

Ordering number : ENN7710



SANYO Semiconductors

DATA SHEET

NPN / PNP Epitaxial Planar Silicon Transistors

CPH6071 — Video Output Driver, High-Frequency Amplifier Applications

Features

- Composite type with NPN transistor and PNP transistor contained in the conventional CPH package improving the mounting efficiency greatly.
- The CPH6071 is formed with two chips, being equivalent to the 2SC4504 and the other the 2SA1724, placed in one package.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|--|-------------|------|
| [TR1(NPN Tr)] | | | | |
| Collector-to-Base Voltage | V _{CBO} | | 30 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | 20 | V |
| Emitter-to-Base Voltage | V _{EBO} | | 3 | V |
| Collector Current | I _C | | 300 | mA |
| Collector Current (Pulse) | I _{CP} | | 600 | mA |
| Collector Dissipation | P _C | Mounted on a ceramic board (600mm ² X0.8mm) | 0.9 | W |
| [TR2(PNP Tr)] | | | | |
| Collector-to-Base Voltage | V _{CBO} | | -30 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | -20 | V |
| Emitter-to-Base Voltage | V _{EBO} | | -3 | V |
| Collector Current | I _C | | -300 | mA |
| Collector Current (Pulse) | I _{CP} | | -600 | mA |
| Collector Dissipation | P _C | Mounted on a ceramic board (600mm ² X0.8mm) | 0.9 | W |
| [Common Ratings] | | | | |
| Total Dissipation | P _T | Mounted on a ceramic board (600mm ² X0.8mm) | 1.1 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Marking : GH

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CPH6071

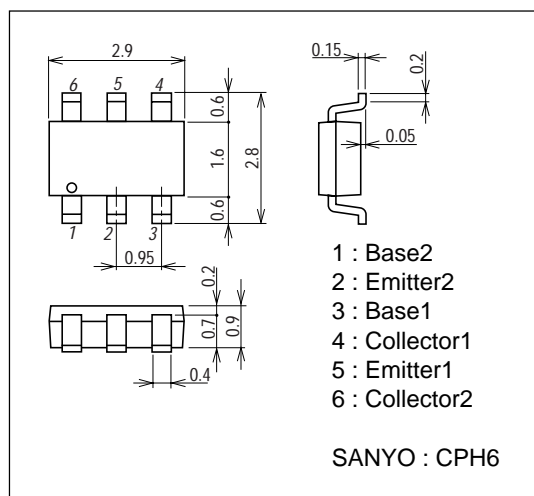
Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--------------------------|---------|------|------|---------|
| | | | min | typ | max | |
| [TR1(NPN Tr)] | | | | | | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=20V, I_E=0$ | | | 0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=2V, I_C=0$ | | | 5.0 | μA |
| DC Current Gain | $h_{FE}(1)$ | $V_{CE}=5V, I_C=50mA$ | 100 | | 200 | |
| | $h_{FE}(2)$ | $V_{CE}=5V, I_C=300mA$ | 20 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=5V, I_C=50mA$ | | 2.2 | | GHz |
| Output Capacitance | C_{ob} | $V_{CB}=10V, f=1MHz$ | | 2.9 | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB}=10V, f=1MHz$ | | 2.6 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=100mA, I_B=10mA$ | | 0.15 | 0.5 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=100mA, I_B=10mA$ | | 0.9 | 1.2 | V |
| [TR2(PNP Tr)] | | | | | | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-20V, I_E=0$ | | | -0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=-2V, I_C=0$ | | | -1.0 | μA |
| DC Current Gain | $h_{FE}(1)$ | $V_{CE}=-5V, I_C=-50mA$ | 15 | | 100 | |
| | $h_{FE}(2)$ | $V_{CE}=-5V, I_C=-300mA$ | 5 | | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=-5V, I_C=-100mA$ | | 1.5 | | GHz |
| Output Capacitance | C_{ob} | $V_{CB}=-10V, f=1MHz$ | | 4.9 | | pF |
| Reverse Transfer Capacitance | C_{re} | $V_{CB}=-10V, f=1MHz$ | | 4.4 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-100mA, I_B=-10mA$ | | -0.4 | -1.0 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-100mA, I_B=-10mA$ | | -0.9 | -1.2 | V |

