



CPH5505

Bipolar Transistor -30V, -3A, Low $V_{CE(sat)}$, PNP Dual CPH5

ON Semiconductor®

<http://onsemi.com>

Applications

- Relay drivers, lamp drivers, motor drivers, flash

Features

- Composite type with two PNP transistors contained in a single package facilitating high-density mounting
- The CPH5505 consists of two chips which are equivalent to the CPH3109 encapsulated in a package
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm)

Specifications

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

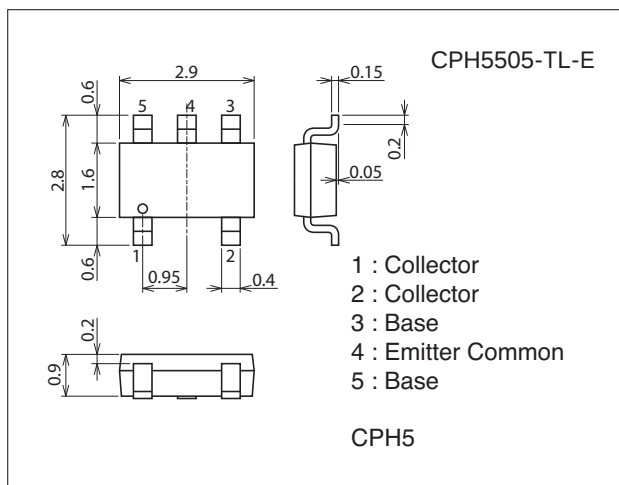
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CBO}		-30	V
Collector to Emitter Voltage	V_{CEO}		-30	V
Emitter to Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.9	W
Total Dissipation	P_T	When mounted on ceramic substrate (600mm ² ×0.8mm)	1.2	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

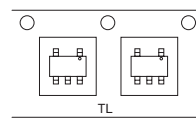
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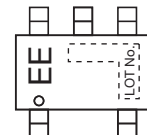
Product & Package Information

- Package : CPH5
- JEITA, JEDEC : SC-74A, SOT-25
- Minimum Packing Quantity : 3,000 pcs./reel

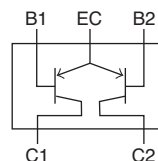
Packing Type : TL



Marking



Electrical Connection

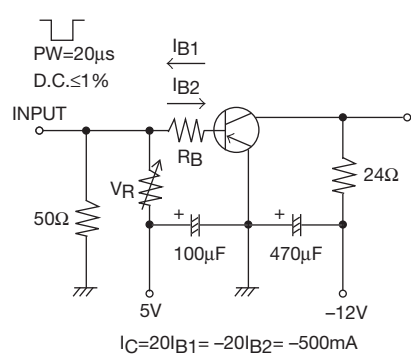


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Electrical Characteristics at Ta=25°C

