Ordering number : ENN6592

NPN Epitaxial Planar Silicon Transistor

CPH6501

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers.

Features

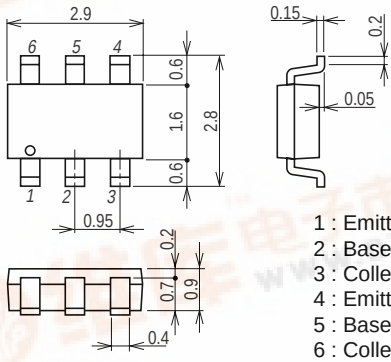
- Composite type with two NPN transistors contained in one package, facilitating high-density mounting.
- The CPH6501 consists of with two chips which are equivalent to the CPH3215.
- Ultrasmall-sized package permitting facilitates miniaturization in end products (0.9mm).

Package Dimensions

unit : mm

2187

[CPH6501]



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

SANYO : CPH6

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		40	V
Collector-to-Emitter Voltage	V_{CEO}		30	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		1.5	A
Collector Current (Pulse)	I_{CP}		3	A
Base Current	I_B		300	mA
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	Tj		150	°C
Storage Temperature	Tstg		−55 to +125	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=30V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA

Marking : EA

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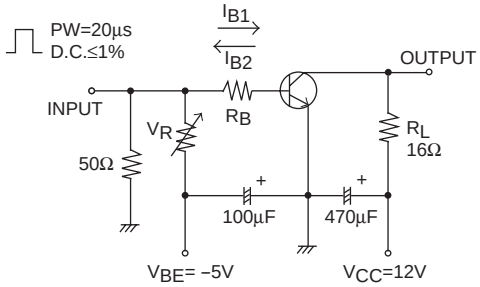
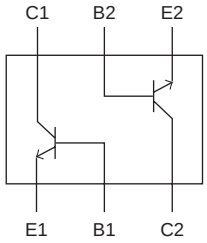
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=100mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=300mA		500		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		8		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=750mA, I_B=15mA		150	225	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=750mA, I_B=15mA		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Turn-ON Time	t_{on}	See specified Test Circuit		35		ns
Storage Time	t_{stg}	See specified Test Circuit		205		ns
Fall Time	t_f	See specified Test Circuit		30		ns

