

Ordering number : ENN6918A

NPN Epitaxial Planar Silicon Transistor



CPH5503

DC / DC Converter Applications

Applications

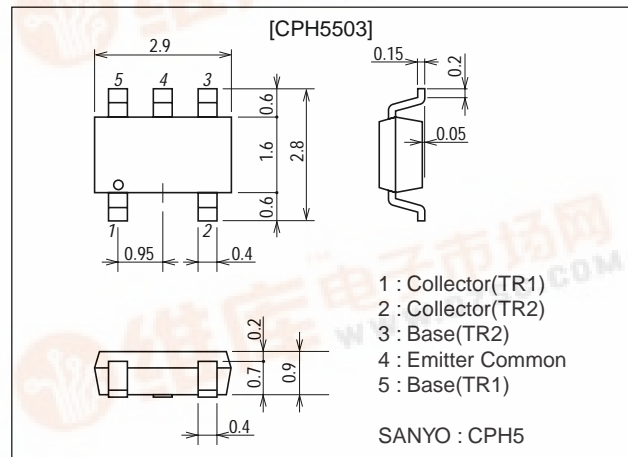
- Relay drivers, lamp drivers, motor drivers, strobes.

Features

- Composite type with two NPN transistors contained in one package facilitating high-density mounting.
- The two chips contained are equivalent to the CPH3209.
- Ultrasmall package permitting applied sets to be made small and slim.(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}		40	V
Collector-to-Emitter Voltage	V _{CEO}		30	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		3	A
Collector Current (Pulse)	I _{CP}		5	A
Collector Dissipation	P _C	Mounted on a ceramic board (600mm²×0.8mm)	0.9	W
Total Dissipation	P _T	Mounted on a ceramic board (600mm²×0.8mm)	1.2	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =30V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =2V, I _C =500mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =500mA		450		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		20		pF

Marking : EC

Continued on next page.

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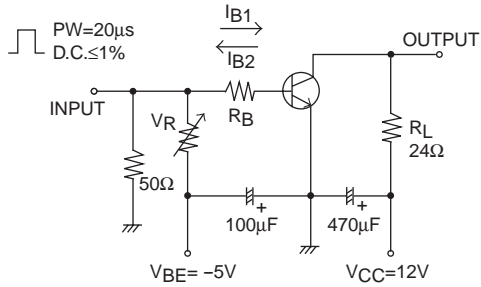