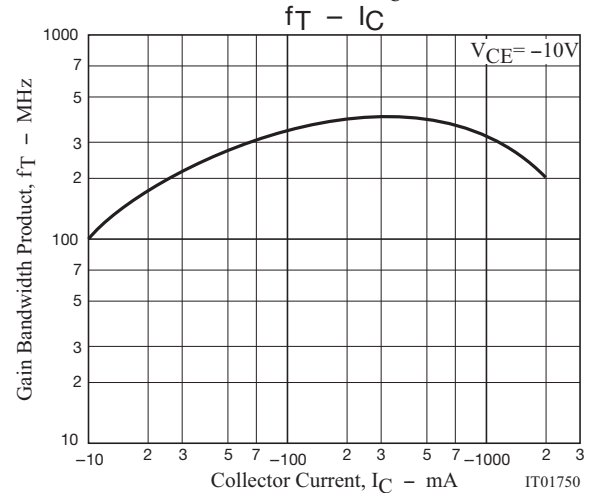
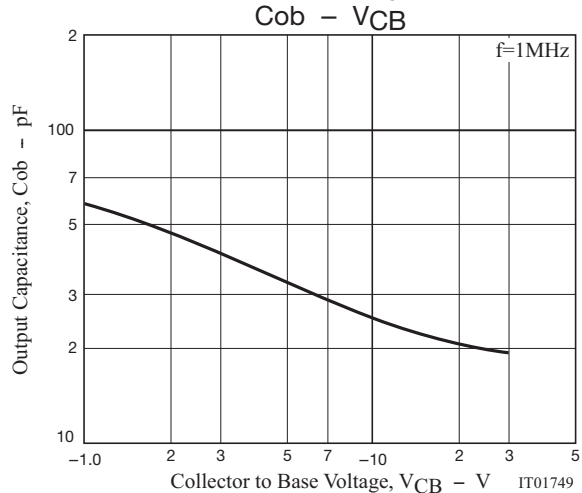
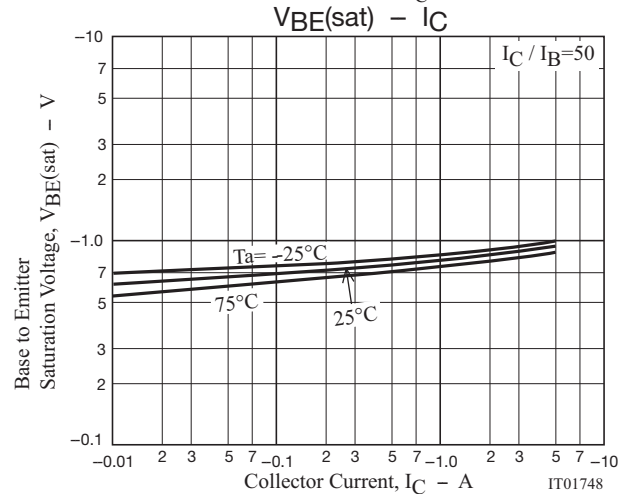
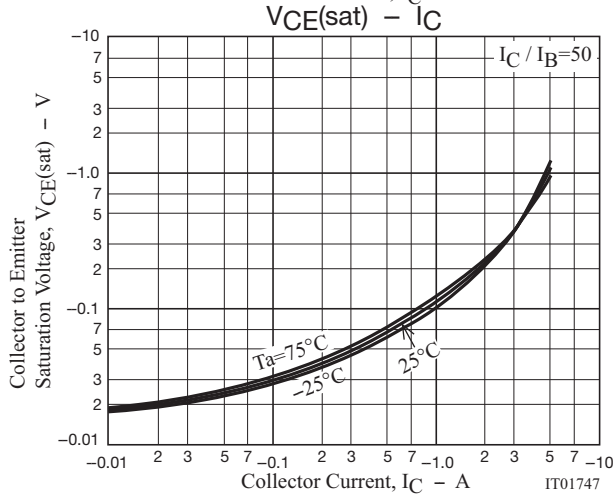
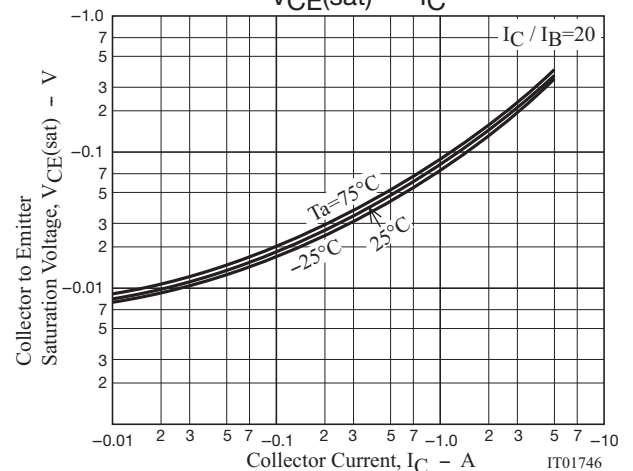
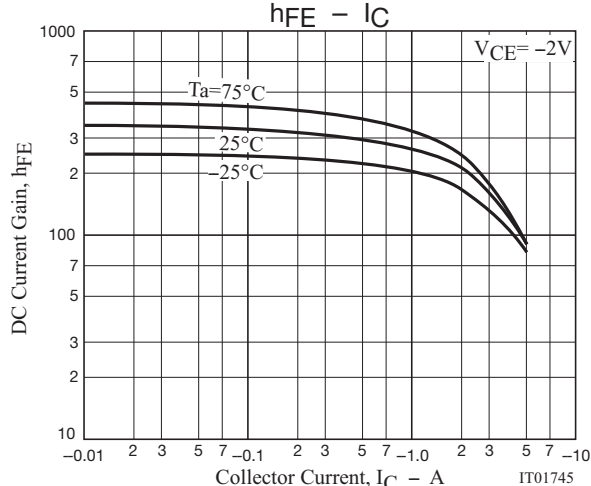
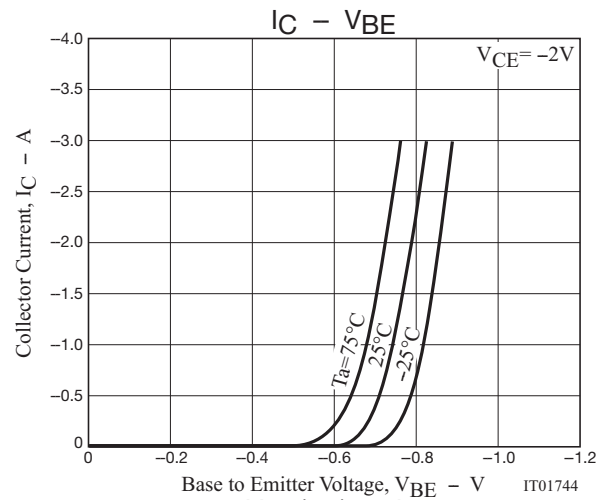
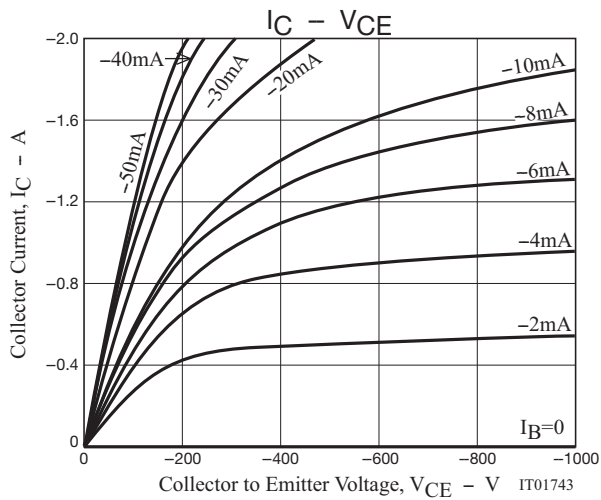
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -30V, I_E = 0A$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0A$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2V, I_C = -500mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -500mA$		380		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		25		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C = -1.5A, I_B = -30mA$		-155	-230	mV
	$V_{CE(sat)2}$	$I_C = -1.5A, I_B = -75mA$		-105	-155	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5A, I_B = -30mA$		-0.83	-1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-30			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-30			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0A$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}			270		ns
Turn-OFF Time	t_f			25		ns

