Ordering number : ENN7400

PNP/NPN Epitaxial Planar Silicon Composite Transistors

CPH6521

Low-Frequency General-Purpose Amplifier, Drivers Applications

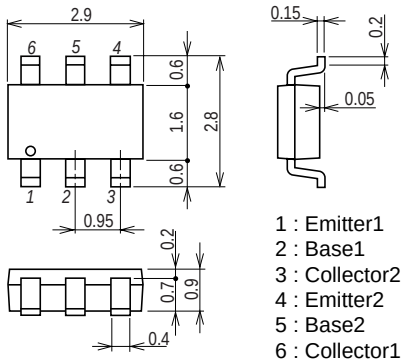
Features

- Composite type with 2 transistors contained in the CPH package currently in use, improving the mounting efficiency greatly.
- The CPH6521 is formed with two chips, being equivalent to the 2SA1813 / 2SC3689, placed in one package.
- Adoption of FBET process.
- High DC current gain.
- High V_{EBO}.

Package Dimensions

unit : mm
2187

[CPH6521]



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

SANYO : CPH6

Specifications

( ) : PNP

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-30)60	V
Collector-to-Emitter Voltage	V_{CEO}		(-25)50	V
Emitter-to-Base Voltage	V_{EBO}		(-)15	V
Collector Current	I_C		(-150)100	mA
Collector Current (Pulse)	I_{CP}		(-300)200	mA
Base Current	I_B		(-30)20	mA
Collector Dissipation	P_C	1unit	350	mW
Total Dissipation	P_T		500	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(-20)40V, I_E=0			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)10V, I_C=0			(-)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(-)5V, I_C=(-)1mA	800 (500)	1500 (800)	3200 (1200)	

Marking : 3H

Continued on next page.

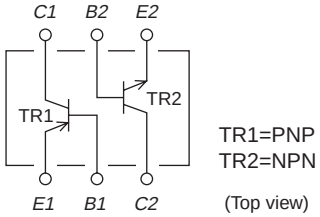
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)10mA		(210)200		MHz
Output Capacitance	Cob	V_{CB}=(-)10V, f=1MHz		(2.6)1.5		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(-)50mA, I_B=(-)1mA		(-0.15)0.1	(-)0.3	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=(-)50mA, I_B=(-)1mA		(-0.78)0.8	(-)1.1	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0	(-30)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-25)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0	(-)15			V

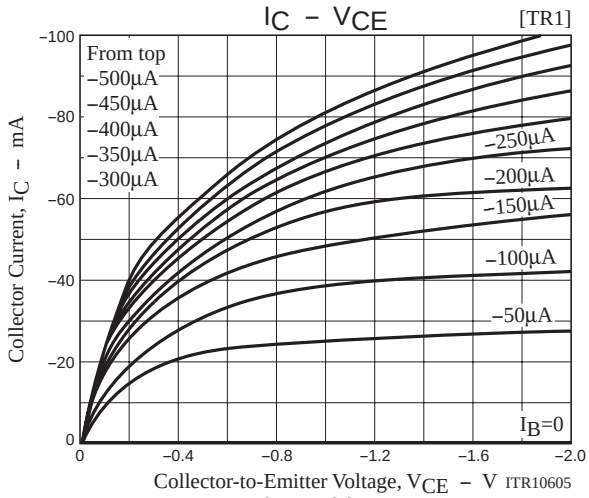
Note : The specifications shown above are for each individual transistors.