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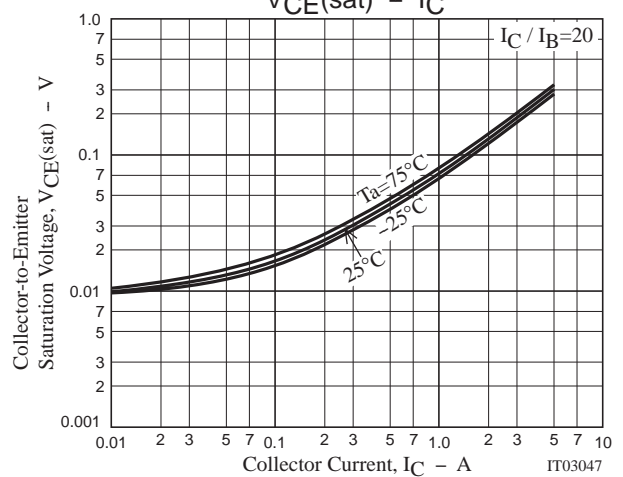
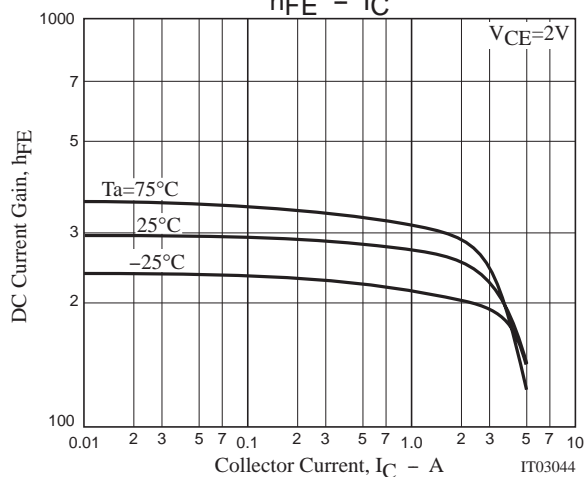
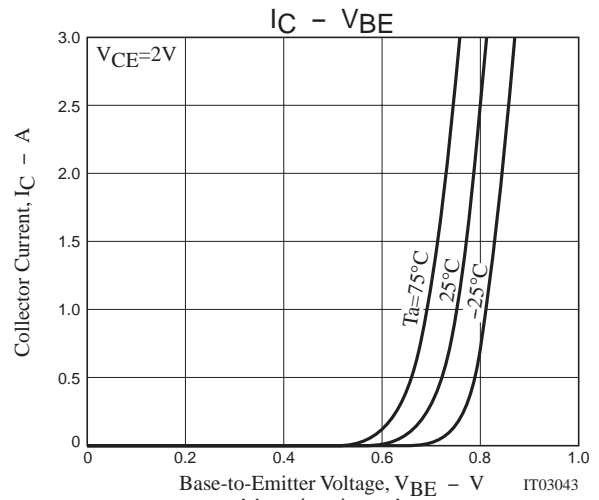
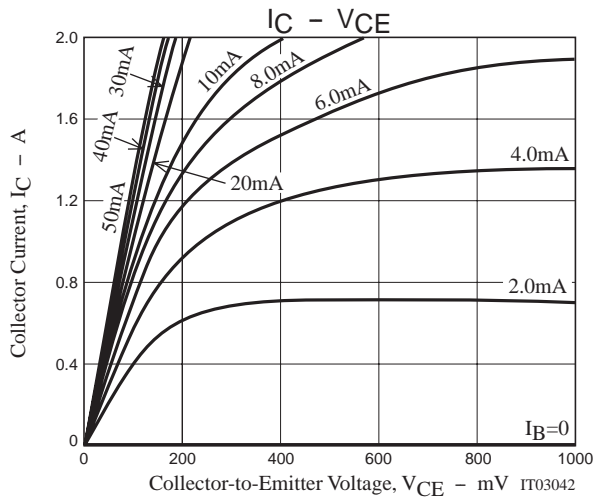
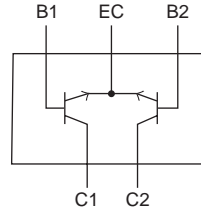
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=30mA$		120	180	mV
		$I_C=3A, I_B=60mA$		220	330	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=30mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
Turn-ON Time	t_{on}	See specified Test Circuit		30		ns
Storage Time	t_{stg}	See specified Test Circuit		300		ns
Fall Time	t_f	See specified Test Circuit		15		ns

