



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

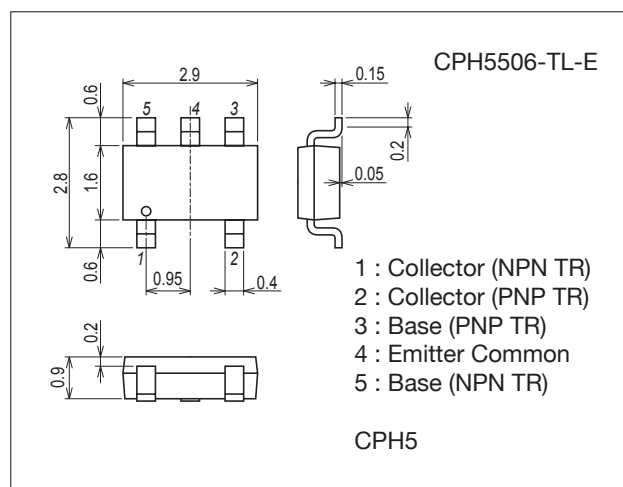
| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|--|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | (-30)40 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | (-)30 | V |
| Emitter-to-Base Voltage | V _{EBO} | | (-)5 | V |
| Collector Current | I _C | | (-)1.5 | A |
| Collector Current (Pulse) | I _{CP} | | (-)5 | A |
| Base Current | I _B | | (-)300 | mA |
| Collector Dissipation | P _C | Mounted on a ceramic board (600mm ² ×0.8mm) | 0.9 | W |
| Total Power Dissipation | P _T | Mounted on a ceramic board (600mm ² ×0.8mm) | 1.2 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -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)

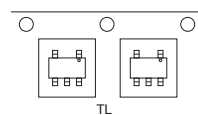
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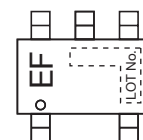
Product & Package Information

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

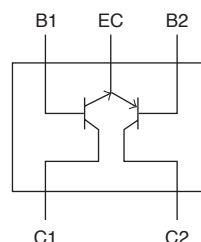
Packing Type : TL



Marking



Electrical Connection



ORDERING INFORMATION

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

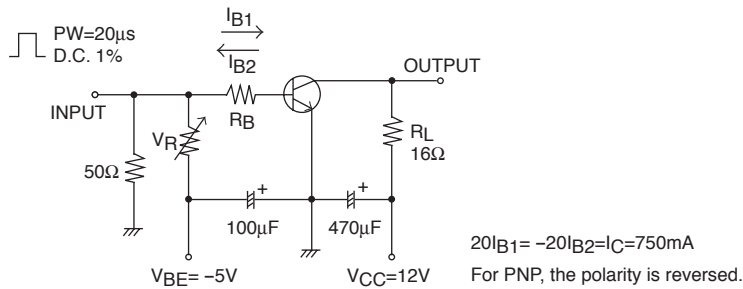
CPH5506

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} | $V_{CE}=(-)2V, I_C=(-)100mA$ | 200 | | 560 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)10V, I_C=(-)300mA$ | | (450)500 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | (9)8 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)750mA, I_B=(-)15mA$ | | (-250)150 | (-375)225 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)750mA, I_B=(-)15mA$ | | (-)0.85 | (-)1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0A$ | (-30)40 | | | 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. | | 35 | | ns |
| Storage Time | t_{stg} | | | (115)205 | | ns |
| Fall Time | t_f | | | 30 | | ns |

