



# CPH5506

## Bipolar Transistor (-30V, (-)5A, Low VCE(sat) Complementary Dual CPH5

ON Semiconductor®

<http://onsemi.com>

### Applications

- Relay drivers, Lamp drivers, Motor drivers

### Features

- Composite type with a PNP transistor and an NPN transistor contained in one package, facilitating high-density mounting
- The CPH5506 consists of two chips encapsulated in a package which are equivalent to the CPH3115 and the CPH3215, respectively
- Ultrasmall package facilitate miniaturization in end products. (0.9mm mounting height)

### Specifications ( ) : PNP

#### Absolute Maximum Ratings at Ta=25°C

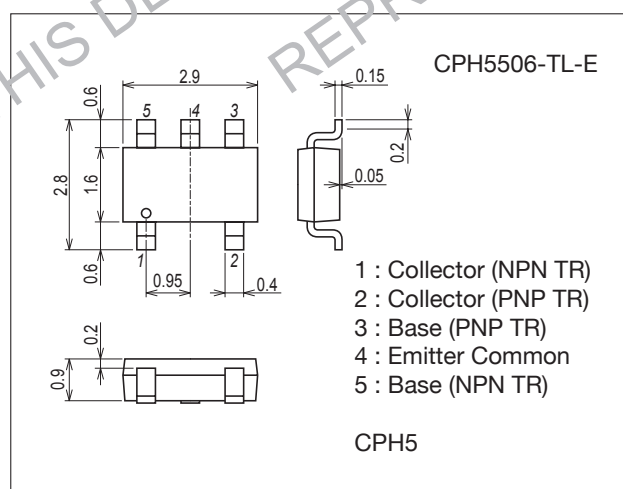
Parameter	Symbol	Conditions	Rating	Unit
Collector-to-Base Voltage	VCBO		(-20)40	V
Collector-to-Emitter Voltage	VCEO		(-)30	V
Emitter-to-Base Voltage	VEBO		(-)5	V
Collector Current	IC		(-)1.5	A
Collector Current (Pulse)	ICP		(-)5	A
Base Current	IB		(-)300	mA
Collector Dissipation	PC	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	0.9	W
Total Power Dissipation	PT	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	1.2	W
Junction Temperature	TJ		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### Package Dimensions

unit : mm (typ)

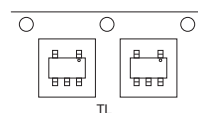
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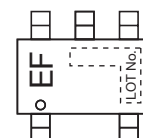
### Product & Package Information

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

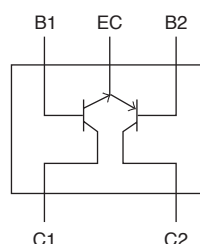
### Packing Type : TL



### Marking



### Electrical Connection



### ORDERING INFORMATION

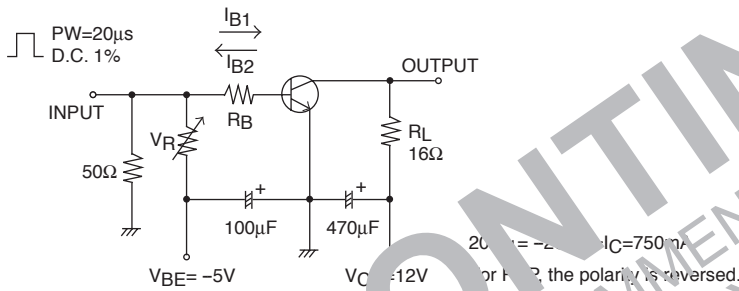
See detailed ordering and shipping information on page 2 of this data sheet.

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =(-)30V, I <sub>E</sub> =0A			(-)0.1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0A			(-)0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)100mA	200		560	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)300mA		(450)500		MHz
Output Capacitance	Cob	V <sub>CB</sub> =(-)10V, f=1MHz		(9)8		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)750mA, I <sub>B</sub> =(-)15mA		(-250)150	(-375)225	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)750mA, I <sub>B</sub> =(-)15mA		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A	(-30)40			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞	(-)30			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =(-)10μA, I <sub>C</sub> =0A	(-)5			V
Turn-On Time	t <sub>on</sub>	See specified Test Circuit.		35		ns
Storage Time	t <sub>stg</sub>			(115)205		ns
Fall Time	t <sub>f</sub>			30		ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Switching Time Test Circuit



