

Ordering number : ENN6793

NPN Epitaxial Planar Silicon Transistor



CPH5504

High-Current Switching Applications

Applications

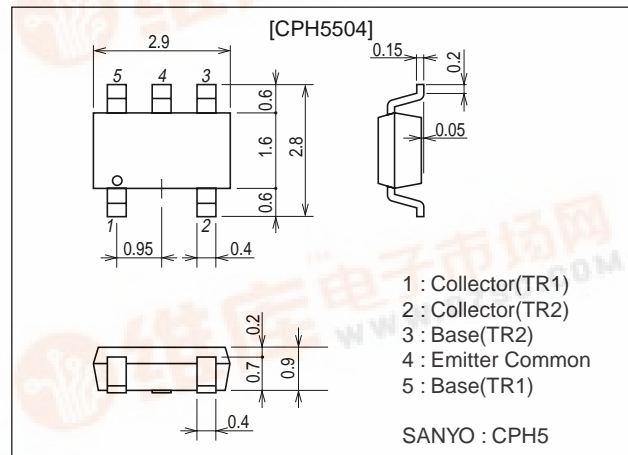
- DC-DC converter, relay drivers, lamp drivers, motor drivers, strobes.

Features

- Composite type with 2 NPN transistors in one package facilitating high-density mounting.
- The CPH5504 is composed of 2 chips each equivalent to the CPH3205.
- Ultrasmall-sized package facilitates miniaturization in end products. (mounting height : 0.9mm)

Package Dimensions

unit : mm
2162



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		80	V
Collector-to-Emitter Voltage	V _{CES}		80	V
Collector-to-Emitter Voltage	V _{CEO}		50	V
Emitter-to-Base Voltage	V _{EBO}		6	V
Collector Current	I _C		3	A
Collector Current (Pulse)	I _{CP}		6	A
Base Current	I _B		600	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² X0.8mm)	0.9	W
Total Power Dissipation	P _T	Mounted on a ceramic board (600mm ² X0.8mm)	1.2	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +15	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =40V, I _E =0			1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			1	μA
DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =100mA	200		560	
	h _{FE2}	V _{CE} =2V, I _C =3A	70			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =500mA		380		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		13		pF

Continued on next page.

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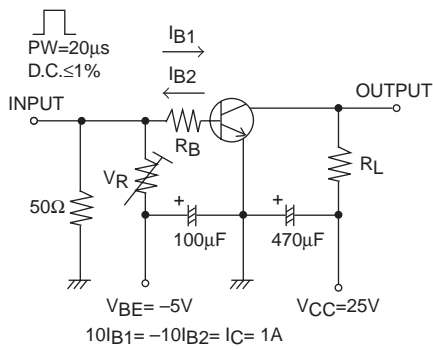
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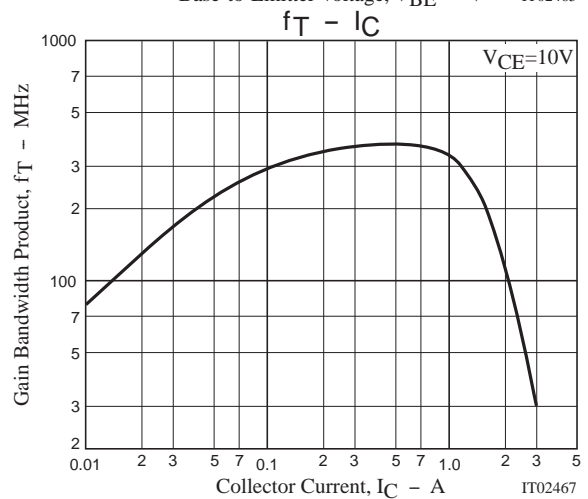
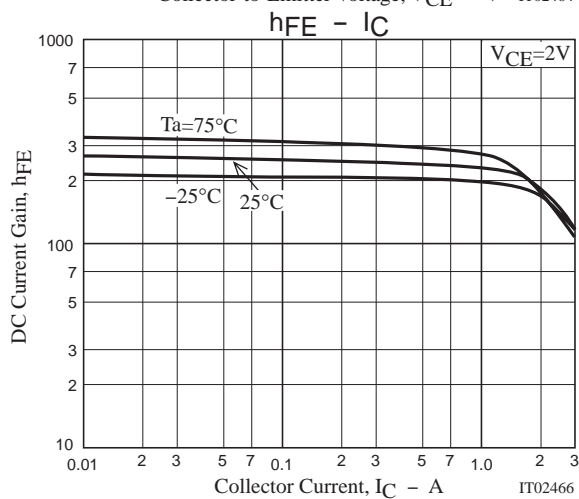
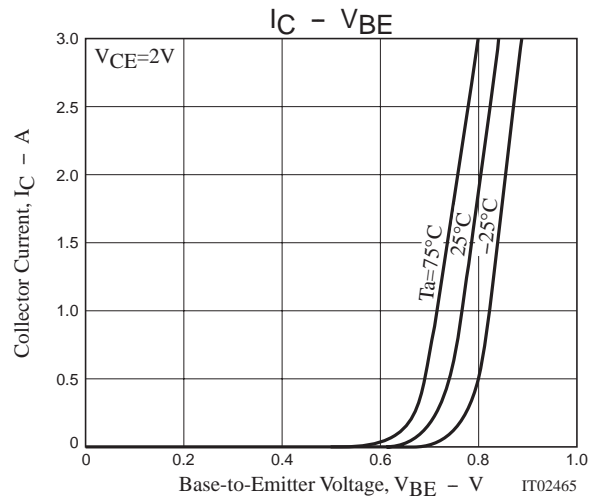
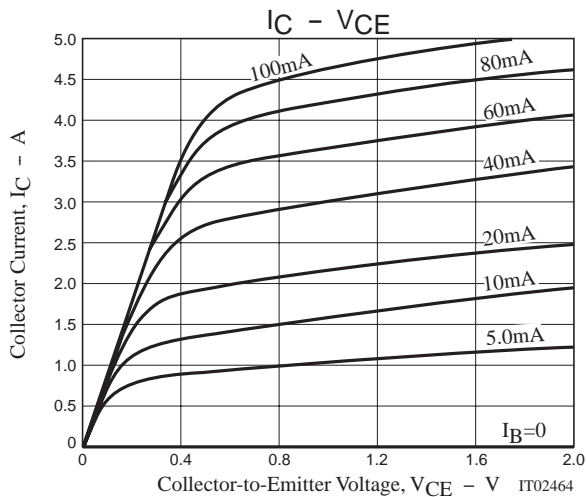
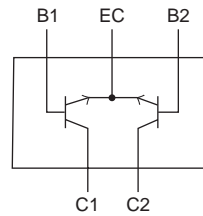
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=50mA$		80	120	mV
	$V_{CE(sat)}$	$I_C=2A, I_B=100mA$		140	210	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2A, I_B=100mA$		0.88	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	80			V
Collector-to-Base Breakdown Voltage	$V_{(BR)CES}$	$I_C=100\mu A, R_{BE}=0$	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Turn-ON Time	t_{on}	See specified Test Circuit		35		ns
Storage Time	t_{stg}	See specified Test Circuit		300		ns
Fall Time	t_f	See specified Test Circuit		22		ns

