

**SANYO****High-Current Switching Applications****Applications**

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

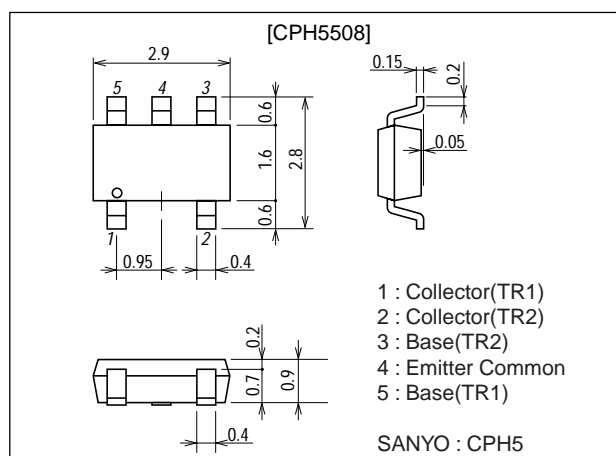
**Features**

- Composite type with 2 NPN transistors in one package facilitating high-density mounting.
- The CPH5508 is composed of 2 CPH3216 equivalent chips.
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm).

**Package Dimensions**

unit : mm

2162

**Specifications****Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$ 

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 (600mm <sup>2</sup> ×0.8mm) 1unit	0.9	W
Total Dissipation	$P_T$	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	1.2	W
Junction Temperature	$T_J$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

**Electrical Characteristics** at  $T_a=25^\circ\text{C}$ 

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	$C_{ob}$	$V_{CB}=10V, f=1MHz$		6		pF

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

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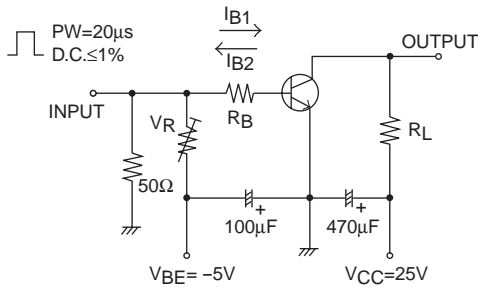
Marking : EH

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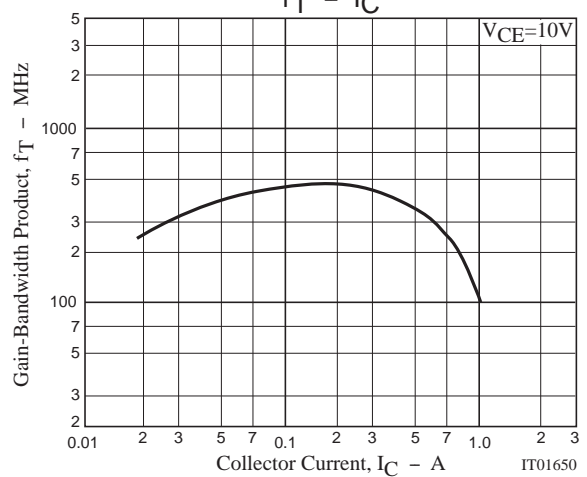
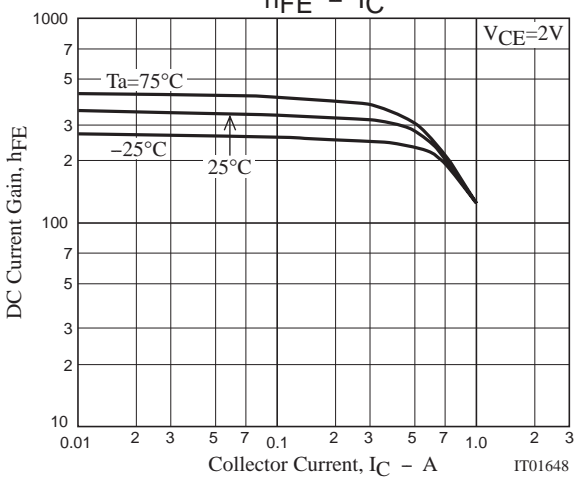
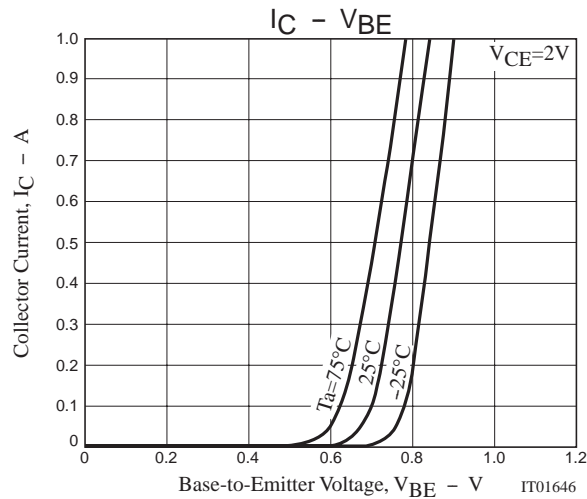
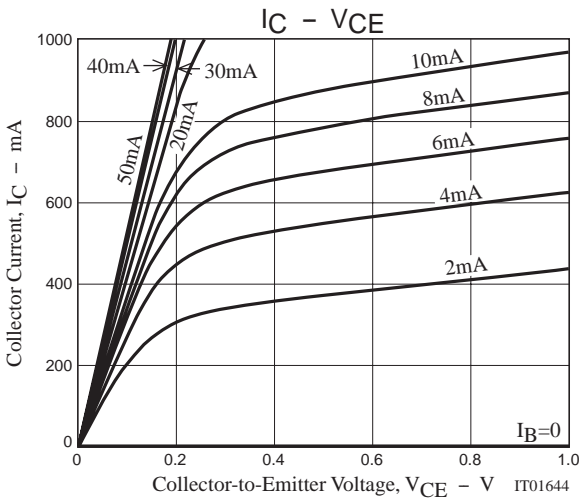
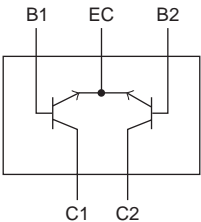
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=10mA$		130	190	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=10mA$		0.81	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=100\mu A, R_{BE}=0$	100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	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