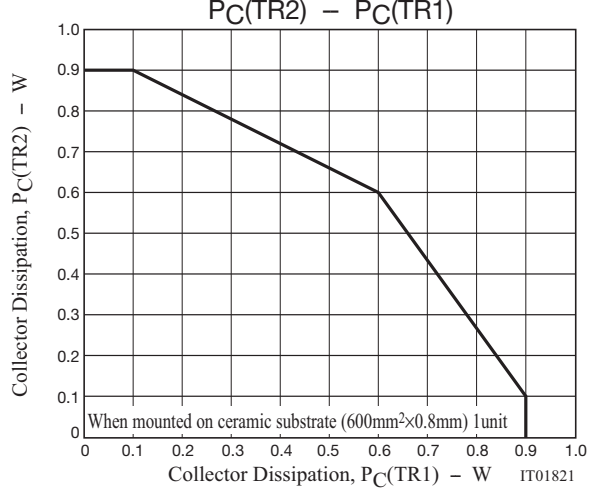
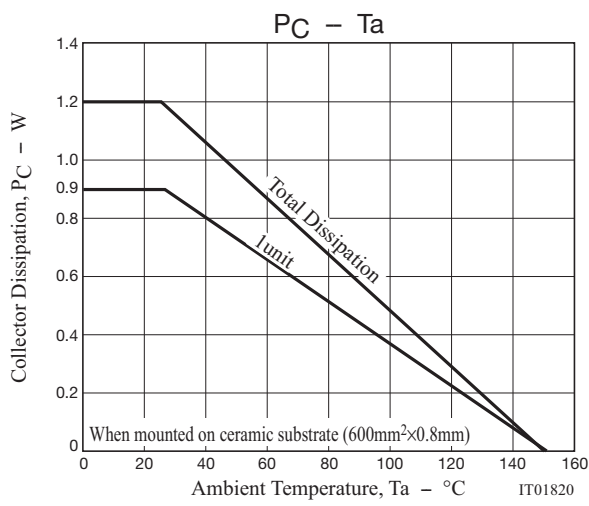
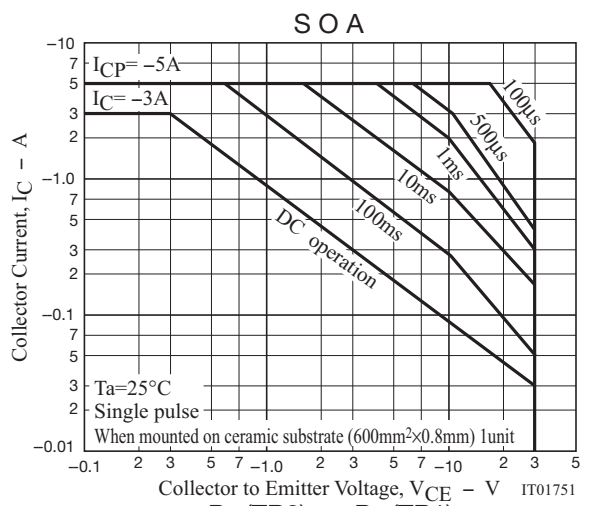
Switching Time Test Circuit