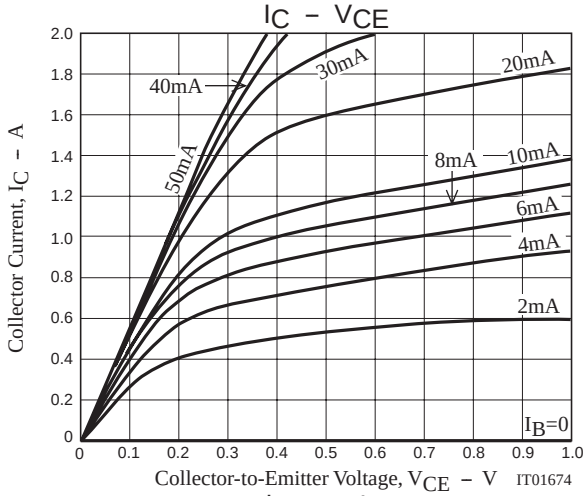
Switching Time Test Circuit

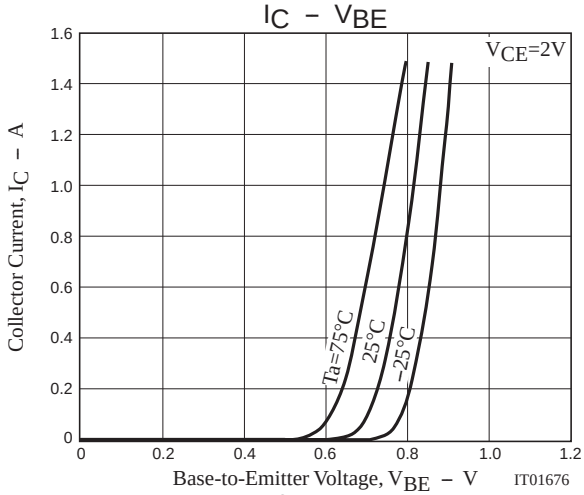


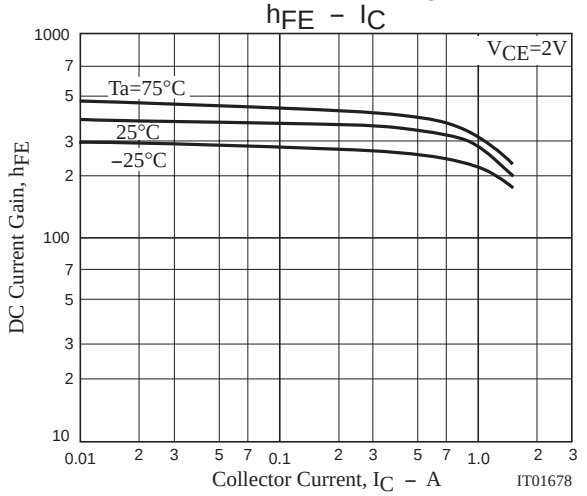
$20I_{B1}$= $-20I_{B2}$=I_C=750mA

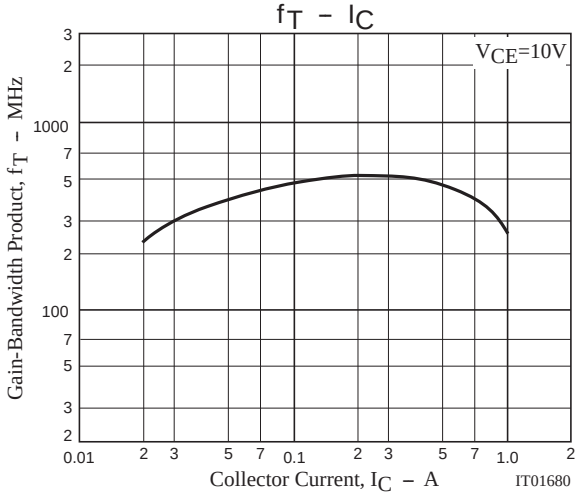
Electrical Connection



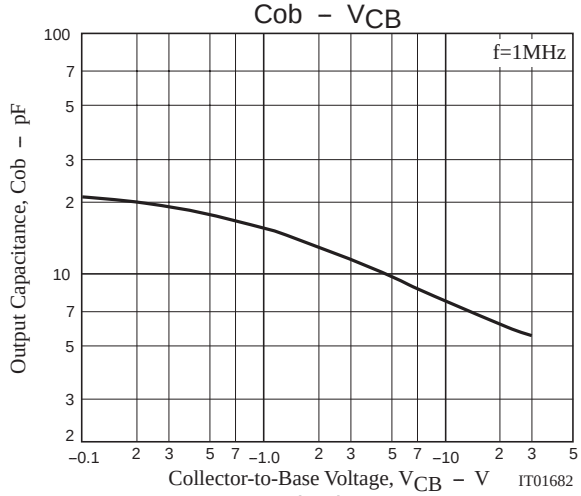