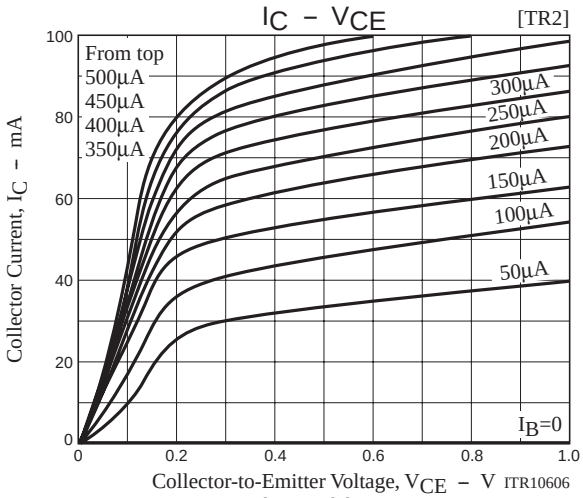
Electrical Connection

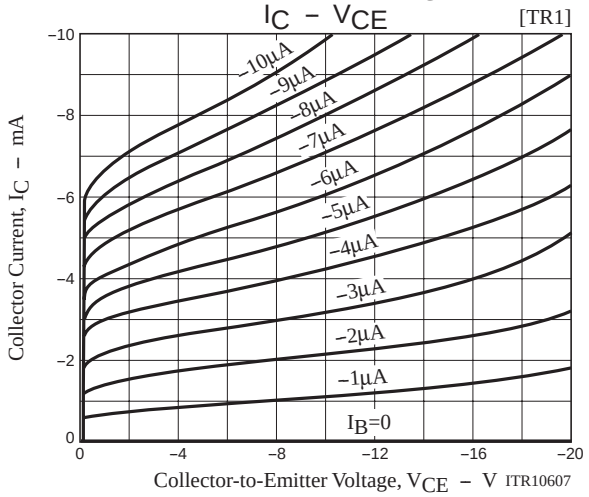


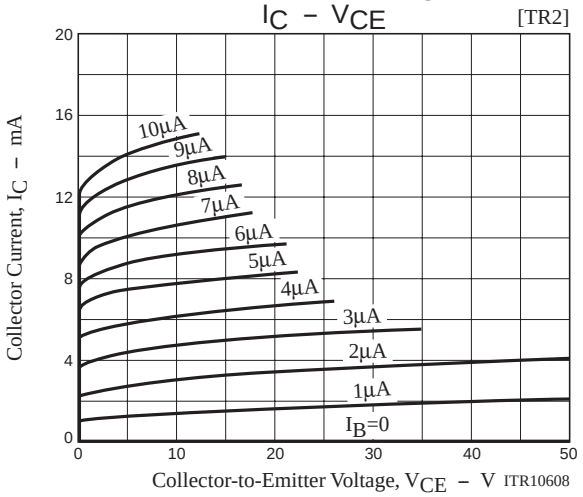
TR1=PNP
TR2=NPN

(Top view)

