



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 $T_a=25^\circ\text{C}$

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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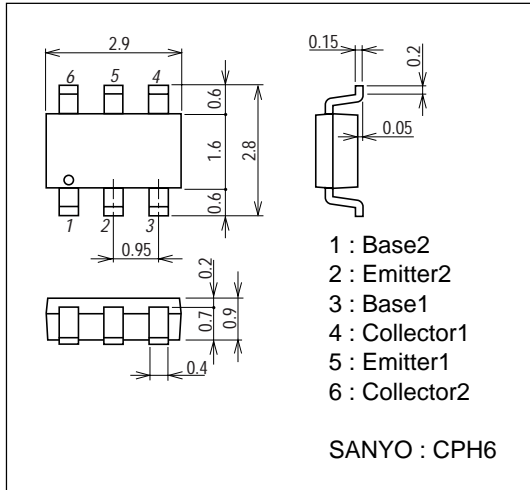
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR1(NPN Tr)]						
Collector Cutoff Current	ICBO	V _{CB} =20V, I _E =0			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =2V, I _C =0			5.0	μA
DC Current Gain	hFE(1)	V _{CE} =5V, I _C =50mA	100		200	
	hFE(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	ICBO	V _{CB} =-20V, I _E =0			-0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =-2V, I _C =0			-1.0	μA
DC Current Gain	hFE(1)	V _{CE} =-5V, I _C =-50mA	15		100	
	hFE(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

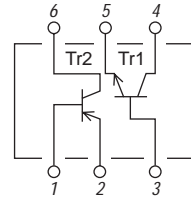
Package Dimensions

unit : mm

2229

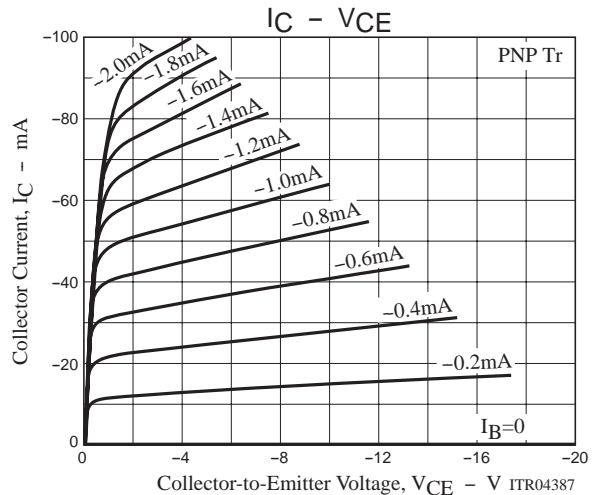
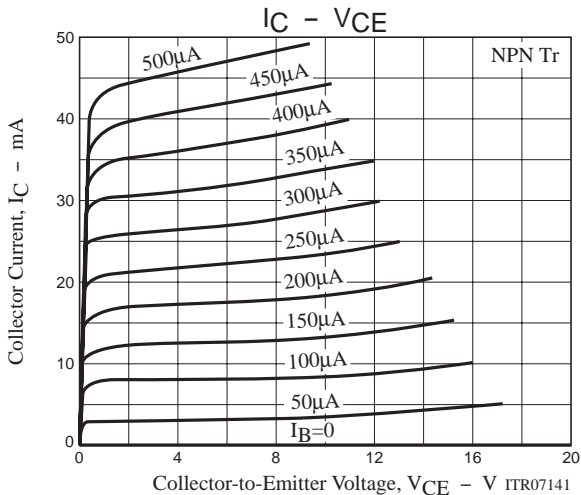