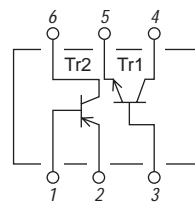
Package Dimensions

unit : mm

2229

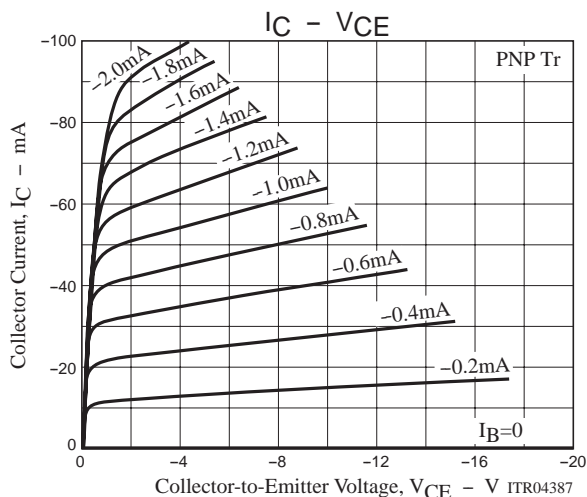
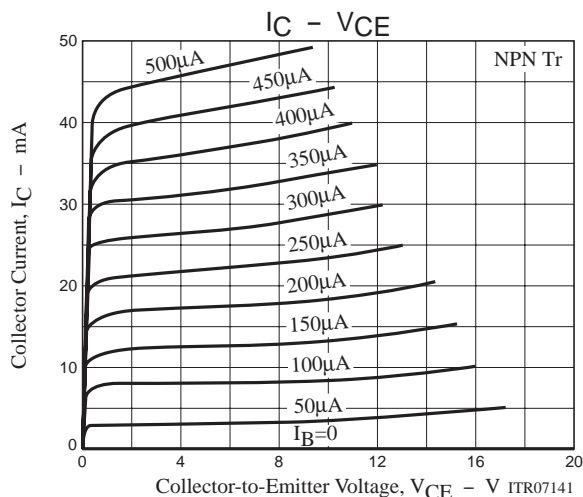


