

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

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

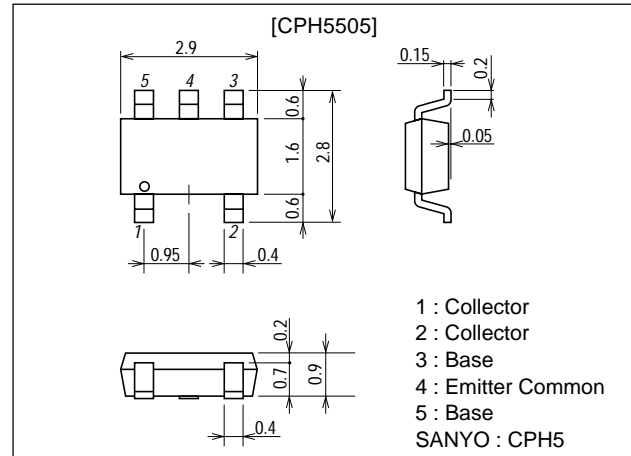
**Features**

- 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	$V_{CB0}$		-30	V
Collector-to-Emitter Voltage	$V_{CE0}$		-30	V
Emitter-to-Base Voltage	$V_{EB0}$		-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 <sup>2</sup> ×0.8mm)	0.9	W
Total Dissipation	$P_T$	Mounted on a ceramic board (600mm <sup>2</sup> ×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	$I_{CB0}$	$V_{CB}=-30\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EB0}$	$V_{EB}=-4\text{V}, I_C=0$			-0.1	$\mu\text{A}$
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

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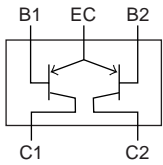
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# CPH5505

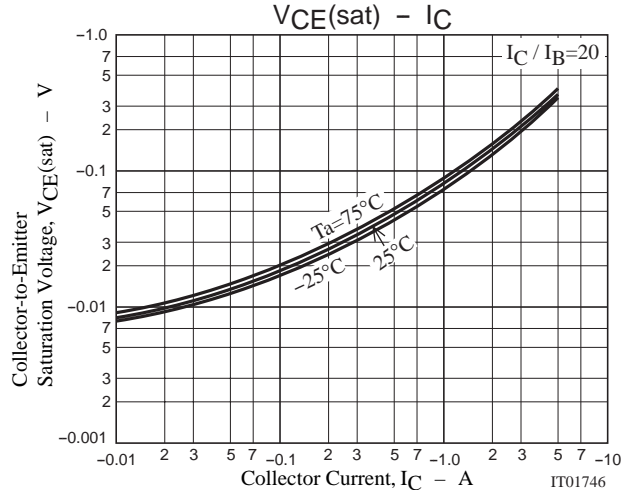
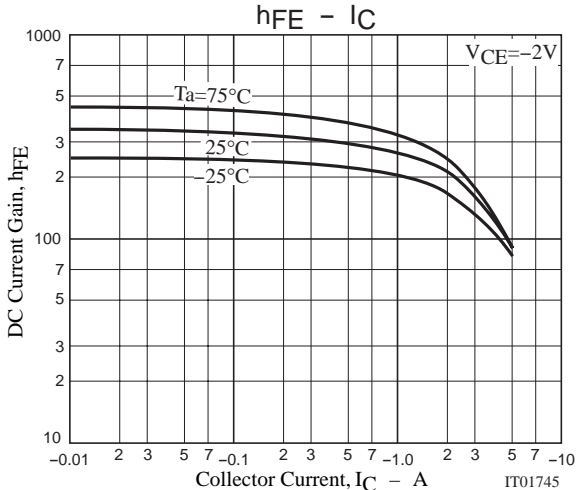
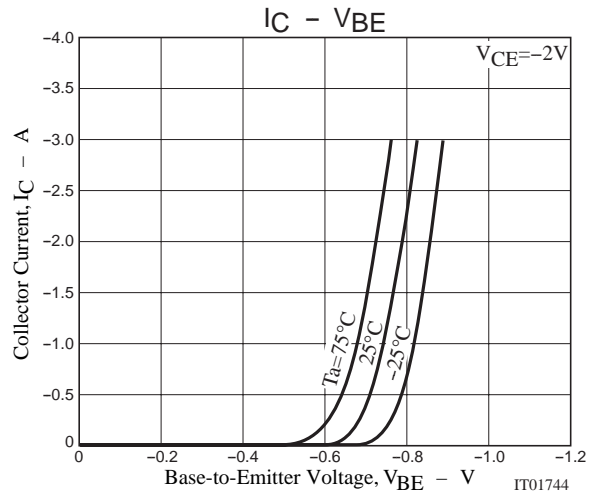
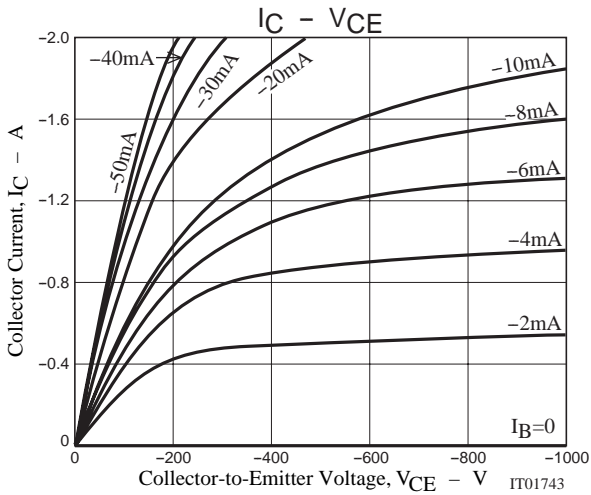
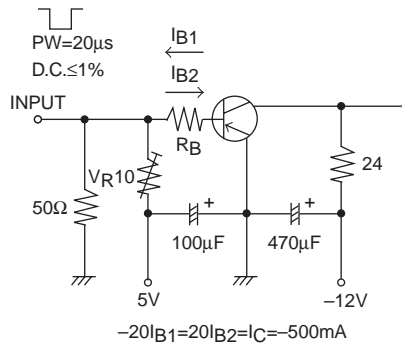
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C = -1.5A, I_B = -30mA$		-155	-230	mV
	$V_{CE(sat)2}$	$I_C = -1.5A, I_B = -75mA$		-105	-155	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5A, I_B = -30mA$		-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

