

Ordering number : ENN7170

NPN Epitaxial Planar Silicon Transistor

CPH5508



High-Current Switching Applications

Applications

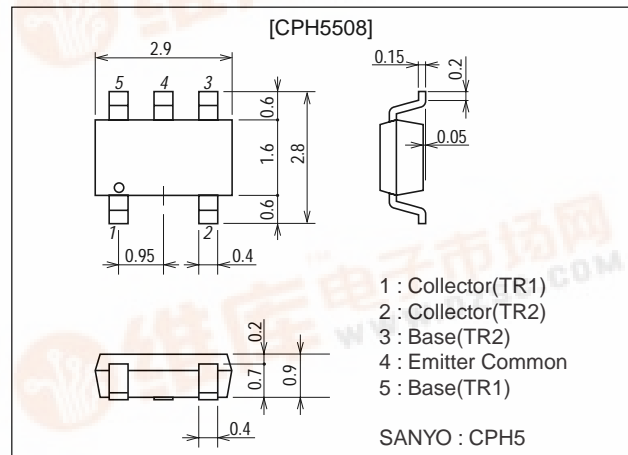
- Inverters, Relay drivers, Lamp drivers, Motor drivers, Strobes.

Features

- Composite type with 2 NPN transistors in one package facilitating high-density mounting.
- The CPH5508 is composed of 2 CPH3216 equivalent 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 _{CB0}		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 ² X0.8mm) 1unit	0.9	W
Total Dissipation	P _T	Mounted on a ceramic board (600mm ² X0.8mm)	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} =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.

Continued on next page.

Marking : EH

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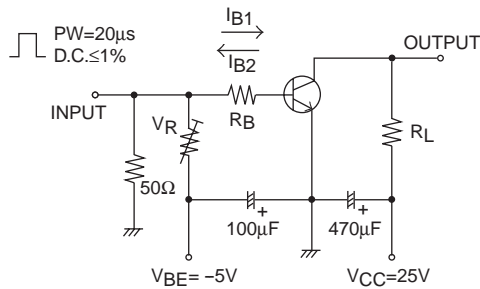


CPH5508

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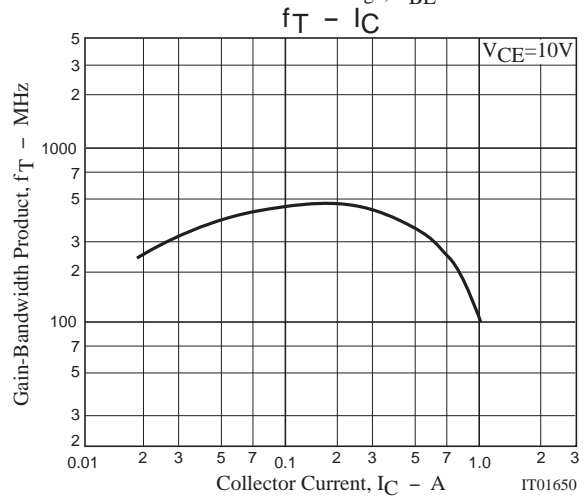
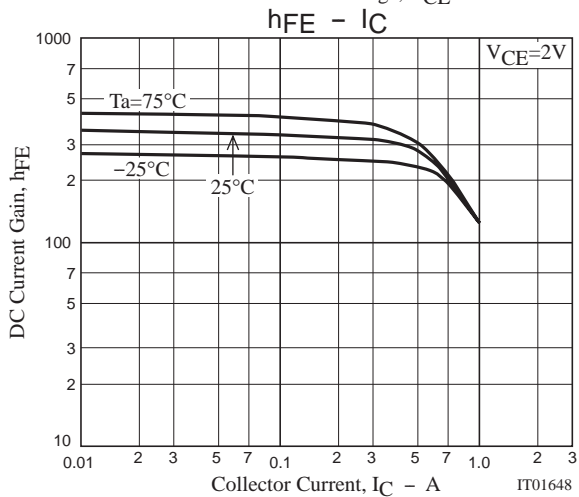
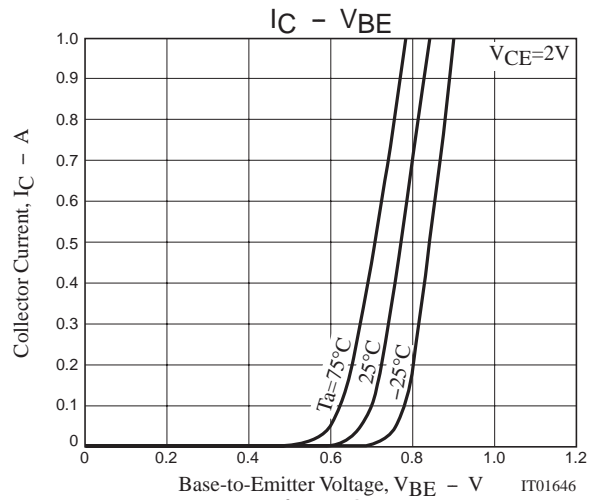
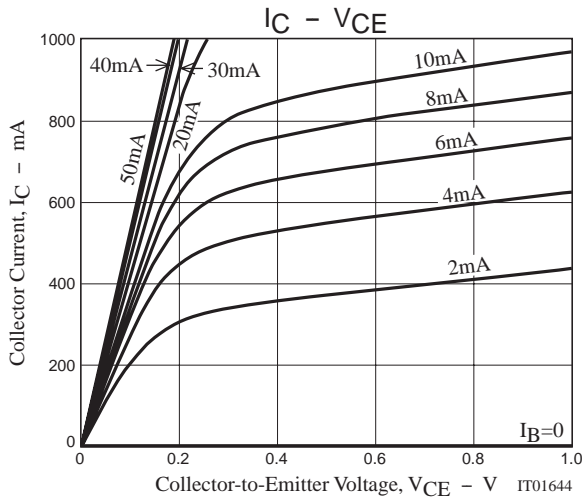
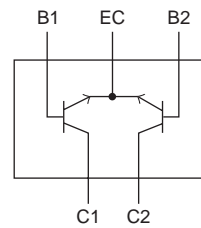
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=10mA$		130	190	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=10mA$		0.81	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$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