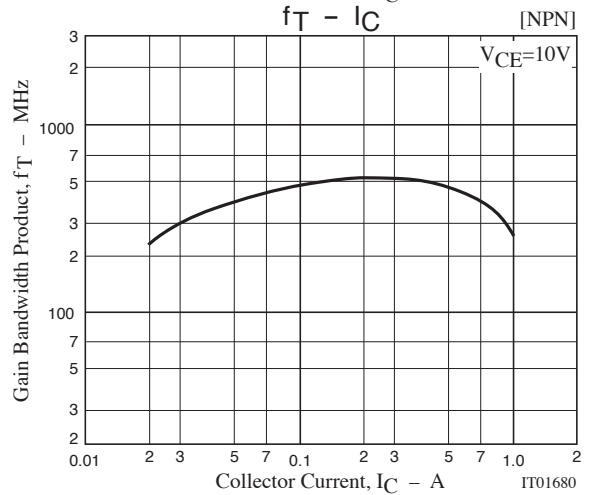
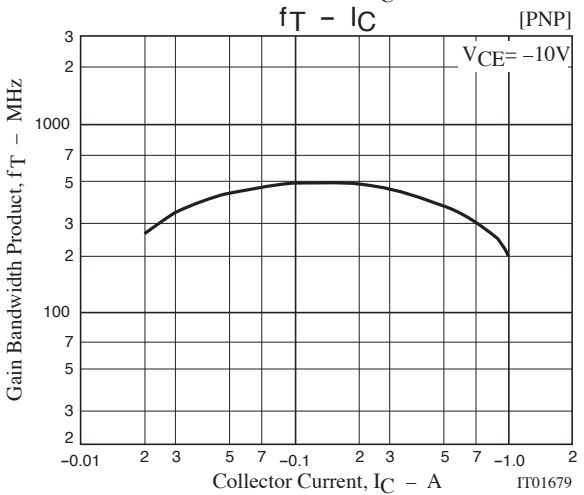
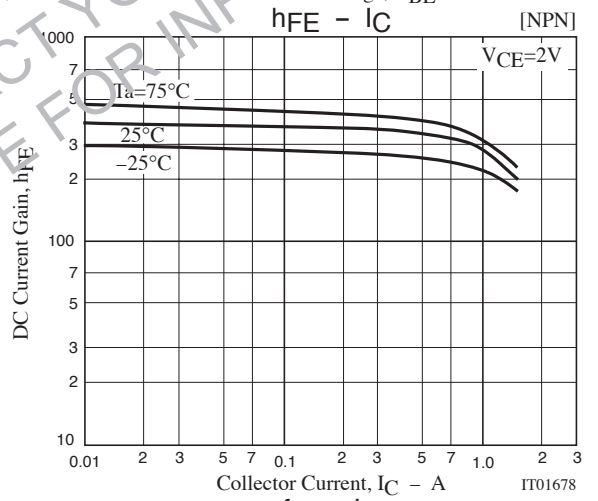
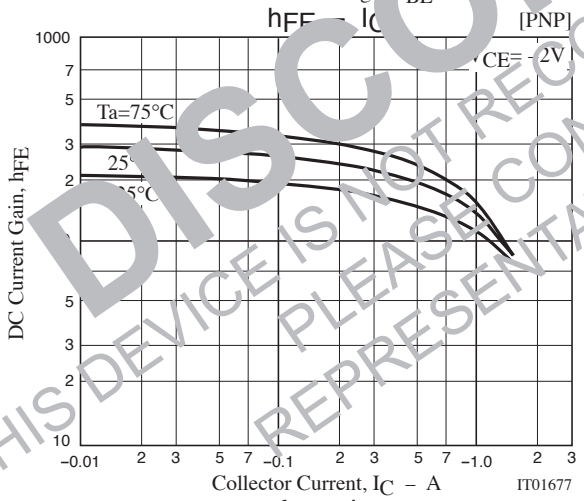
