

**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).

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_{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_{CB0} | $V_{CB}=-30\text{V}, I_E=0$ | | | -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

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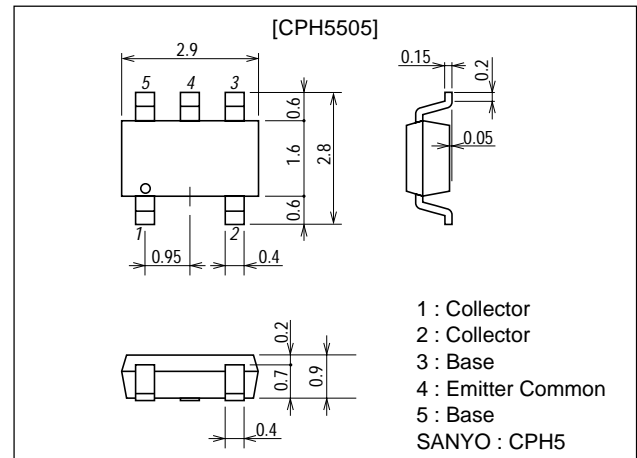
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Package Dimensions

unit:mm

2182

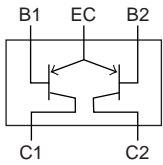


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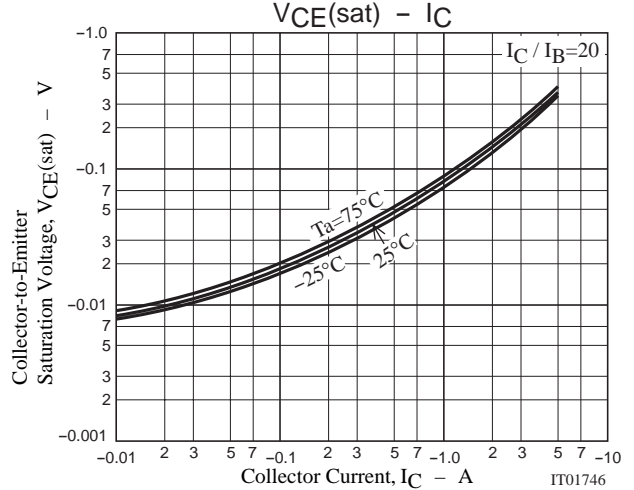
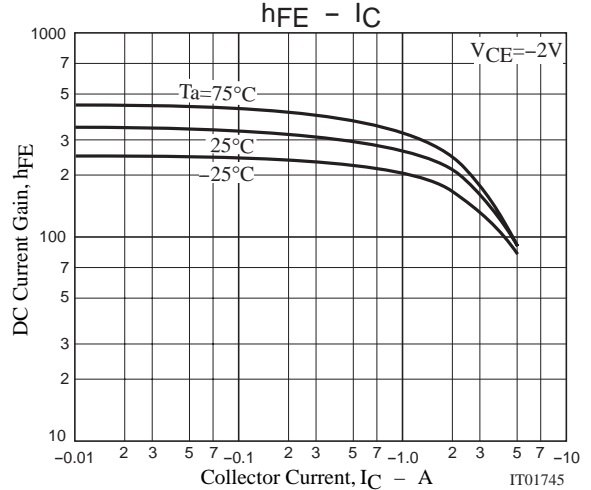
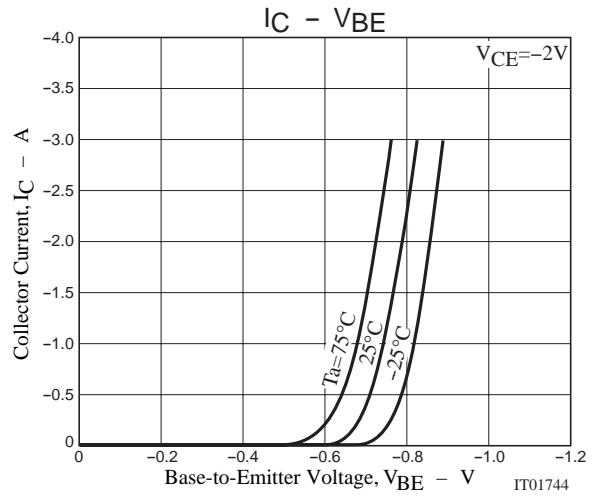
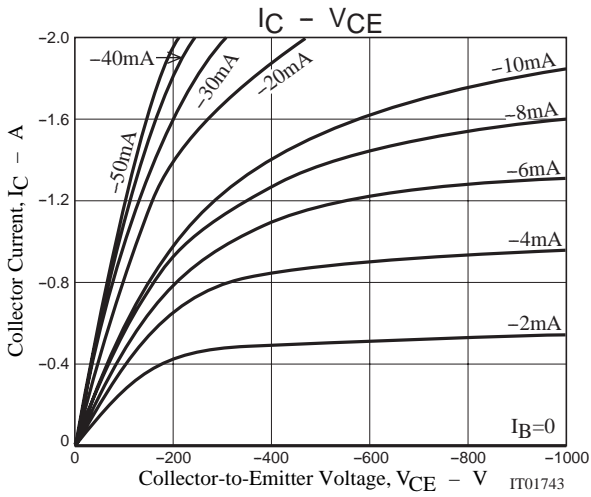
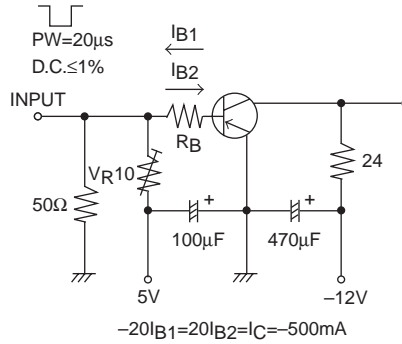
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------|-------------------------------|---------|-------|------|------|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)1}$ | $I_C = -1.5A, I_B = -30mA$ | | -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 |