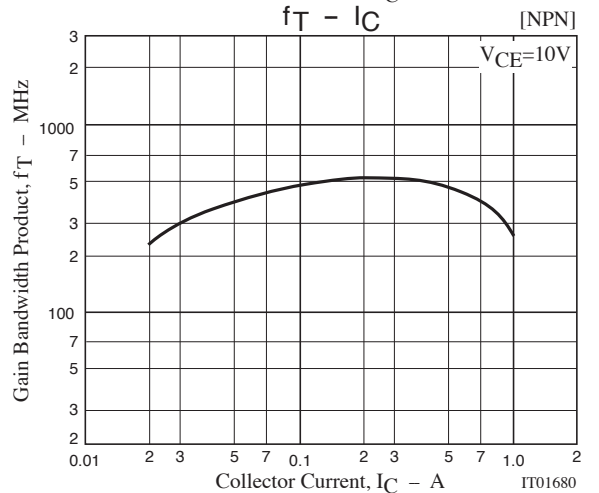
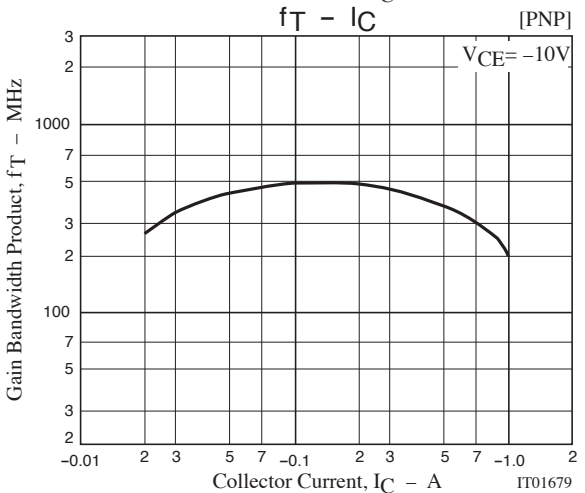
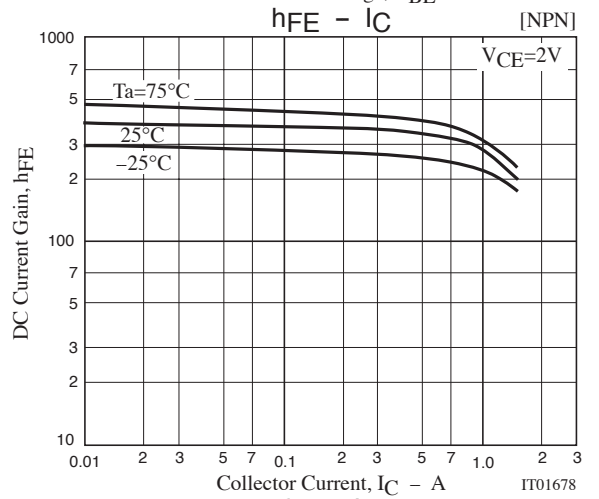
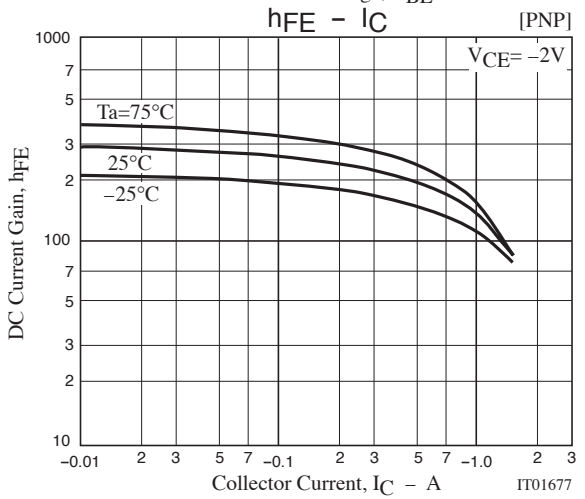
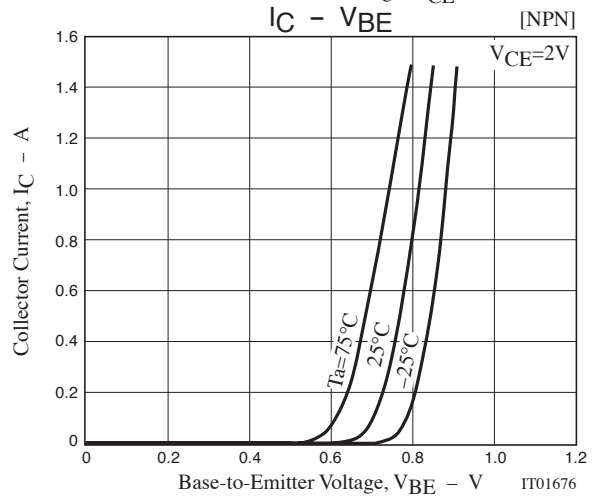