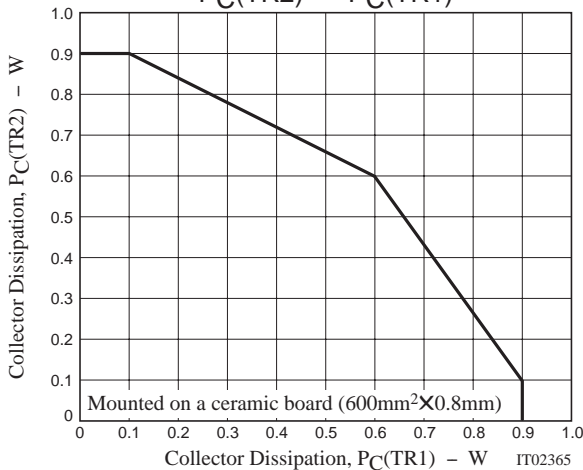
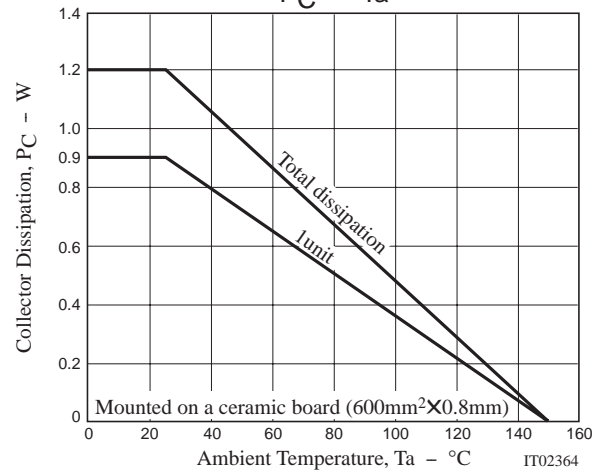
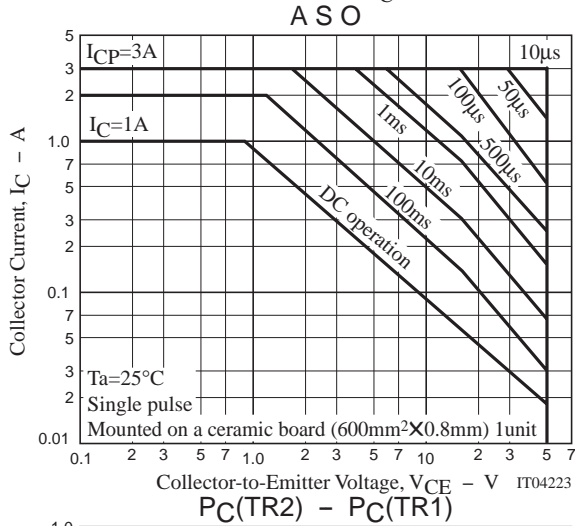
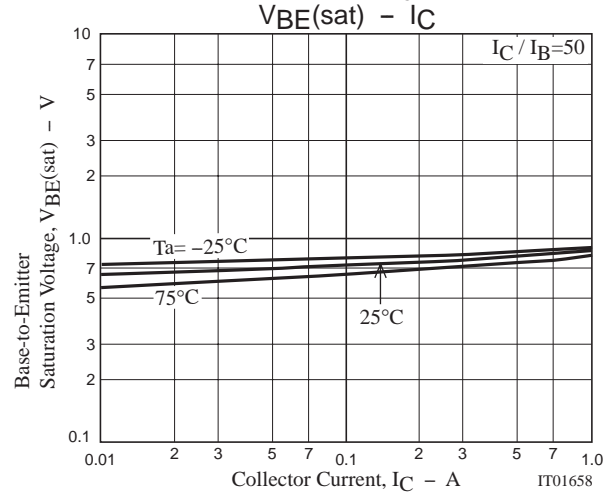
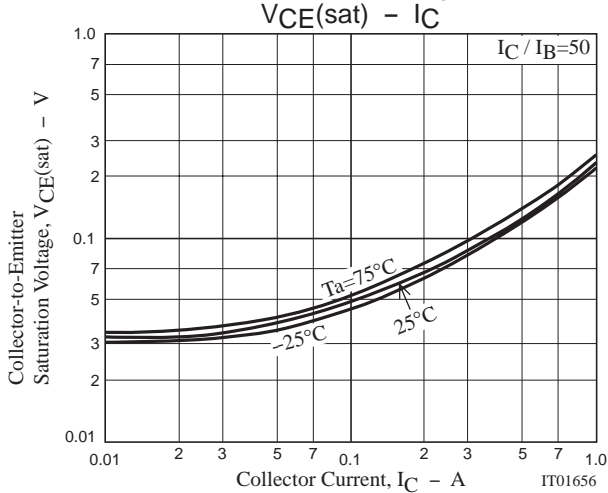
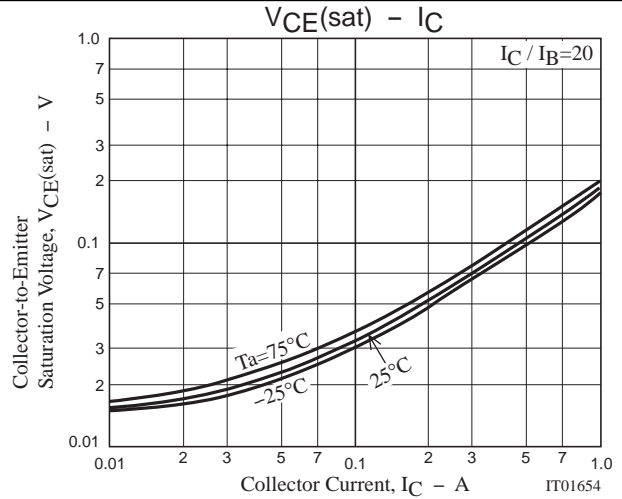
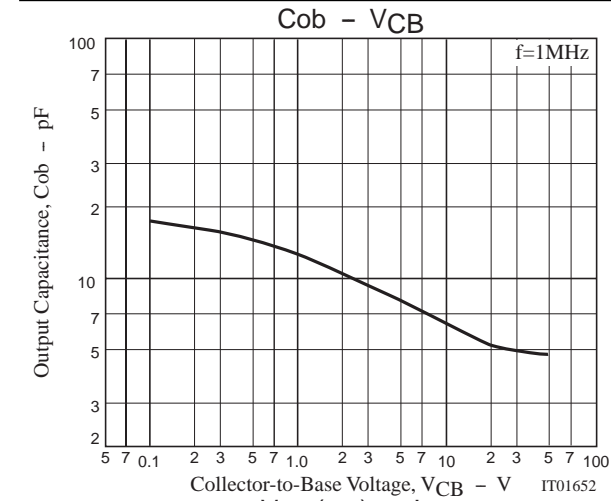
Switching Time Test Circuit



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

Electrical Connection





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