Ordering number : ENN7170

NPN Epitaxial Planar Silicon Transistor

CPH5508

High-Current Switching Applications

Applications

- Inverters, Relay drivers, Lamp drivers, Motor drivers, Strobes.

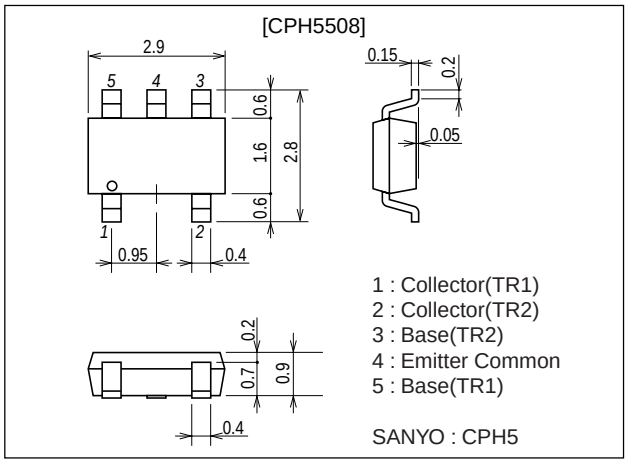
Features

- Composite type with 2 NPN transistors in one package facilitating high-density mounting.
- The CPH5508 is composed of 2 CPH3216 equivaient chips .
- Ultrasmall 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_{CBO}		100	V
Collector-to-Emitter Voltage	V_{CES}		100	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		1	A
Collector Current (Pulse)	I_{CP}		3	A
Base Current	I_B		200	mA
Collector Dissipation	P_C	Mounted on a ceramic board (600mm²×0.8mm) 1unit	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 +150	°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=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=100mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=300mA		420		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		6		pF

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

Continued on next page.

Marking : EH

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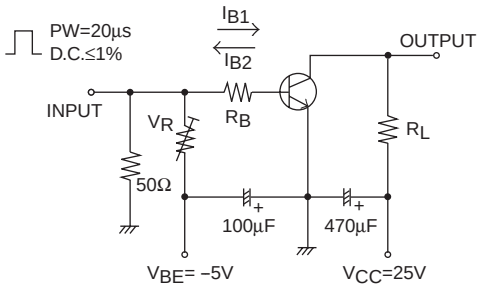
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Continued from preceding page.

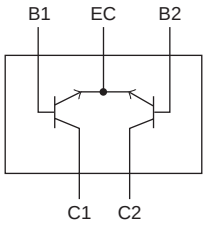
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE}(sat)$	I_C=500mA, I_B=10mA		130	190	mV
Base-to-Emitter Saturation Voltage	$V_{BE}(sat)$	I_C=500mA, I_B=10mA		0.81	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=100μA, R_{BE}=0	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		35		ns
Storage Time	t_{stg}	See specified Test Circuit.		330		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

