



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH5504 — NPN Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

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

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 package facilitates miniaturization in end products. (mounting height : 0.9mm)

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		100	V
Collector-to-Emitter Voltage	V _{CEs}		100	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 _{CBO}	V _{CB} =40V, I _E =0A			1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0A			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
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =1A, I _B =50mA		80	120	mV
		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

Marking : ED

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CPH5504

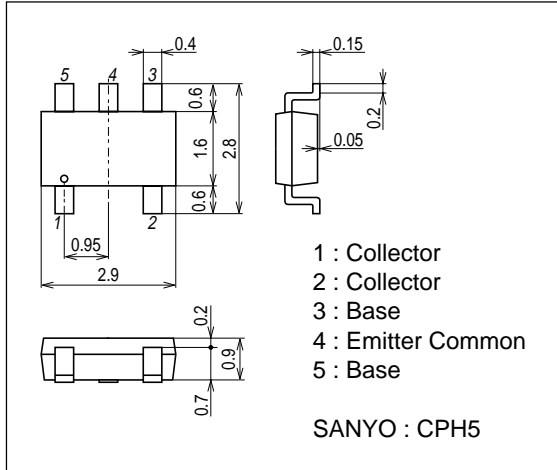
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	100			V
Collector-to-Base Breakdown Voltage	$V_{(BR)CES}$	$I_C=100\mu A, R_{BE}=0\Omega$	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0A$	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