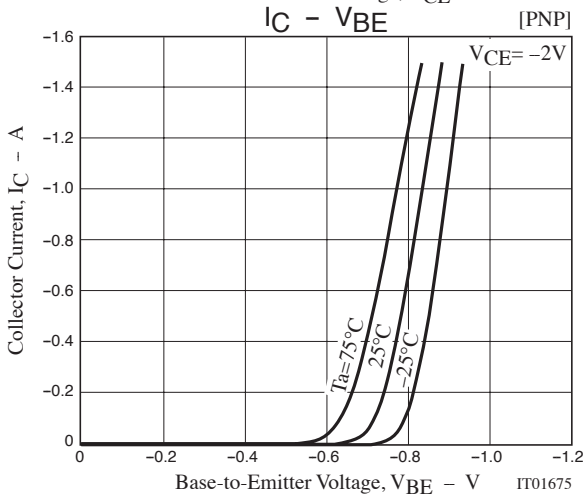
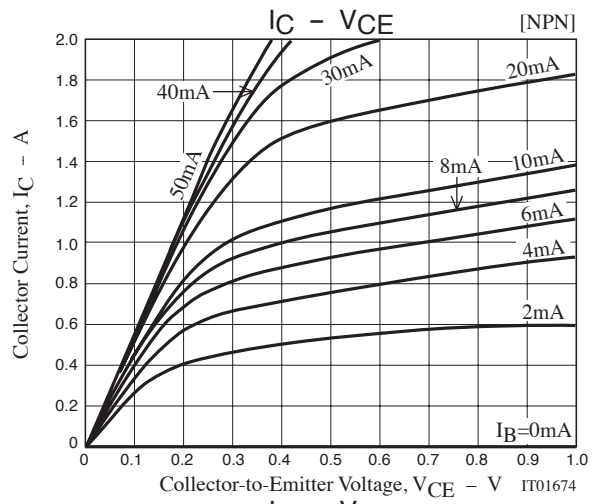
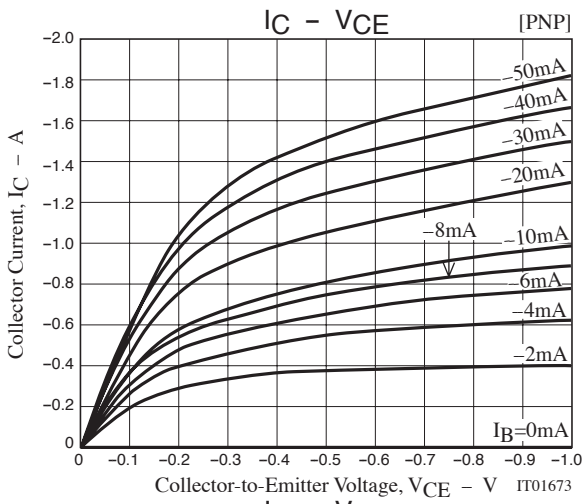
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