Marking : ED

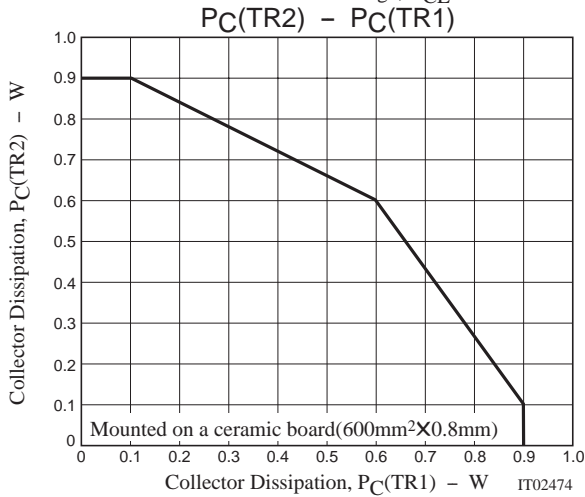
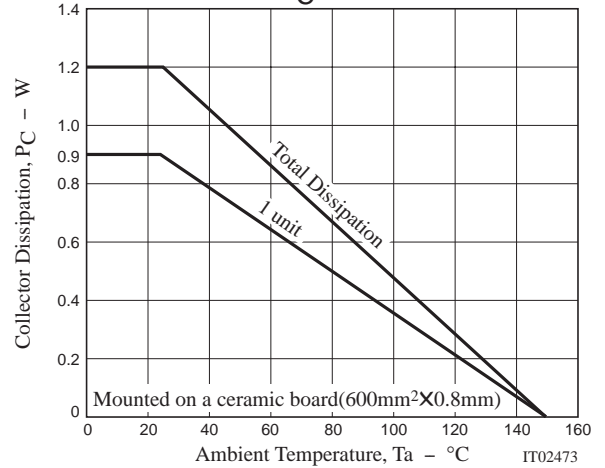
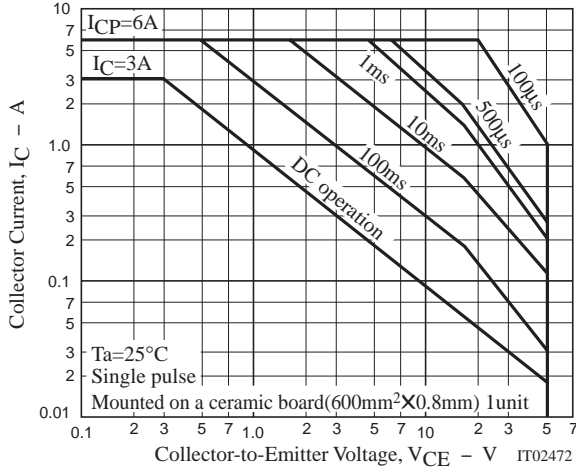
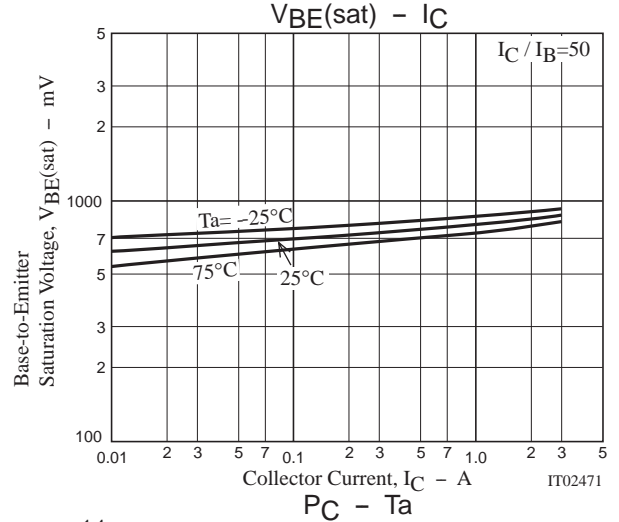
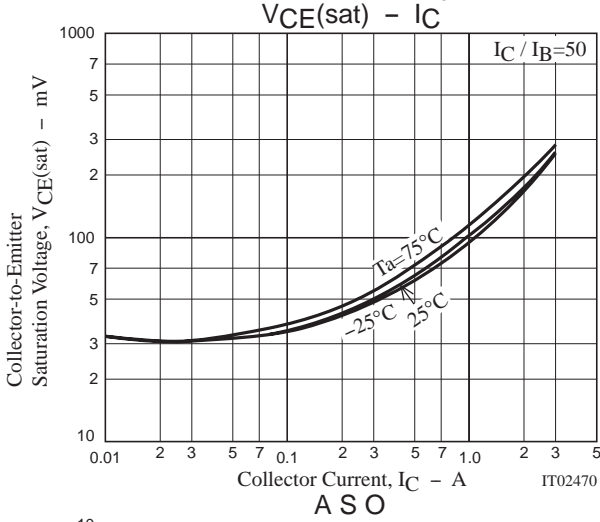
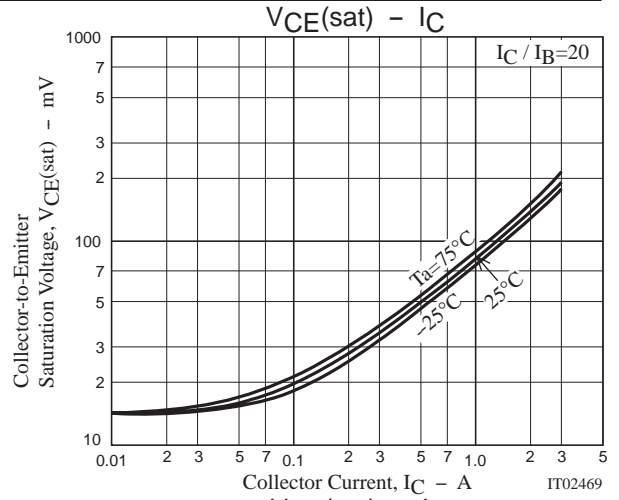
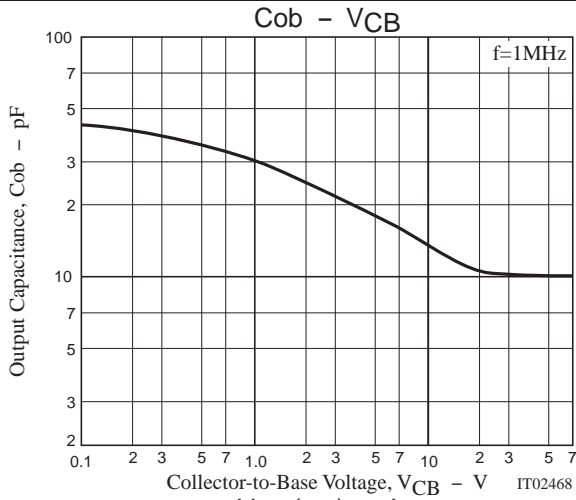
Switching Time Test Circuit



Electrical Connection



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