Switching Time Test Circuit

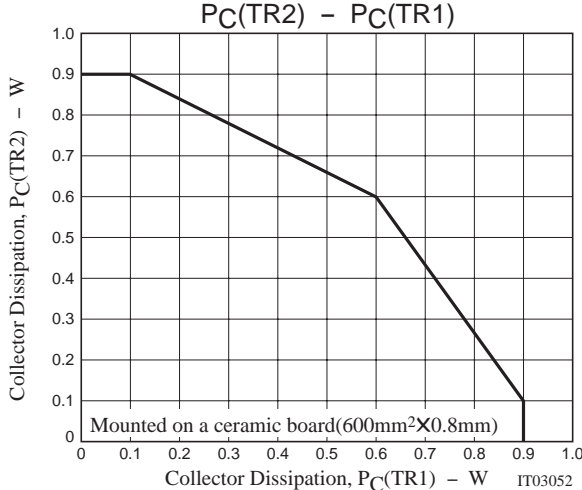
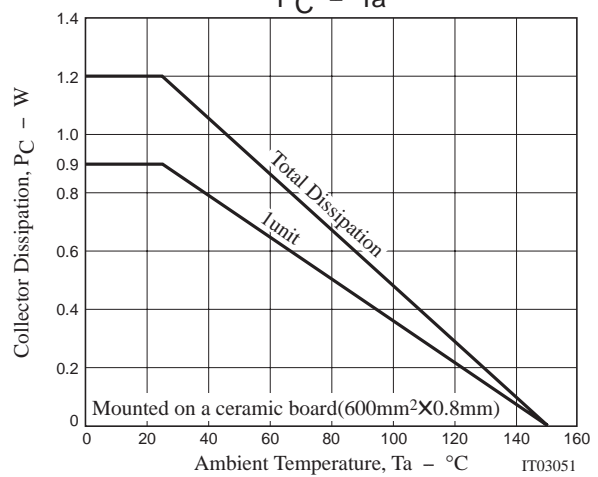
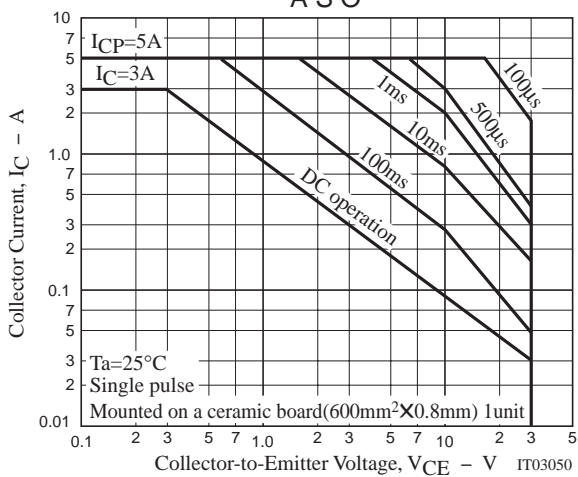
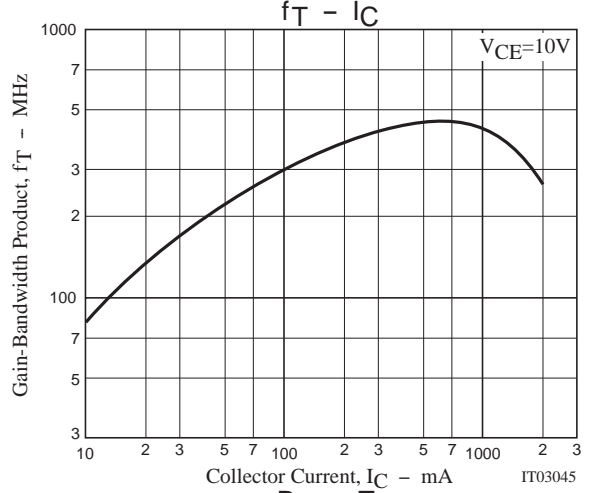
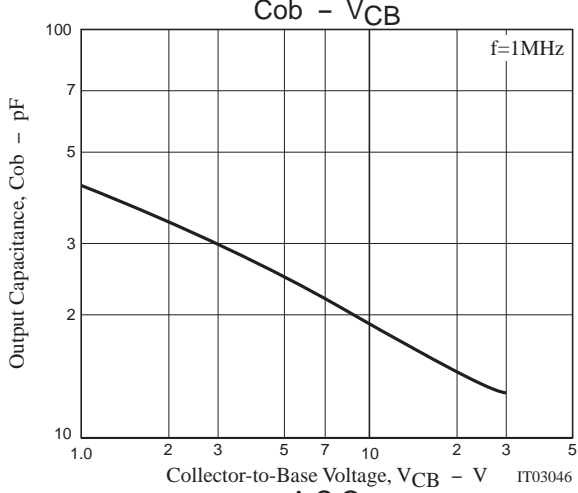
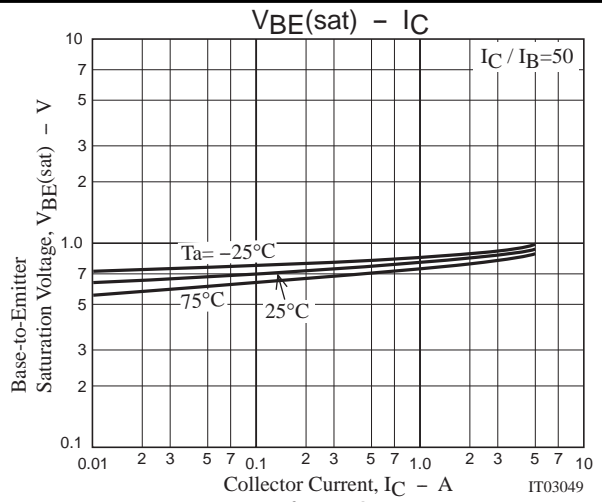
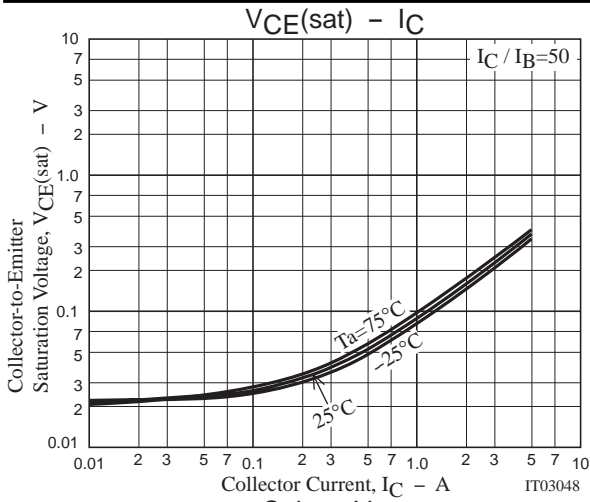


$$I_C = 20I_{B1} = -20I_{B2} = 500mA$$

Electrical Connection



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