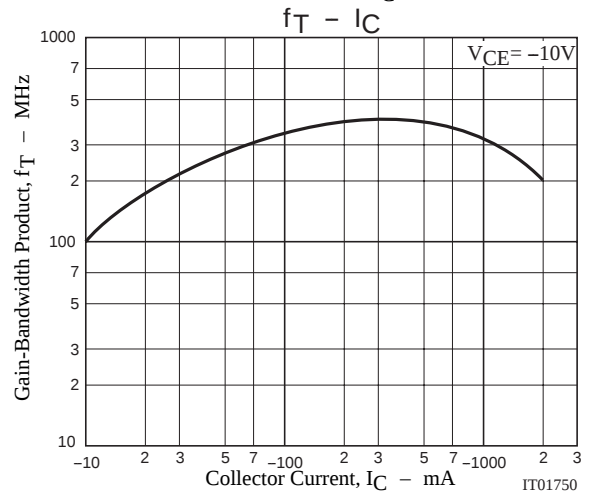
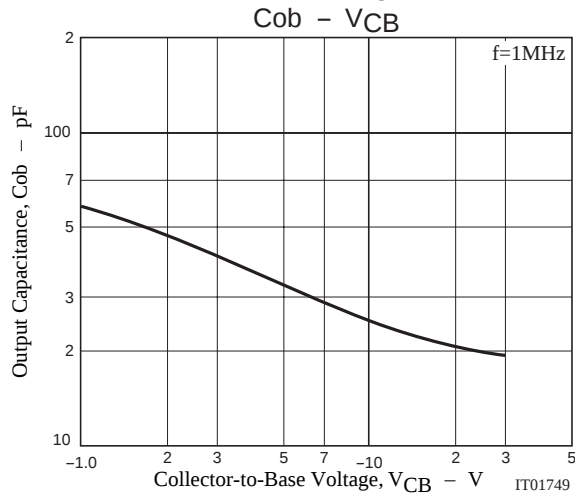
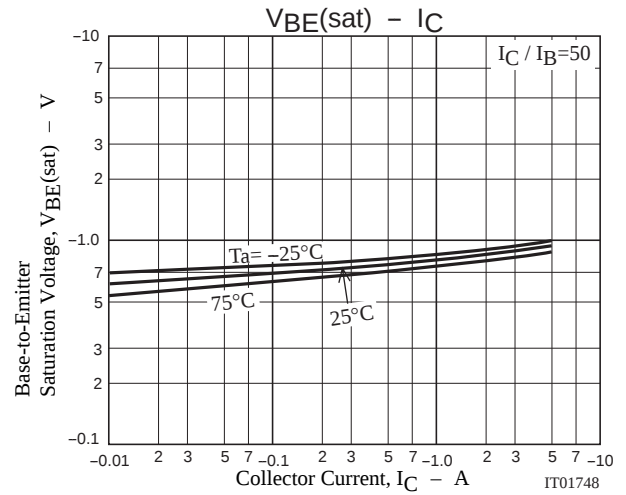
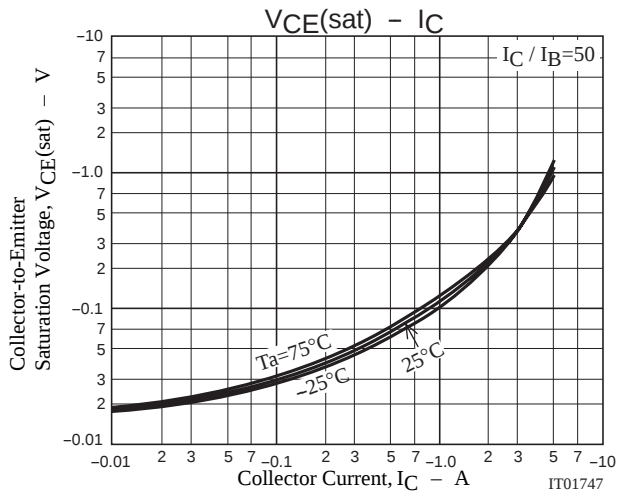
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C = -1.5A, I_B = -30mA$		-155	-230	mV
	$V_{CE(sat)2}$	$I_C = -1.5A, I_B = -75mA$		-105	-155	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5A, I_B = -30mA$		-0.83	-1.2	V
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	$V_{(BR)EBO}$	$I_C = -10\mu A, I_C = 0$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}	See specified Test Circuit.		270		ns
Turn-OFF Time	t_f	See specified Test Circuit.		25		ns

Electrical Connection



Switching Time Test Circuit





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