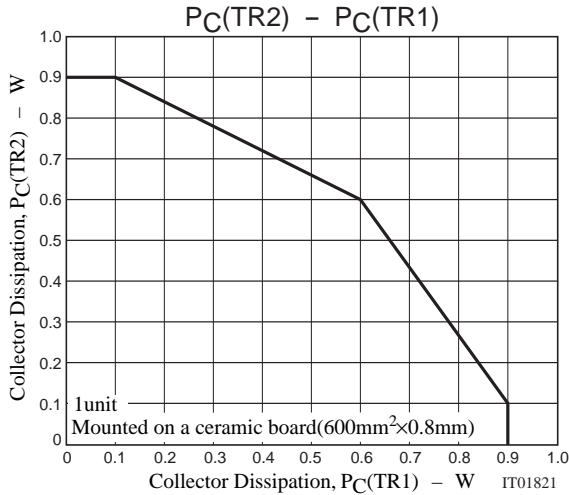
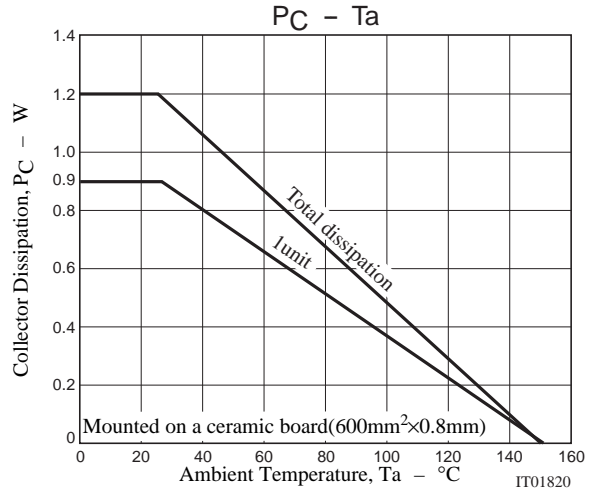
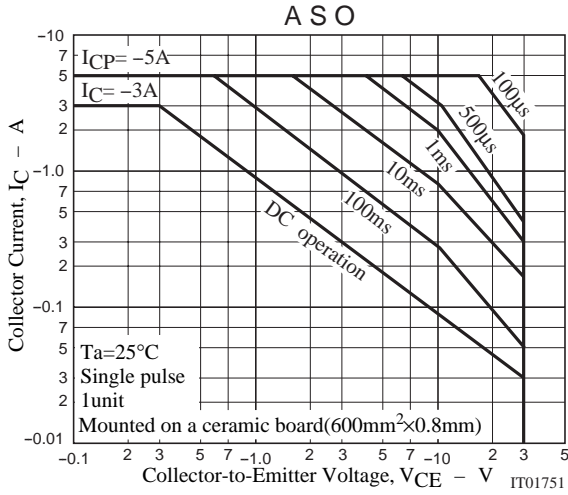
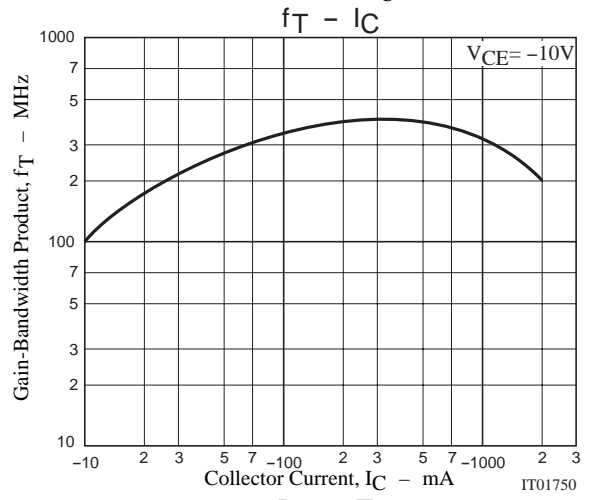
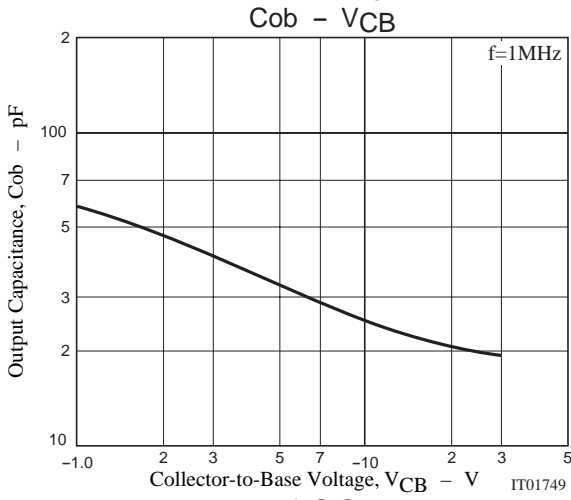
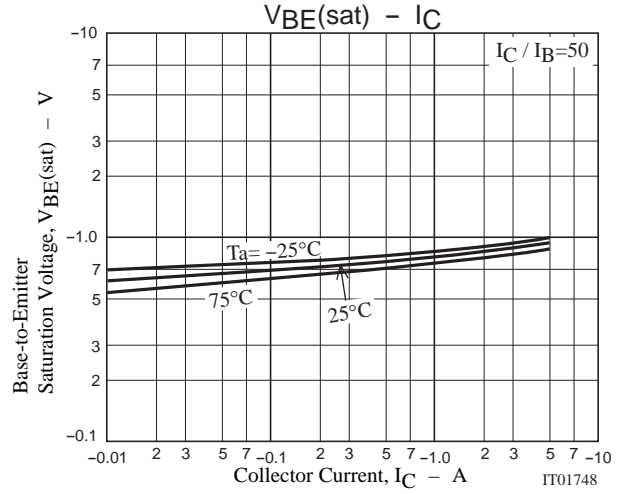
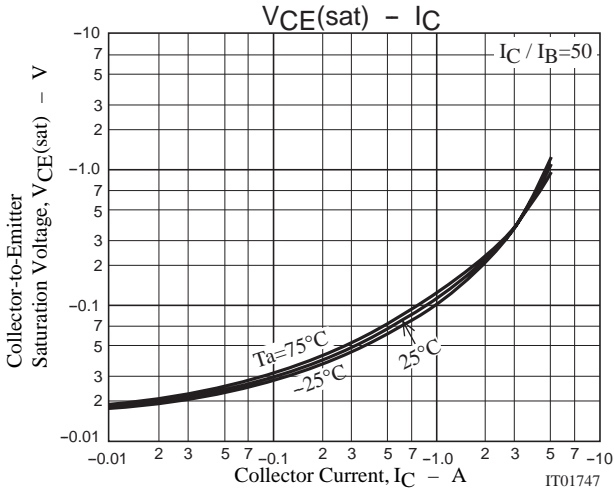
Electrical Connection



Switching Time Test Circuit



CPH5505



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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.