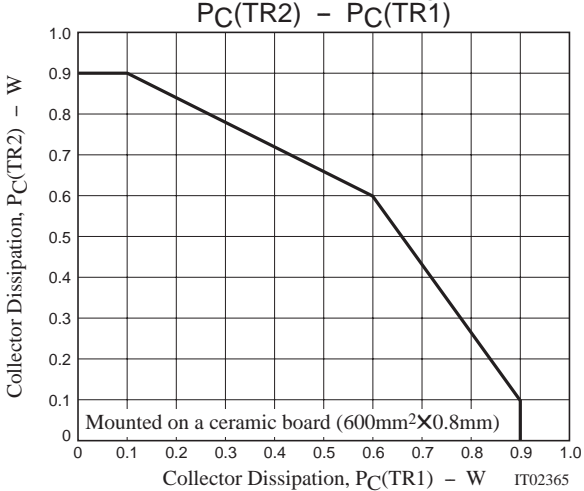
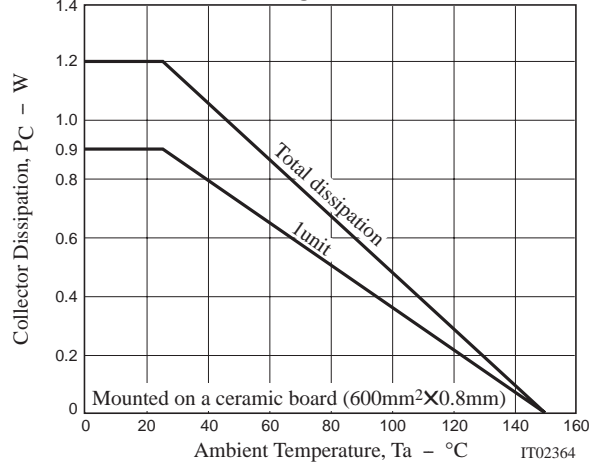
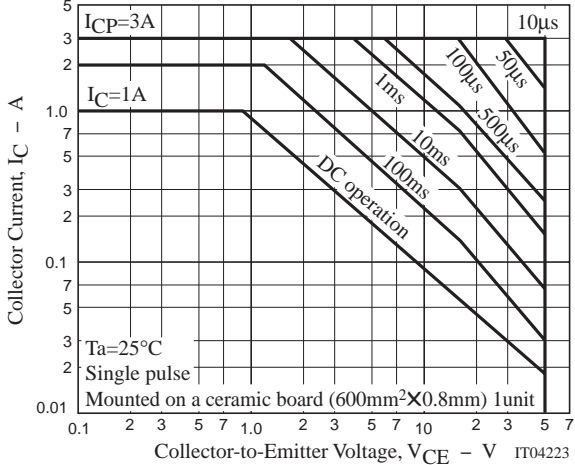
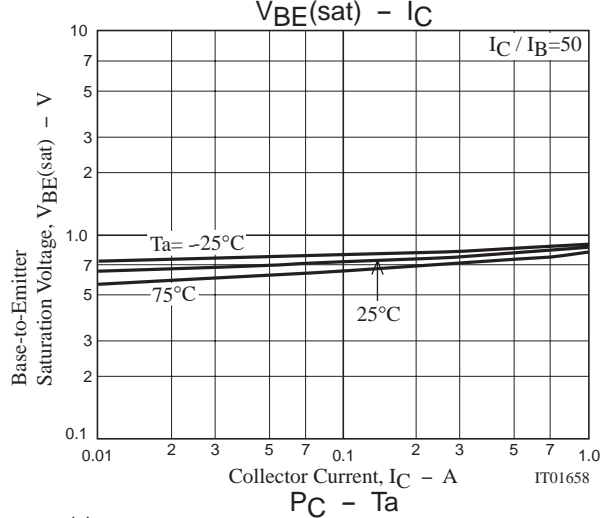
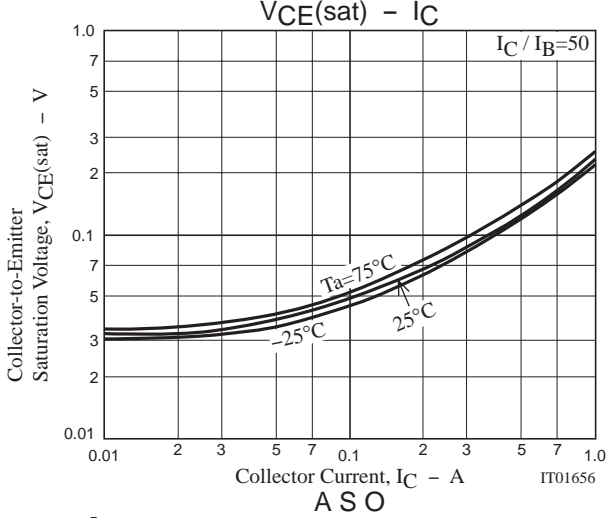