Electrical Connection

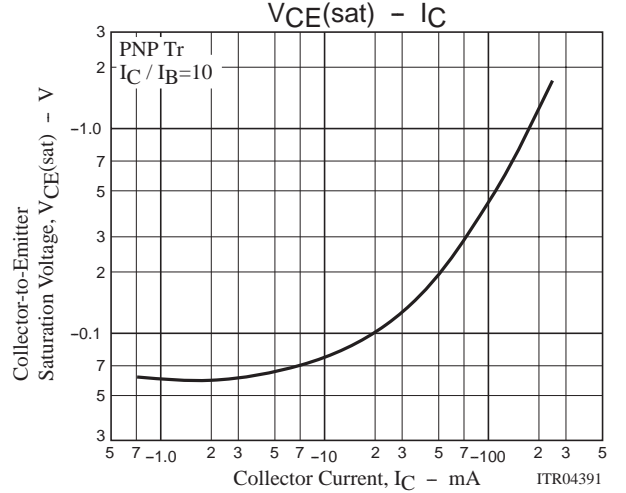
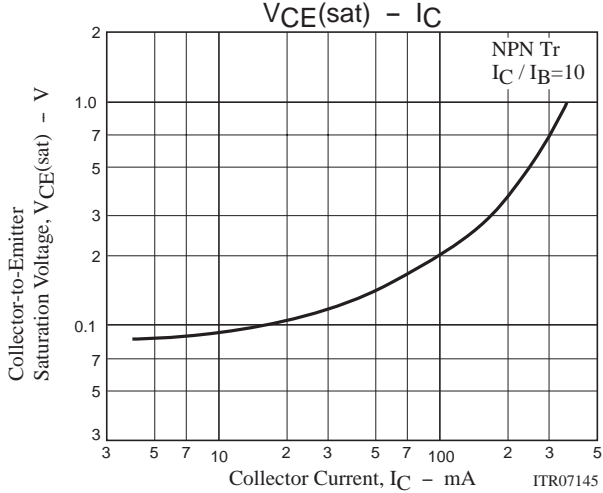
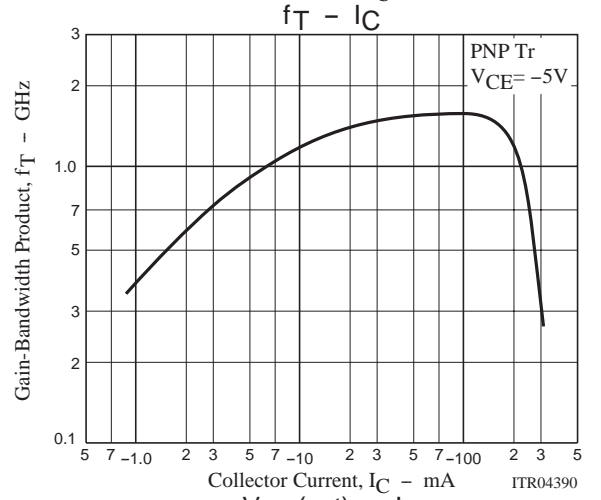
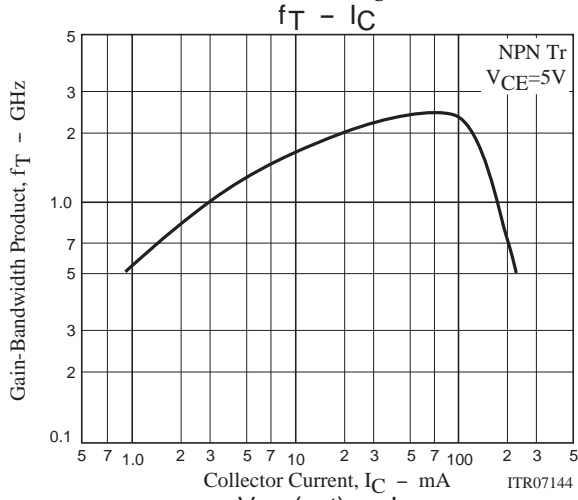