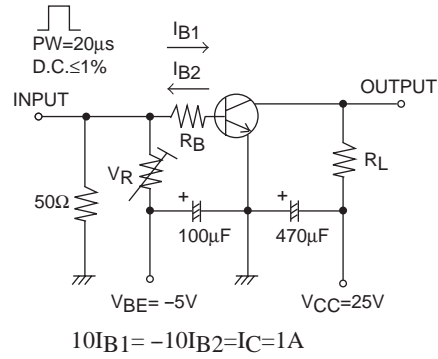
Package Dimensions

unit : mm

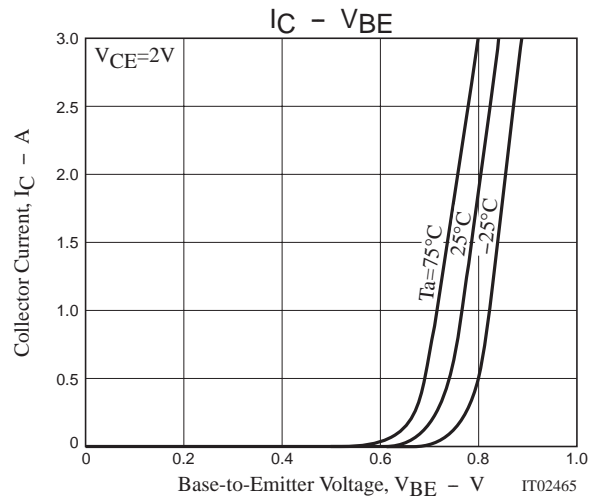
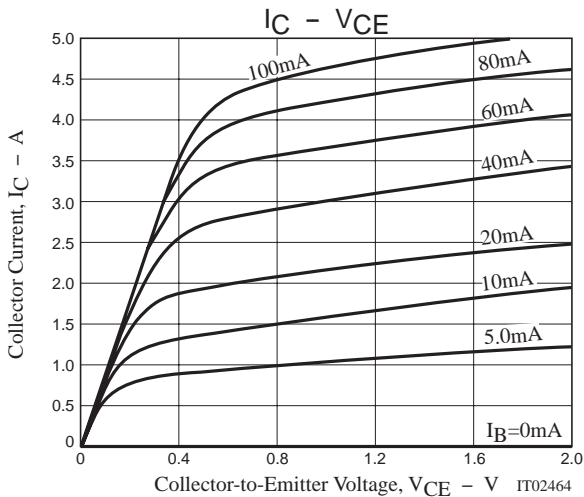
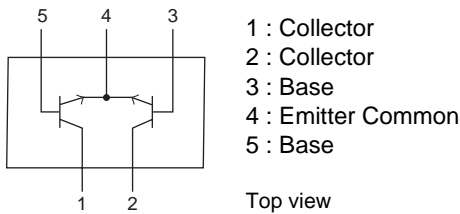
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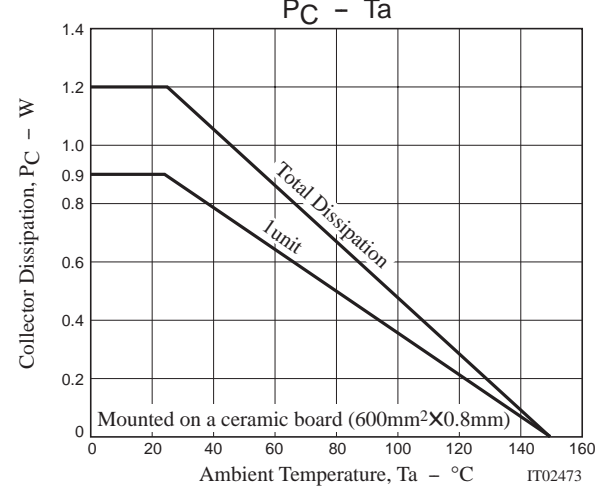
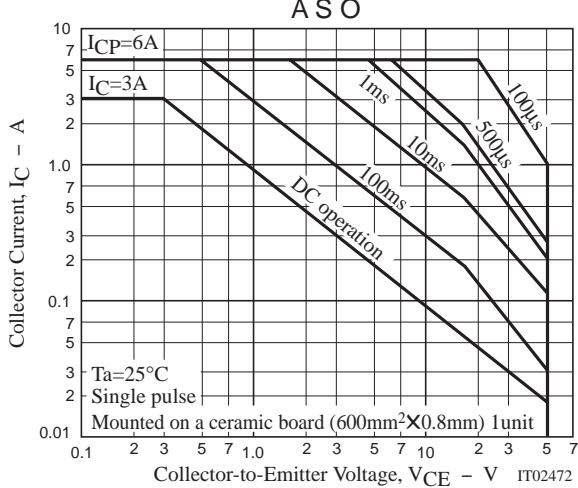
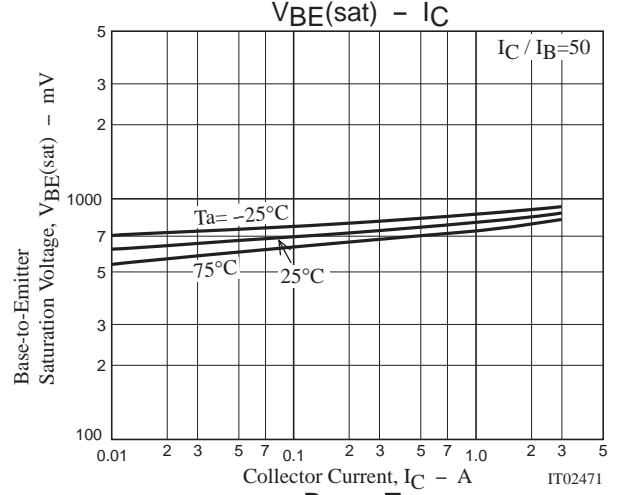