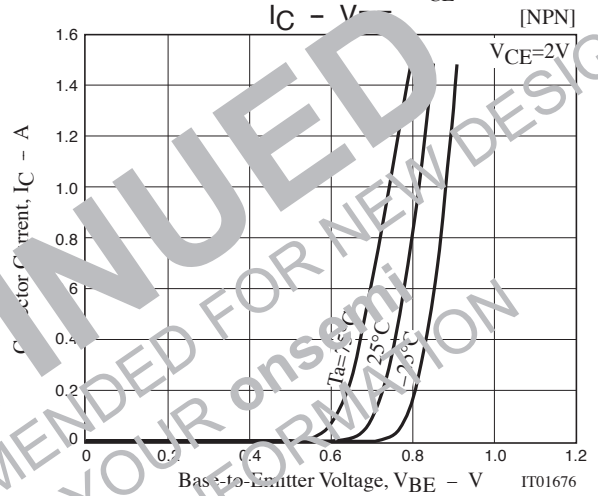
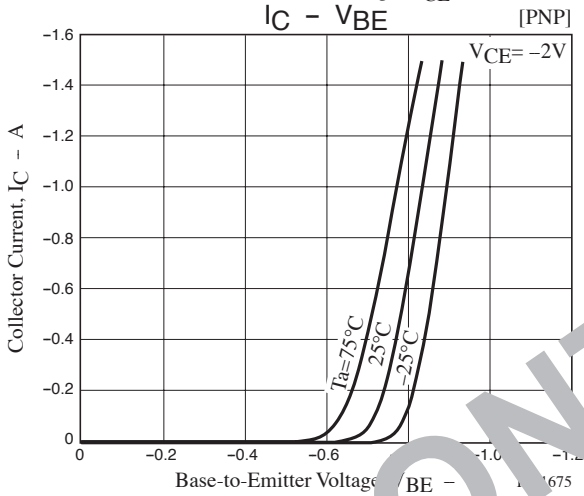
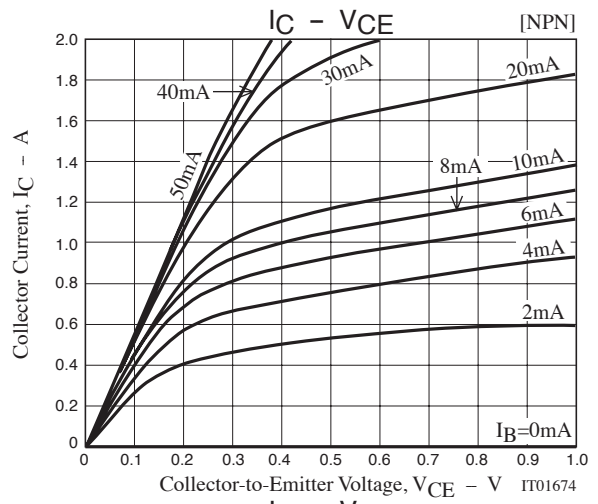
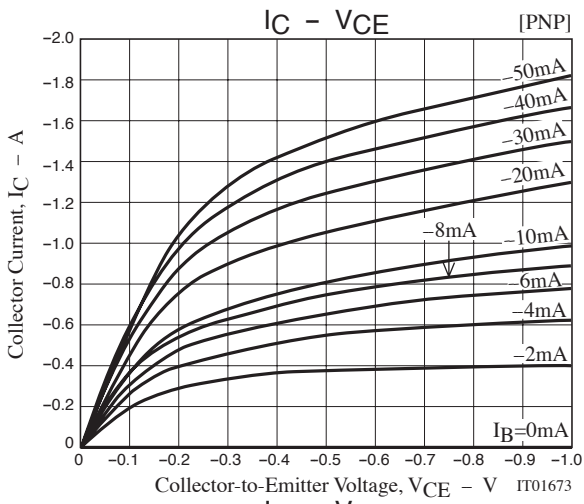
Ordering Information