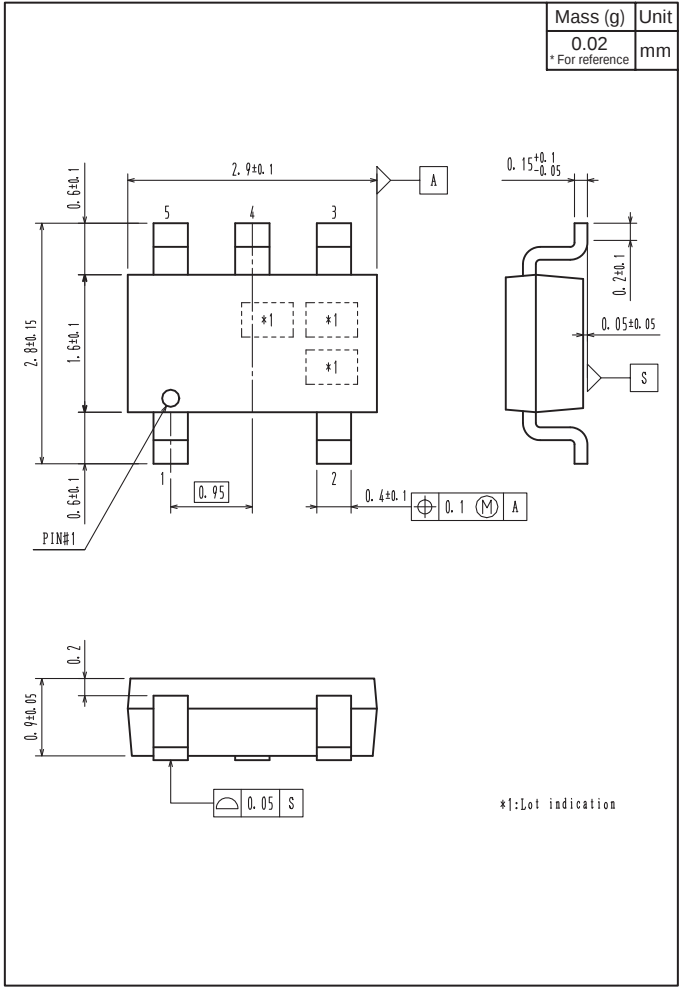
Ordering Information

Device	Package	Shipping	memo
CPH5505-TL-E	CPH5	3,000pcs./reel	Pb Free

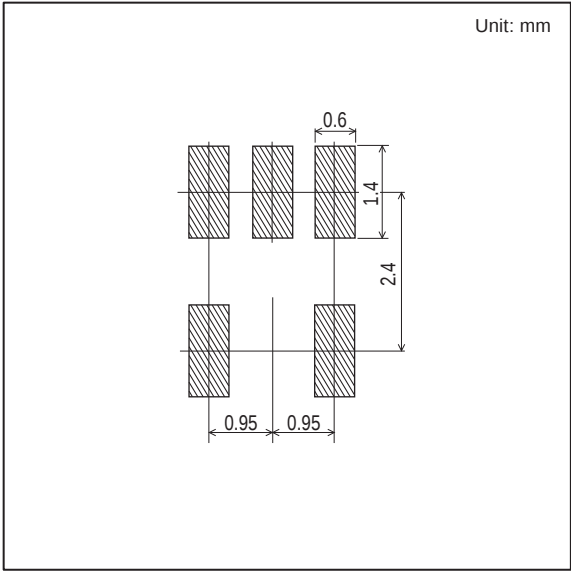




Outline Drawing
CPH5505-TL-E



Land Pattern Example



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