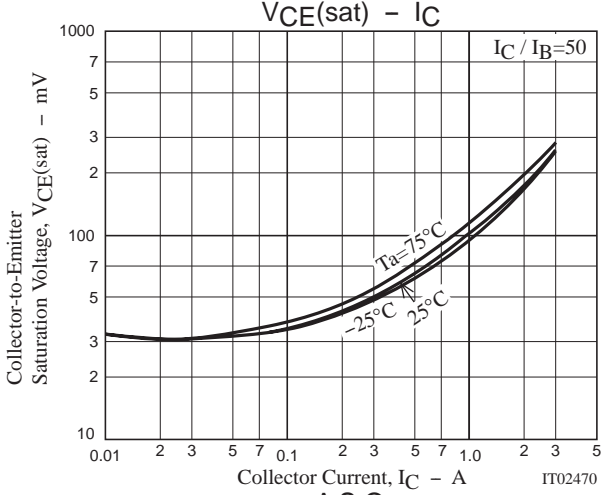
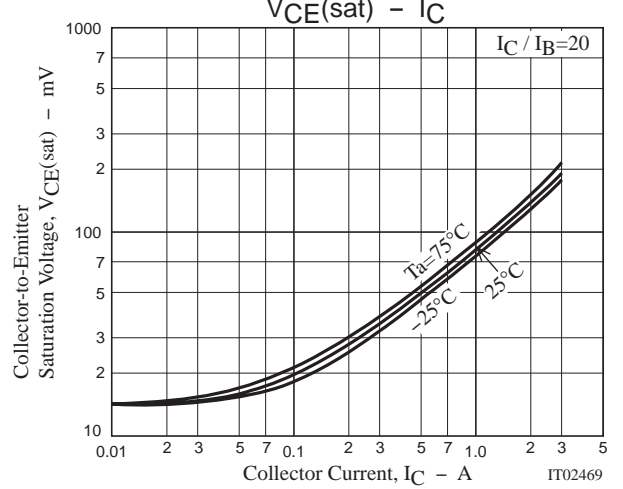
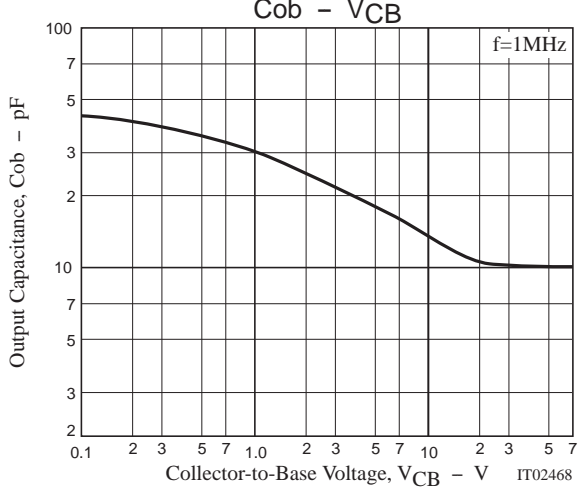
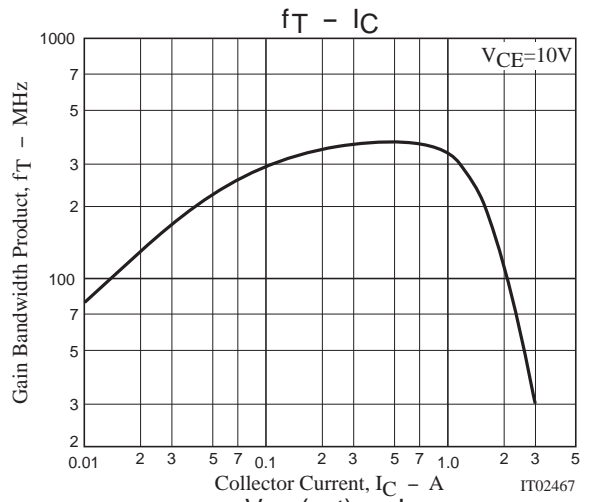
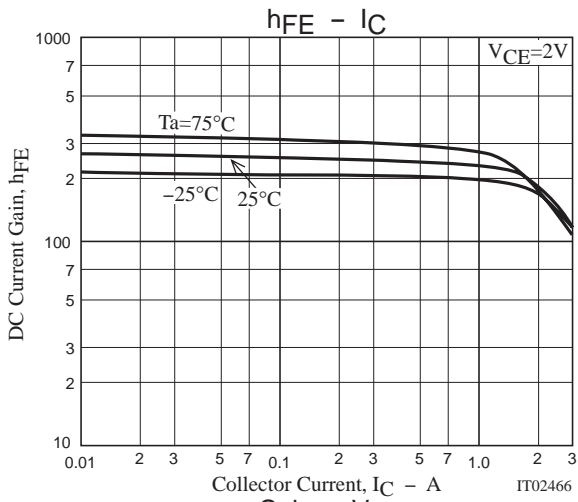
Switching Time Test Circuit

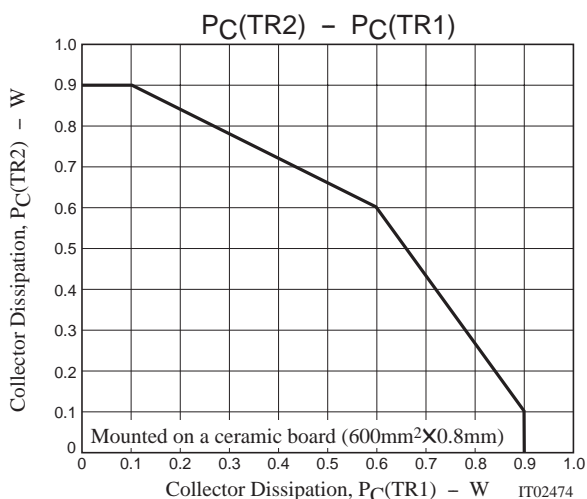


Electrical Connection



CPH5504





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