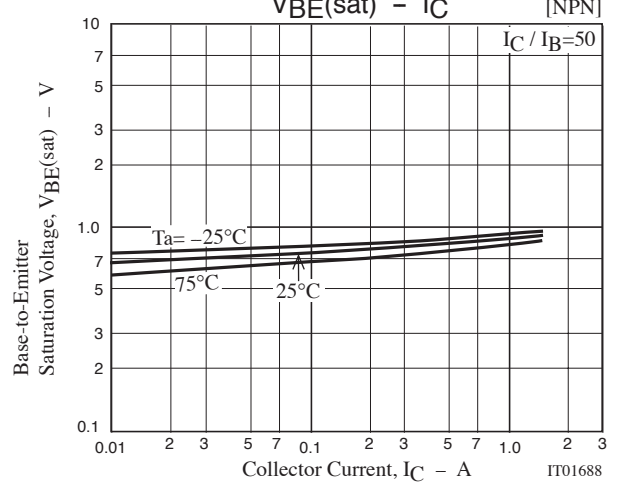
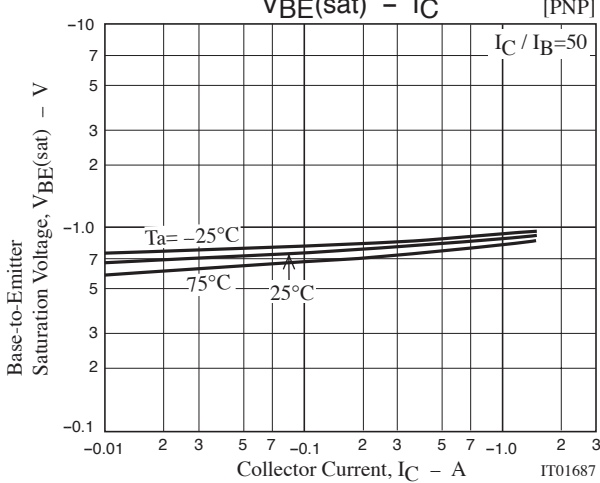
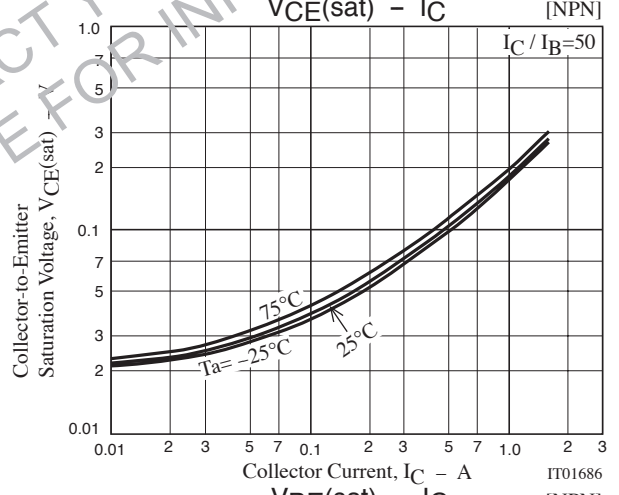
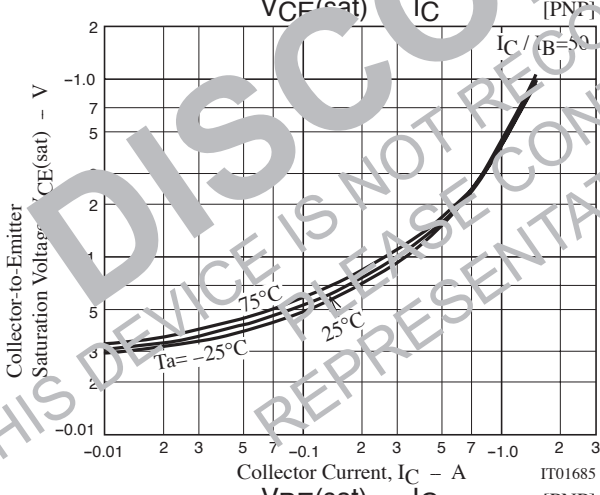
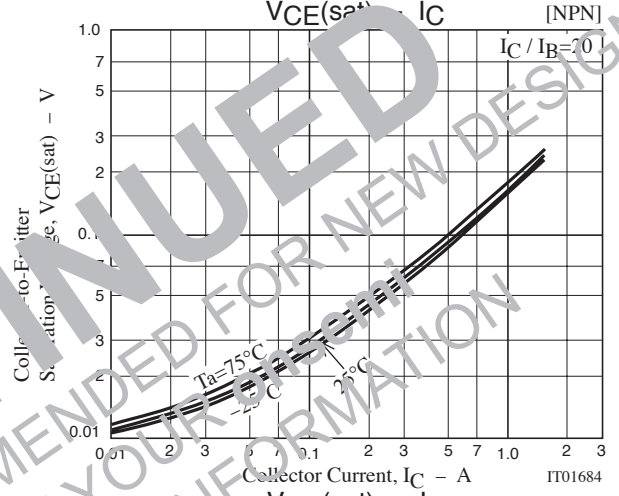