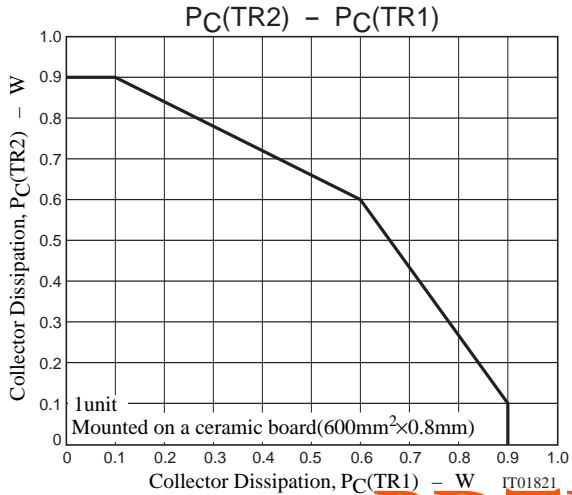
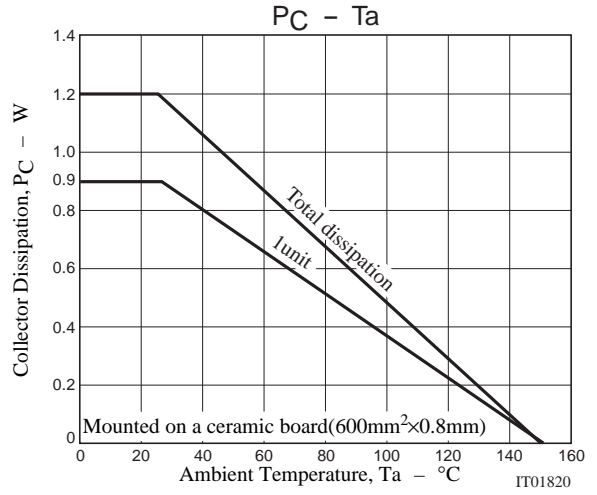
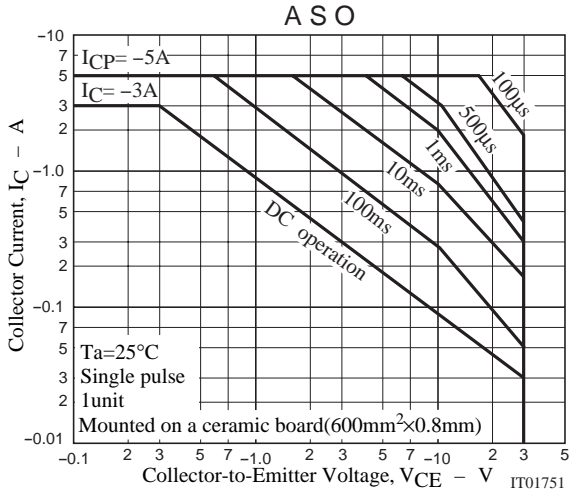
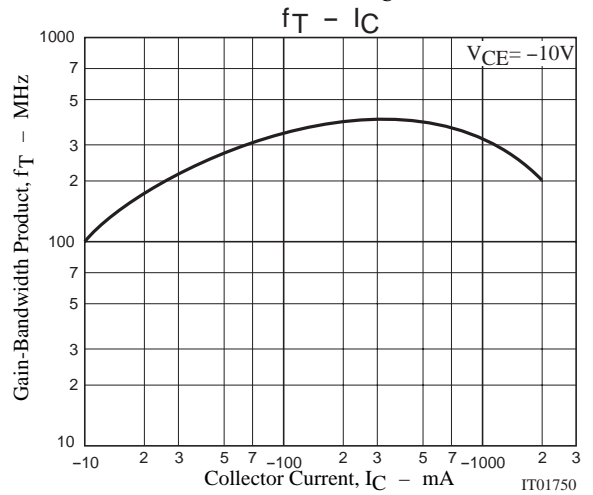
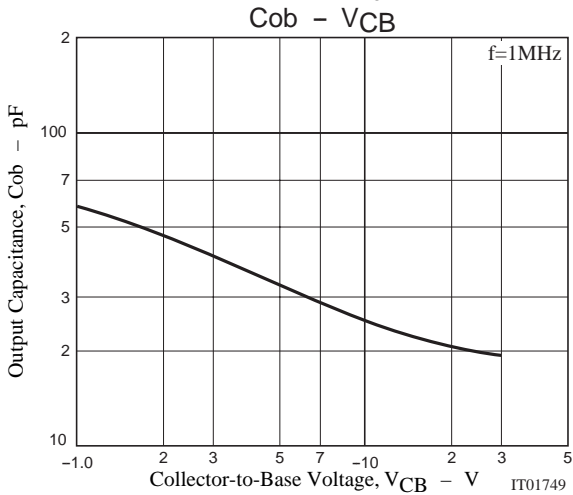