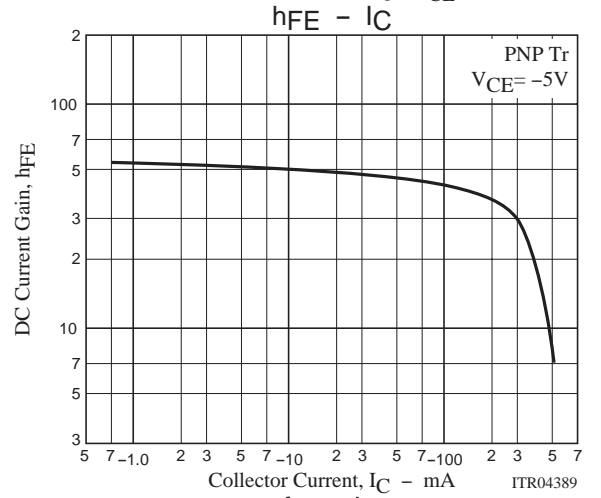
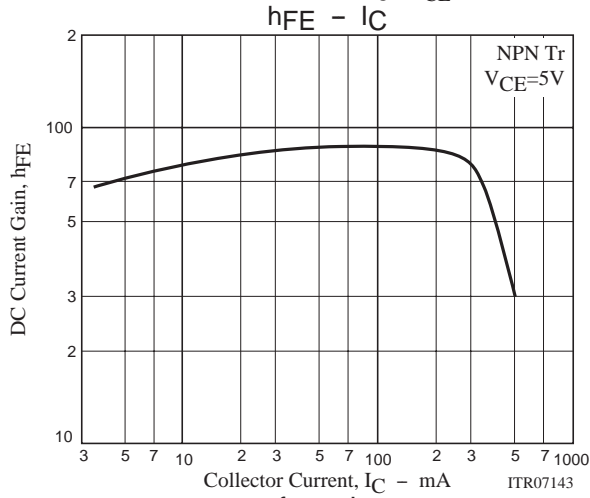
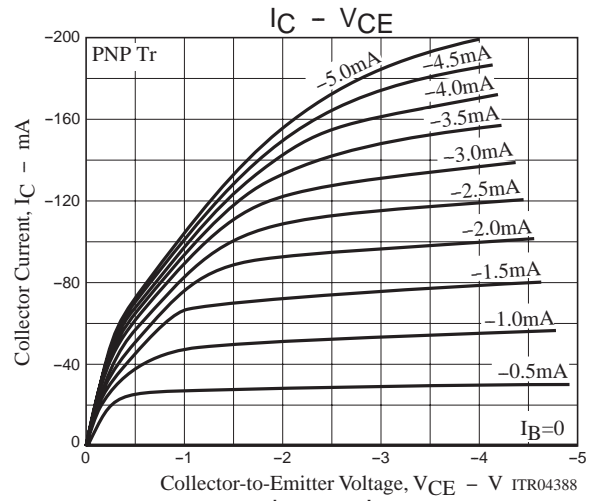
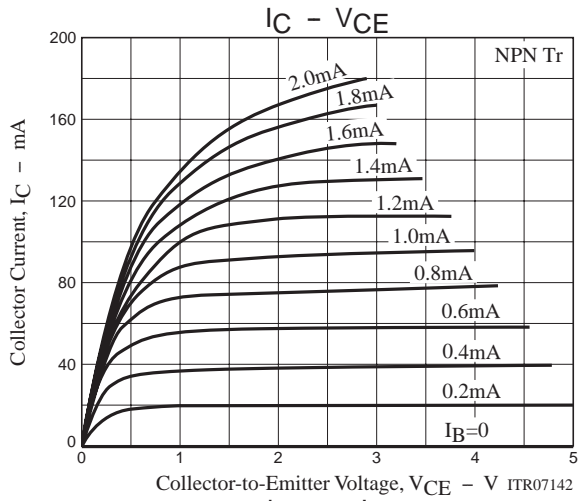