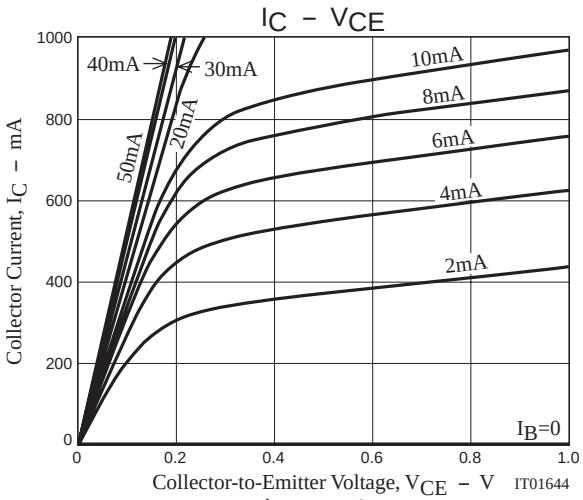
Switching Time Test Circuit

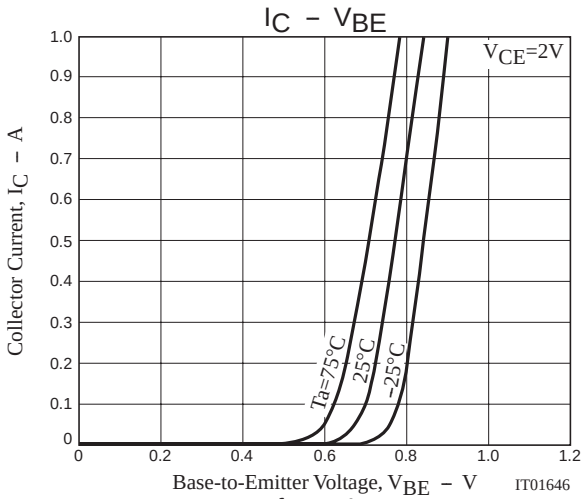


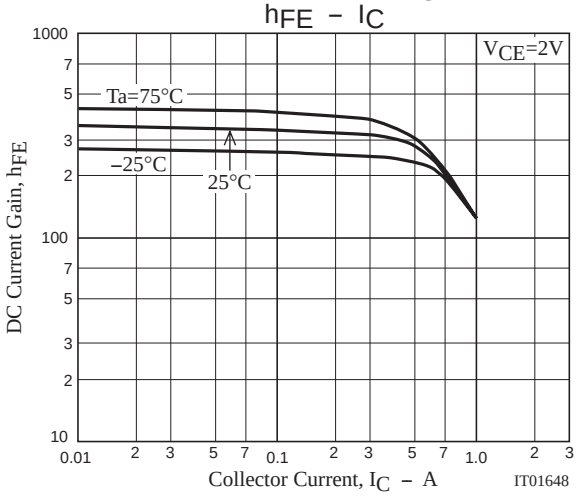
I_C=20I_{B1}= −20I_{B2}=500mA

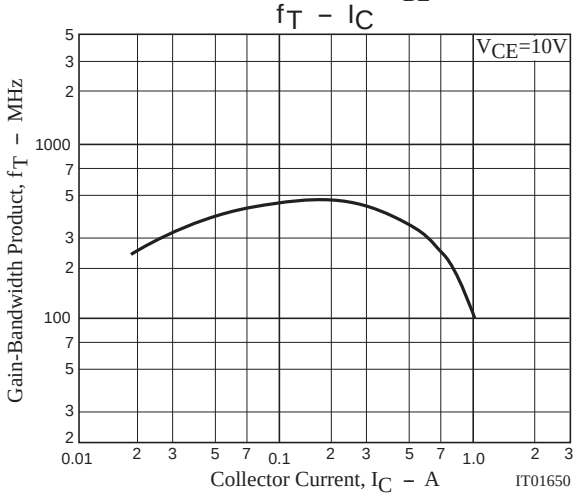
Electrical Connection



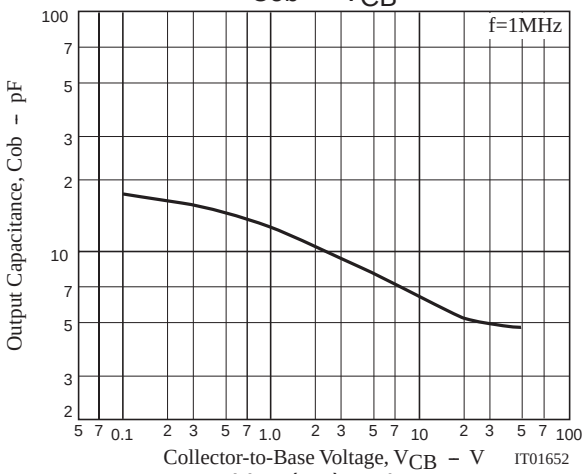




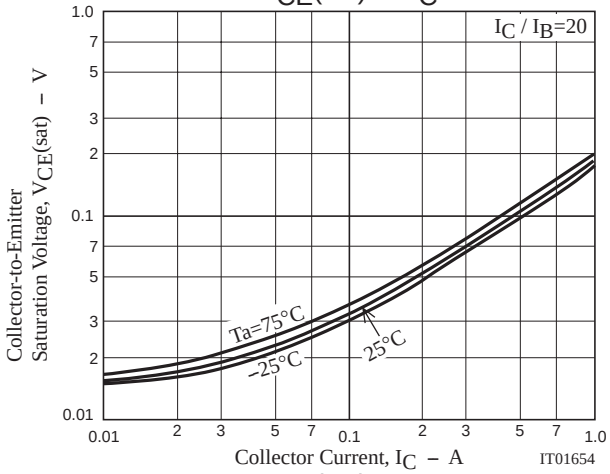