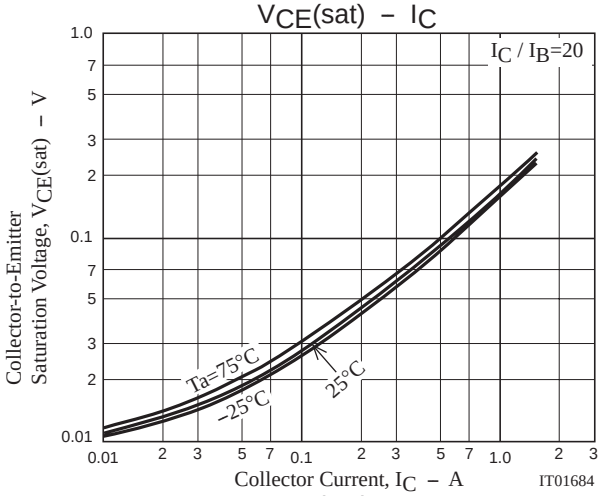




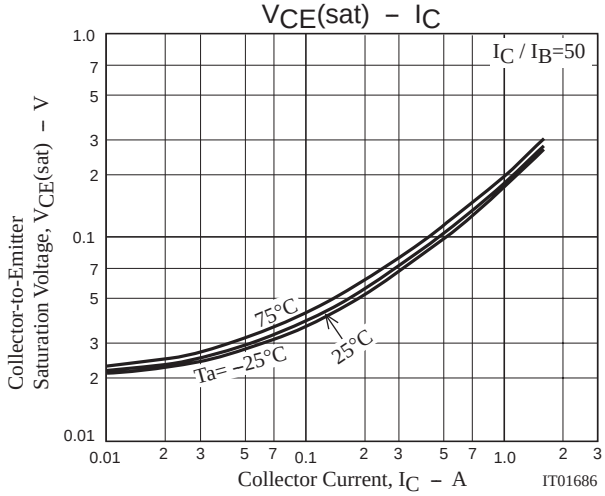
Cob – V_{CB}



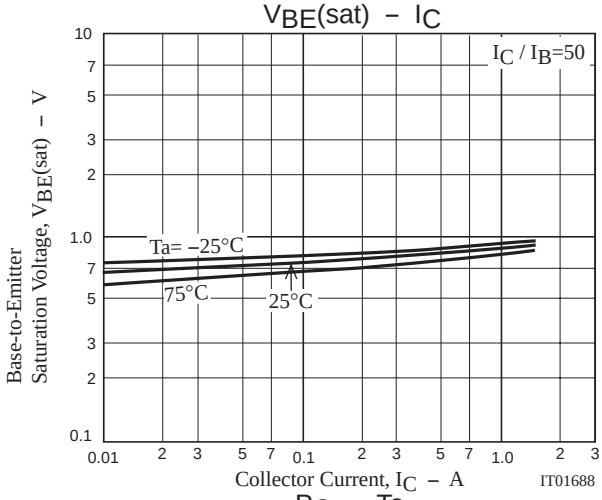
V_{CE}(sat) – I_C



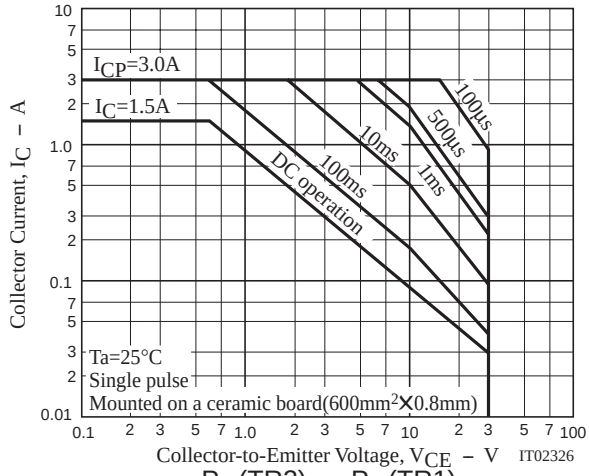
V_{CE}(sat) – I_C



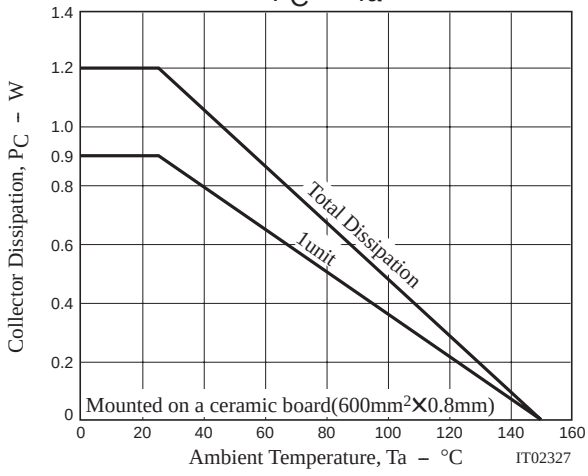
V_{BE}(sat) – I_C



A S O



P_C – Ta



P_C(TR2) – P_C(TR1)