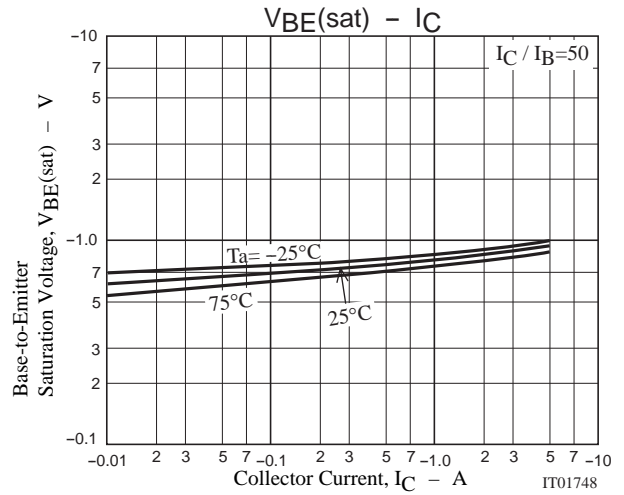
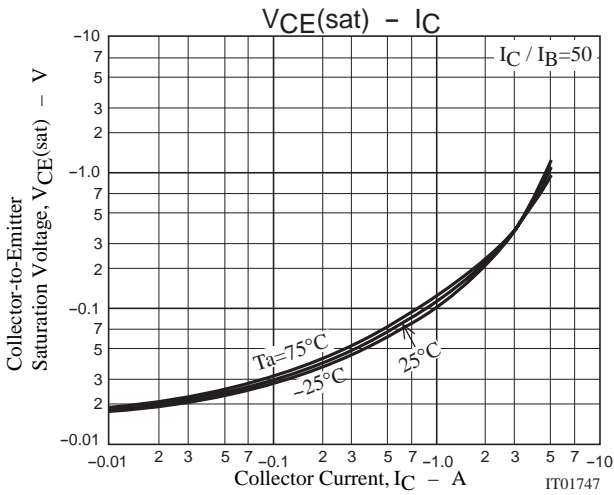
## Electrical Connection



## Switching Time Test Circuit



# CPH5505



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