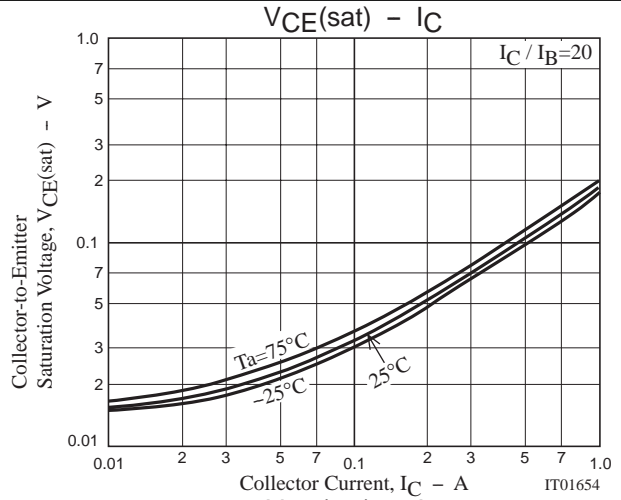
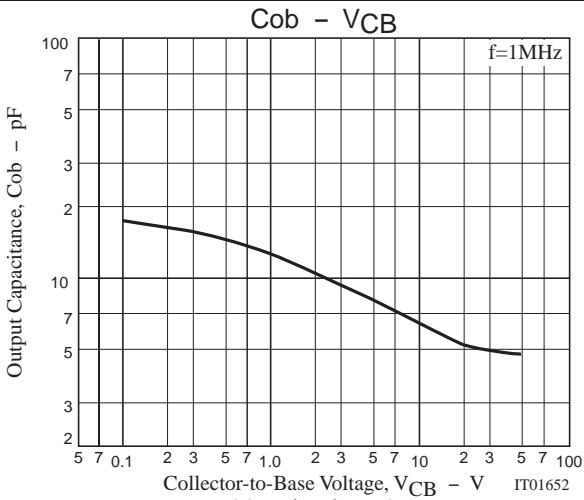


$$I_C = 20I_{B1} = -20I_{B2} = 500mA$$

Electrical Connection



CPH5508



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