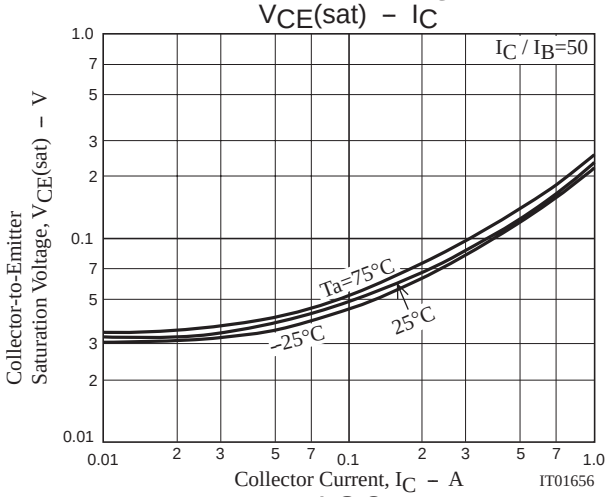
Cob – V_{CB}



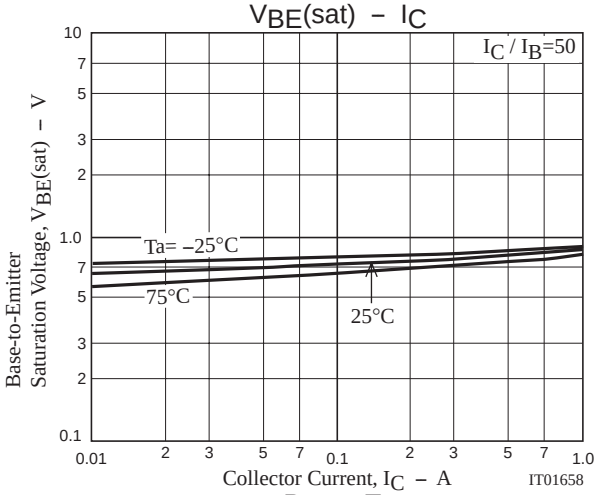
V_{CE}(sat) – I_C



V_{CE}(sat) – I_C



V_{BE}(sat) – I_C



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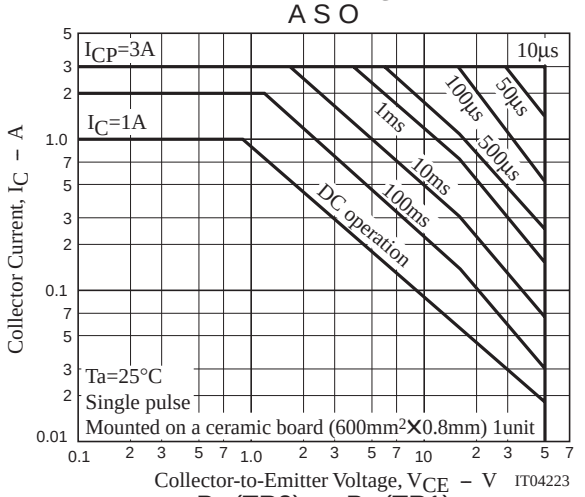
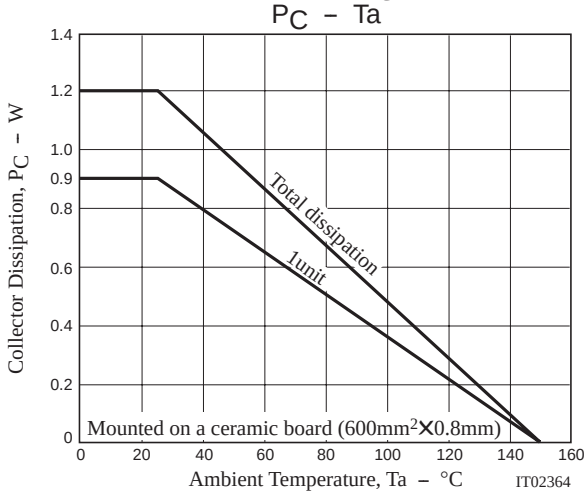


P_C – Ta



P_C(TR2) – P_C(TR1)