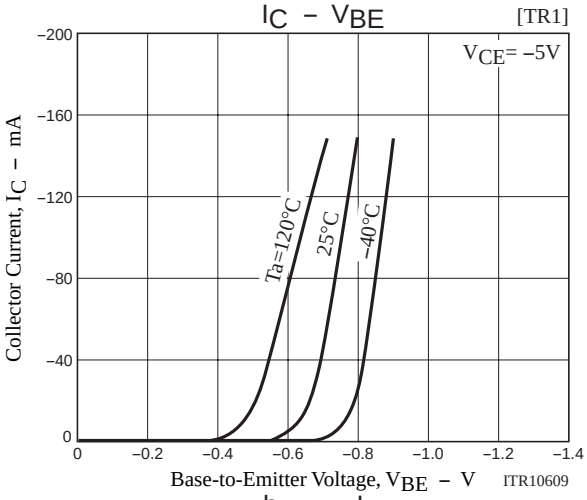




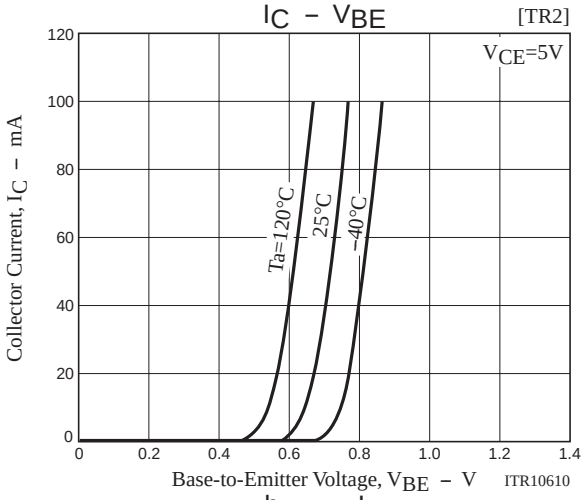




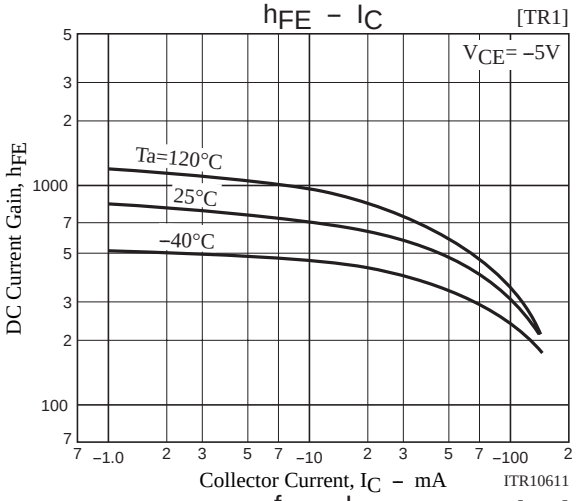
I_C – V_{BE} [TR1]



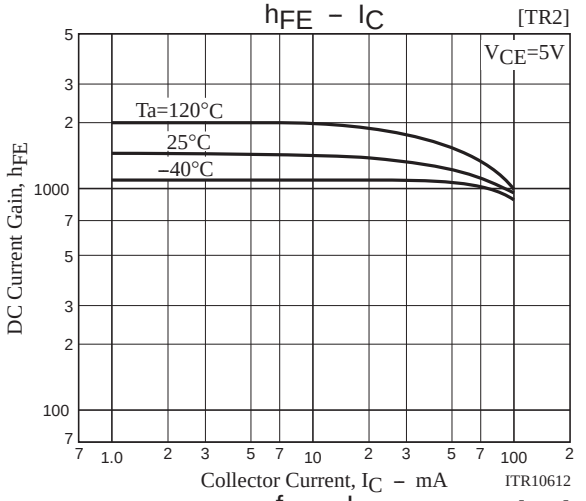
I_C – V_{BE} [TR2]



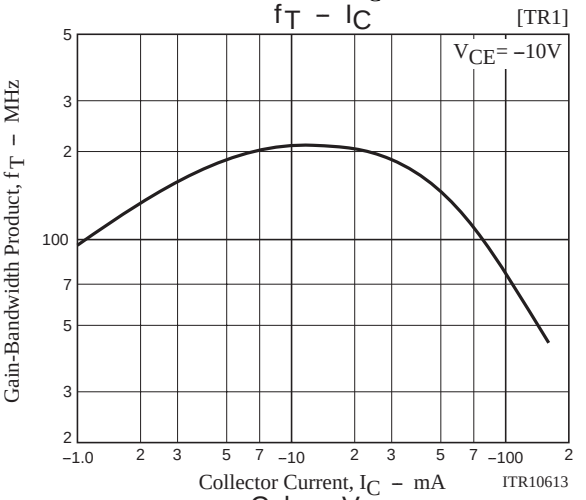
h_{FE} – I_C [TR1]



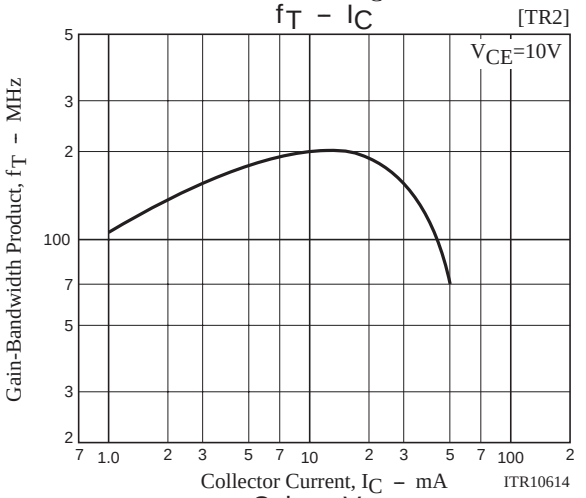
h_{FE} – I_C [TR2]



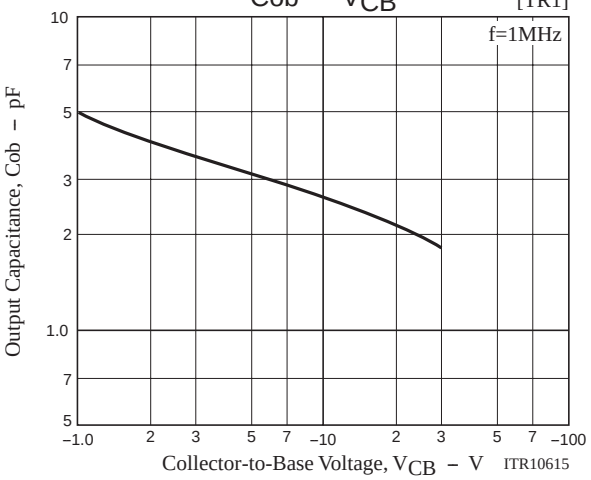
f_T – I_C [TR1]