- 1 : Base2
- 2 : Emitter2
- 3 : Base1
- 4 : Collector1
- 5 : Emitter1
- 6 : Collector2

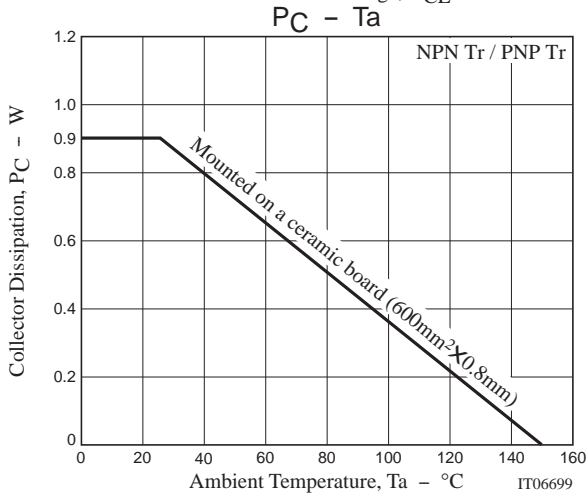
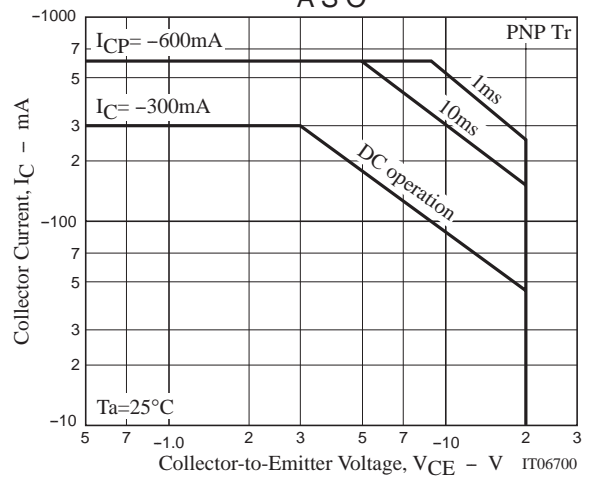
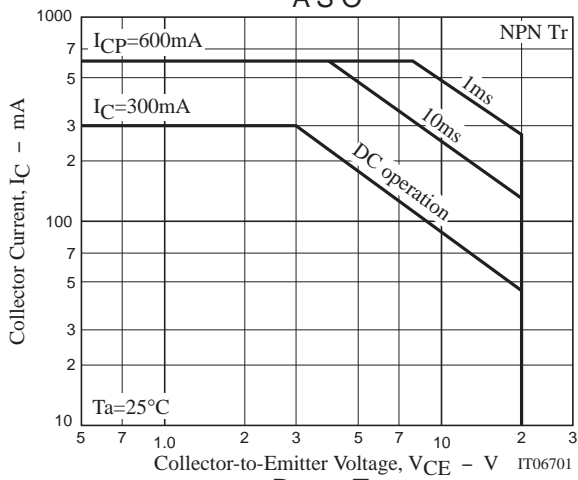
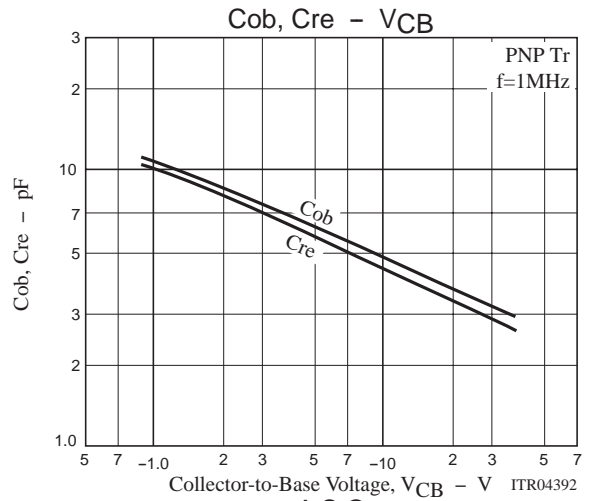
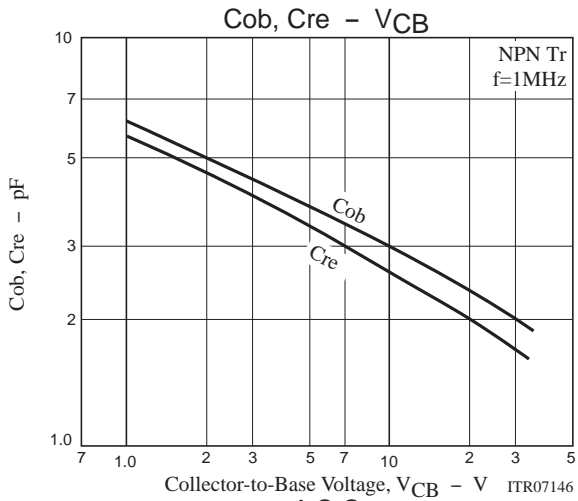
Top view



CPH6071



CPH6071



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