Electrical Connection

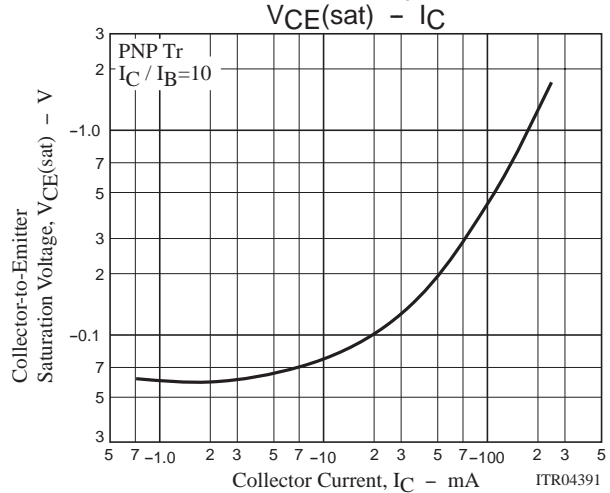
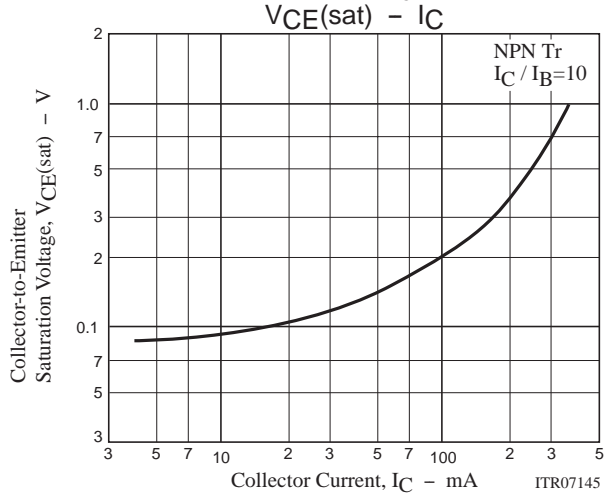
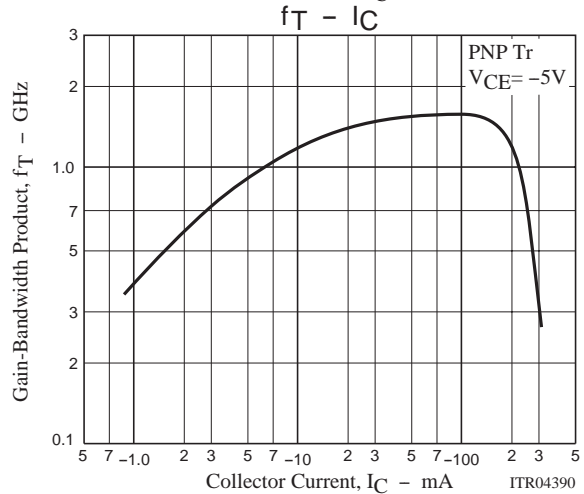
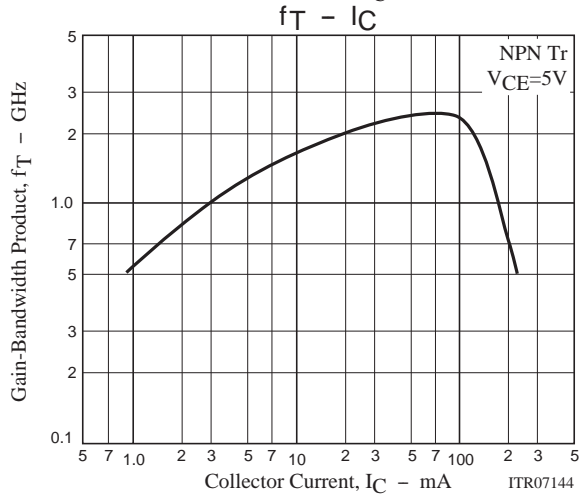
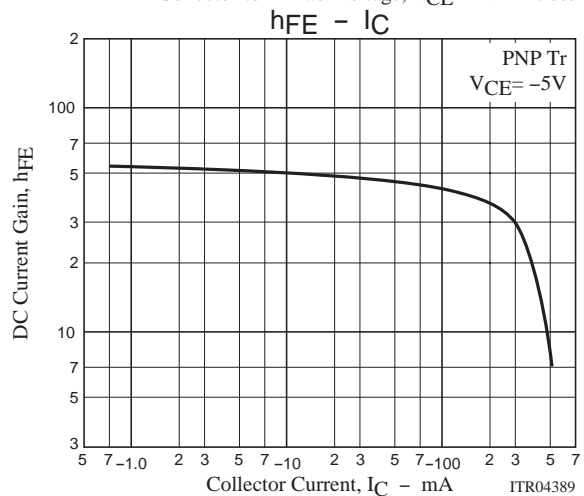
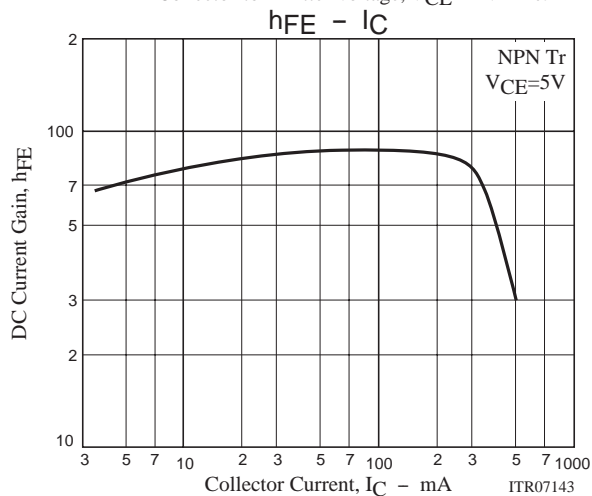
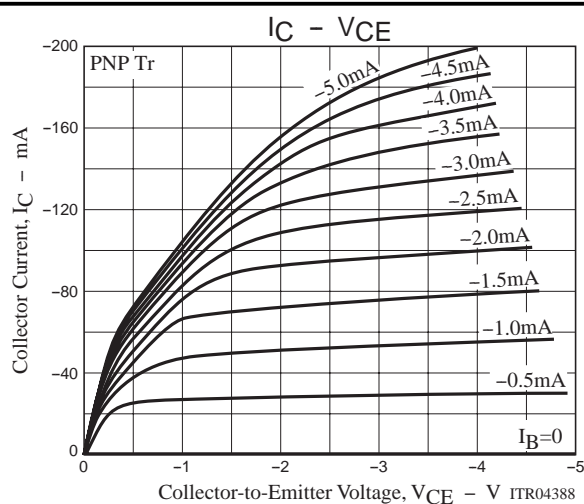
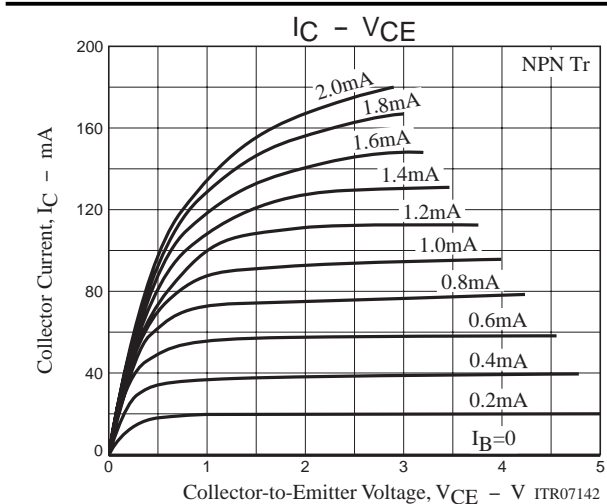


- 1 : Base2
- 2 : Emitter2
- 3 : Base1
- 4 : Collector1
- 5 : Emitter1
- 6 : Collector2