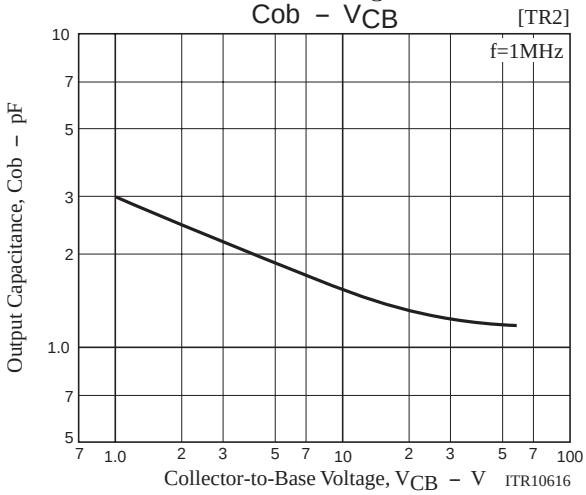
f_T – I_C [TR2]



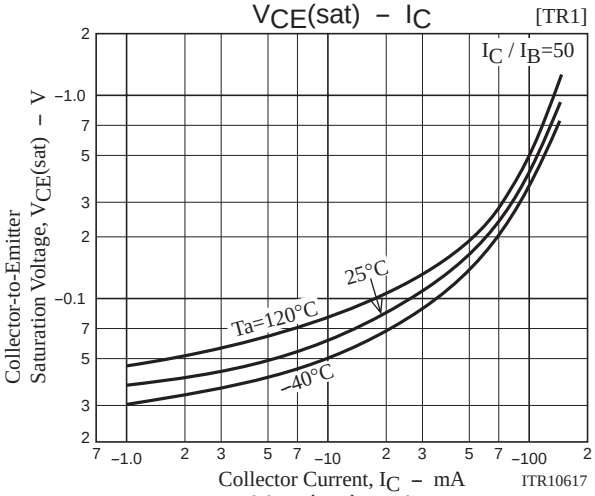
Cob – V_{CB} [TR1]



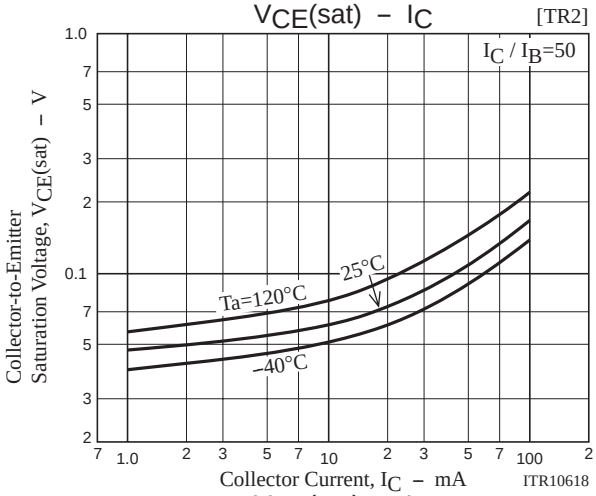
Cob – V_{CB} [TR2]



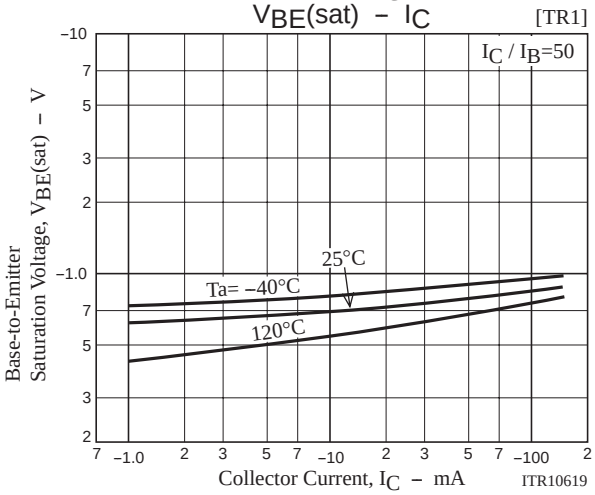
$V_{CE}(sat)$ – I_C [TR1]