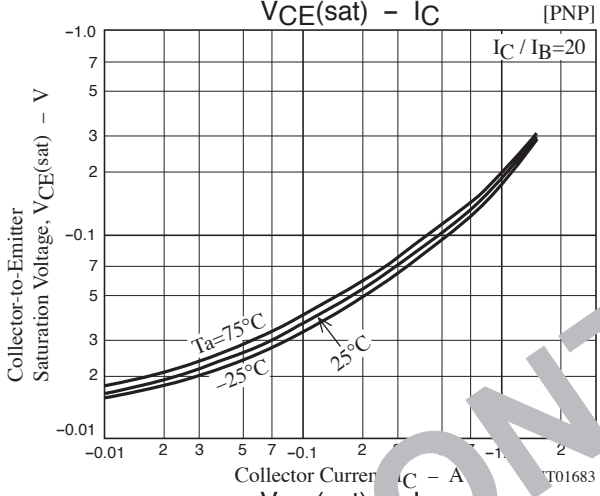
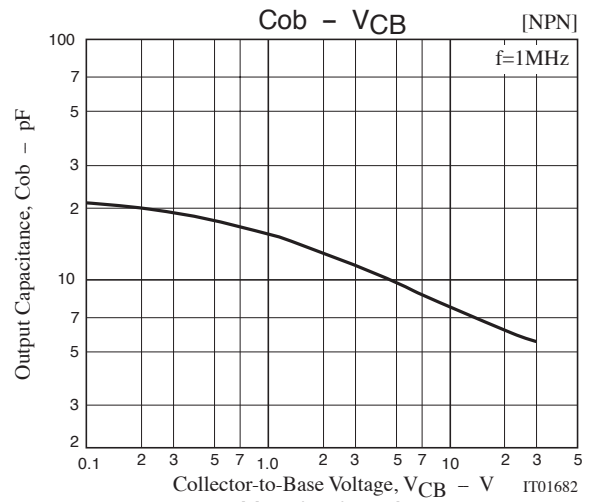
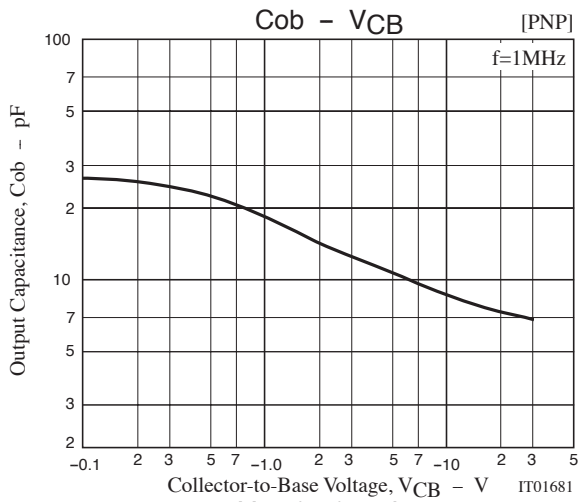
Device	Package	Shipping	memo
CPH5506-TL-E	CPH5	3,000pcs./reel	Pb Free