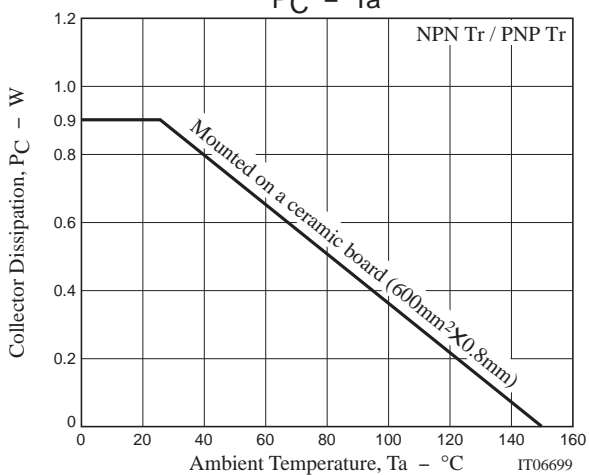
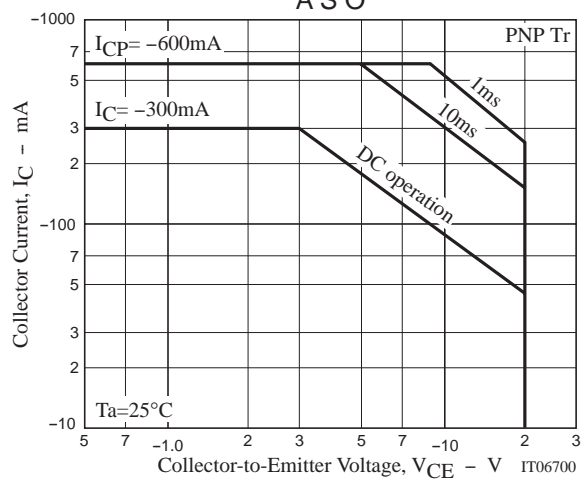
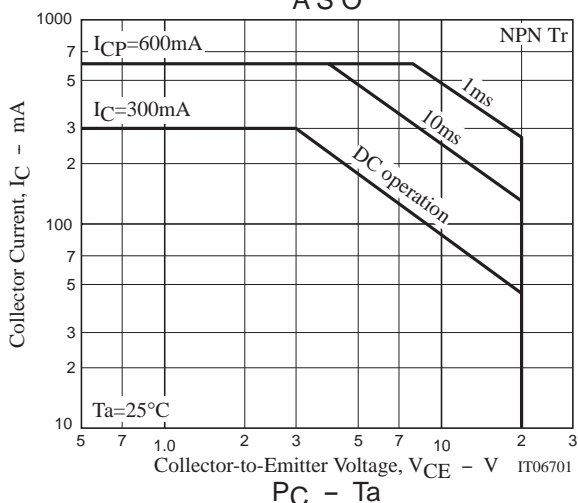
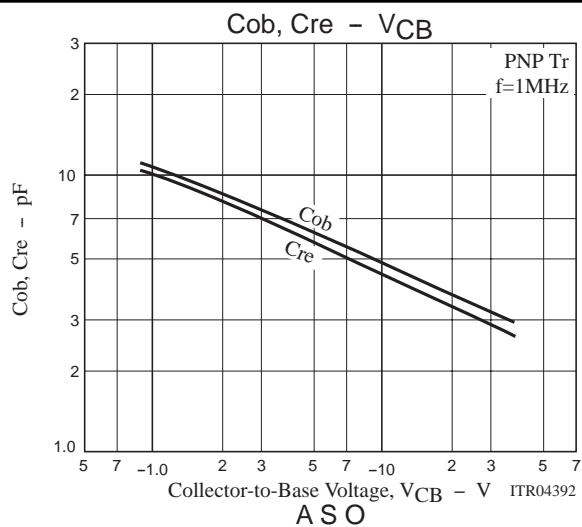
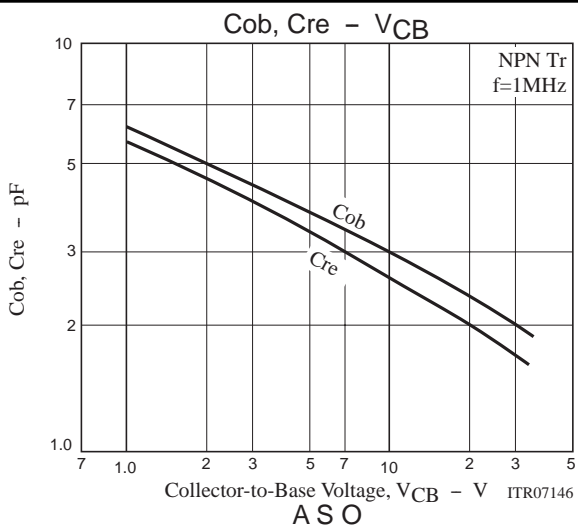
Top view



CPH6071



CPH6071



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