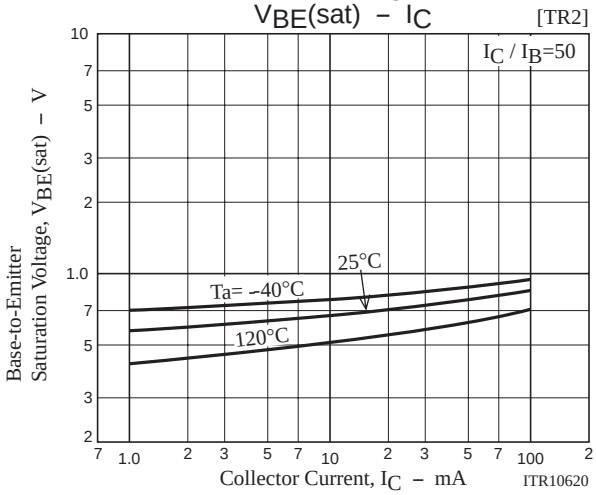
$V_{CE}(sat)$ – I_C [TR2]



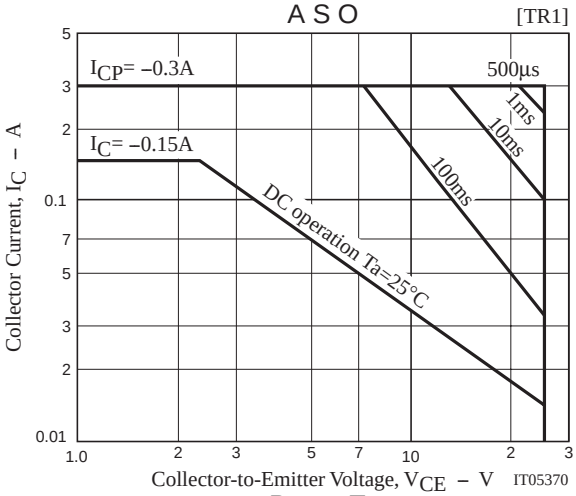
$V_{BE}(sat)$ – I_C [TR1]



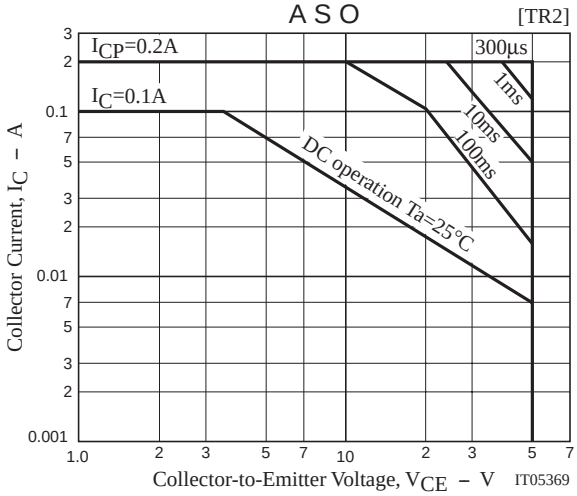
$V_{BE}(sat)$ – I_C [TR2]



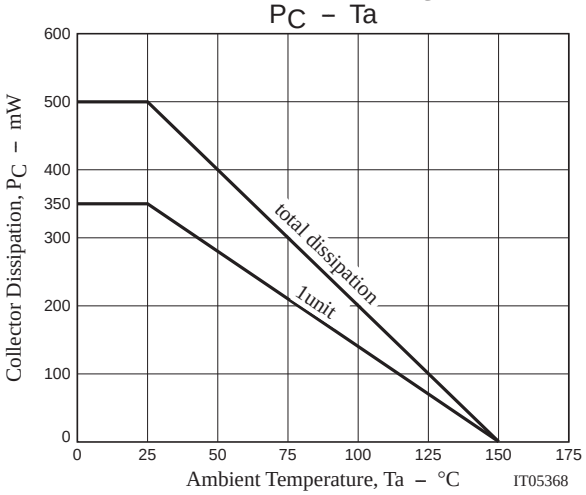
A S O [TR1]



A S O [TR2]



P_C – Ta



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