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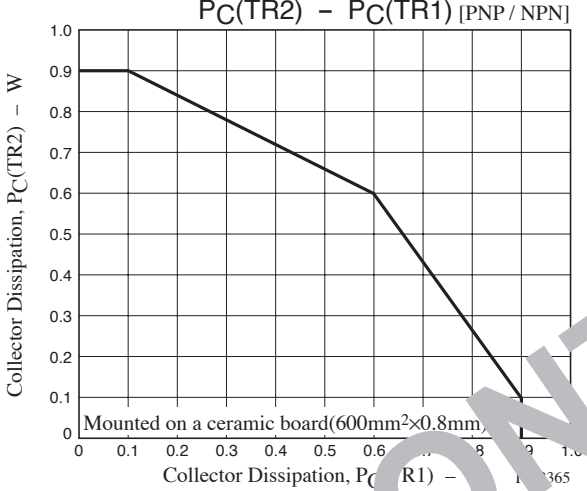
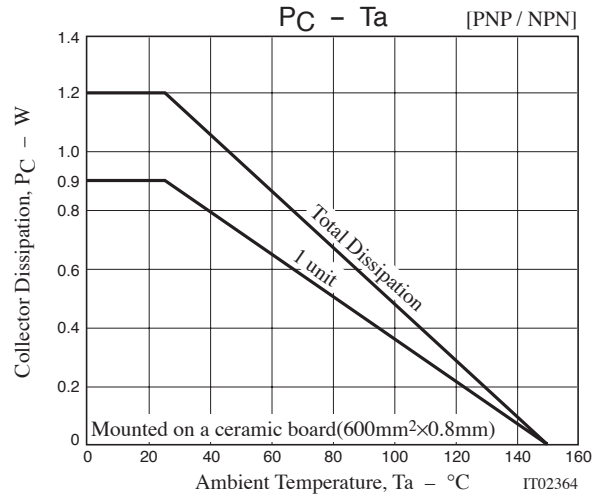
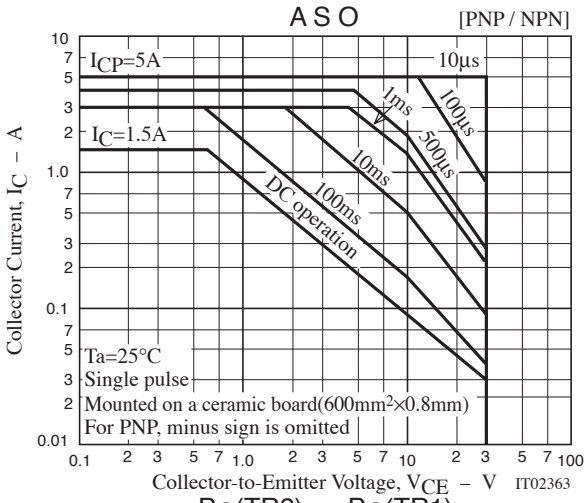
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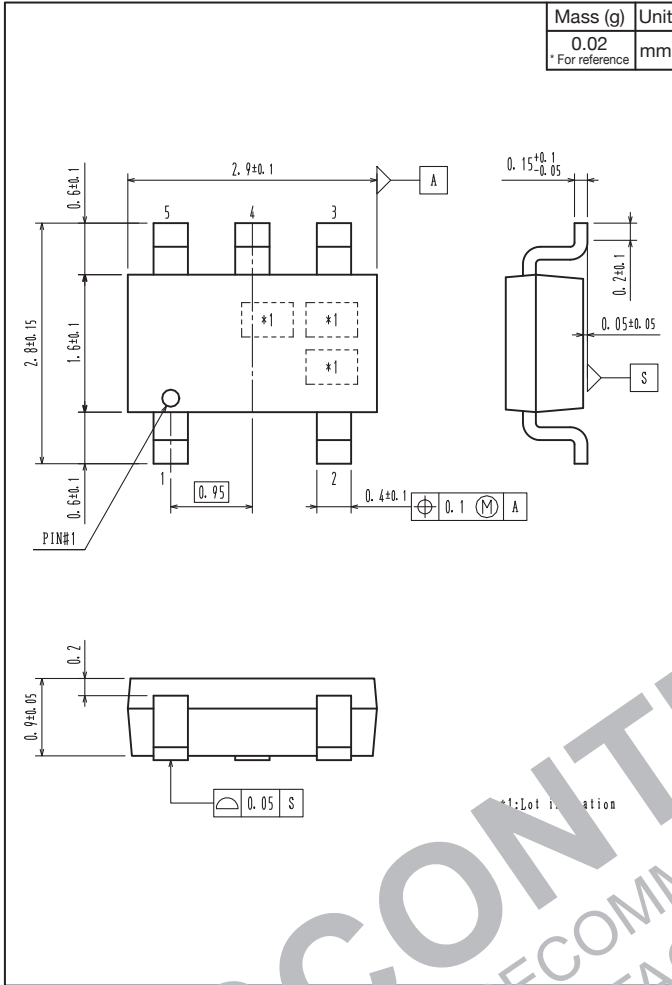
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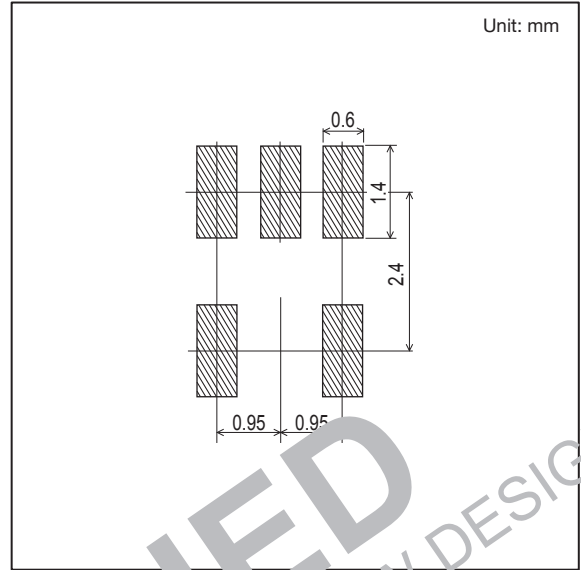
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Outline Drawing

CPH5506-TL-E



Land Pattern Example



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