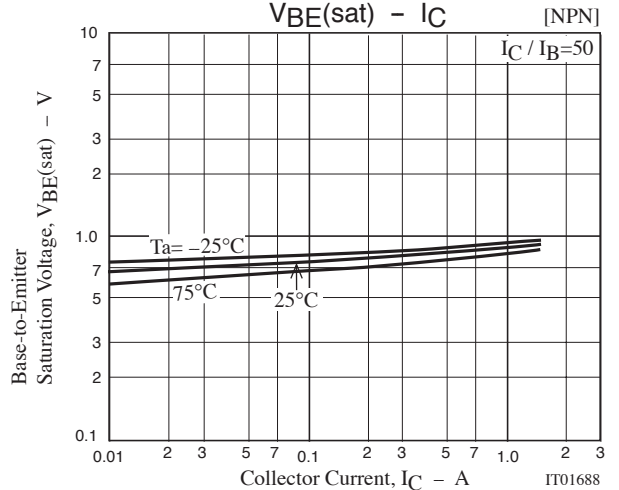
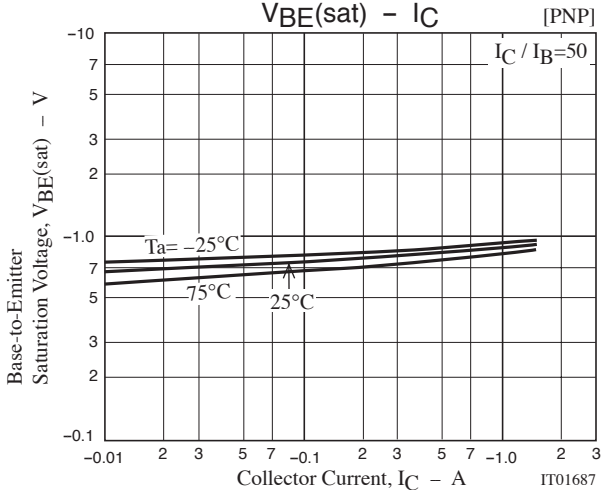
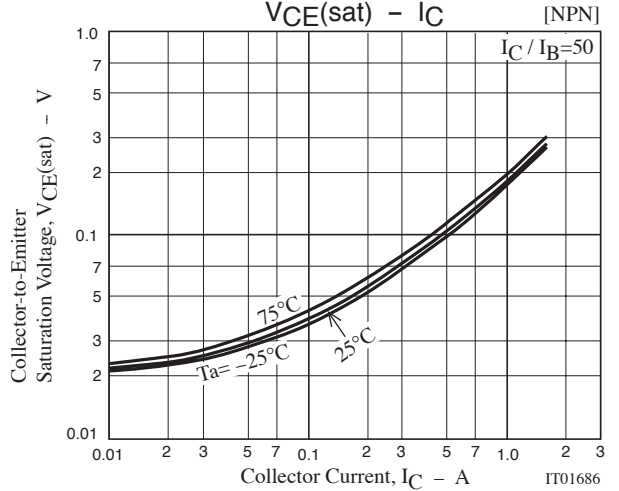
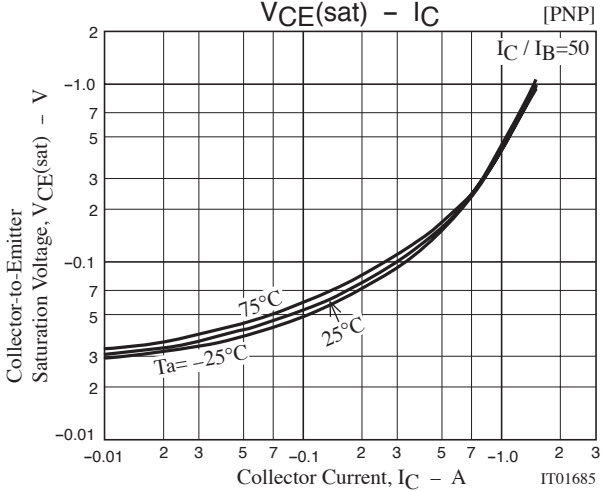
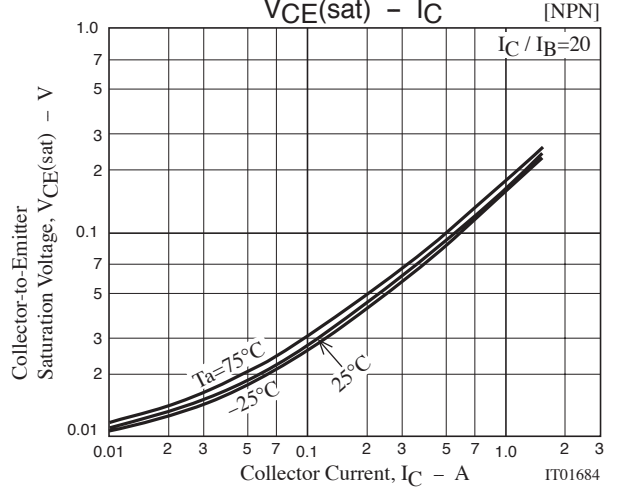
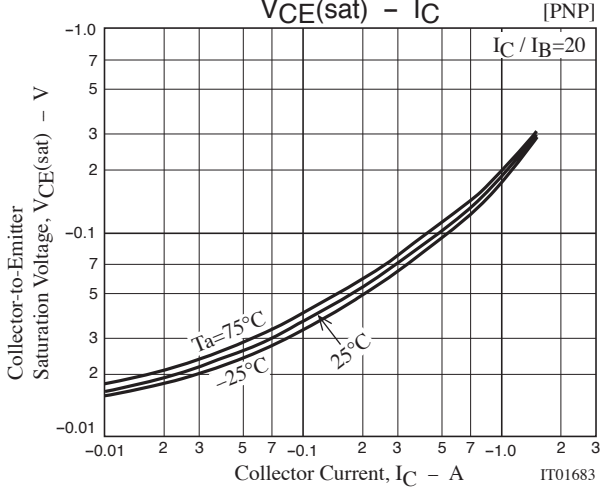
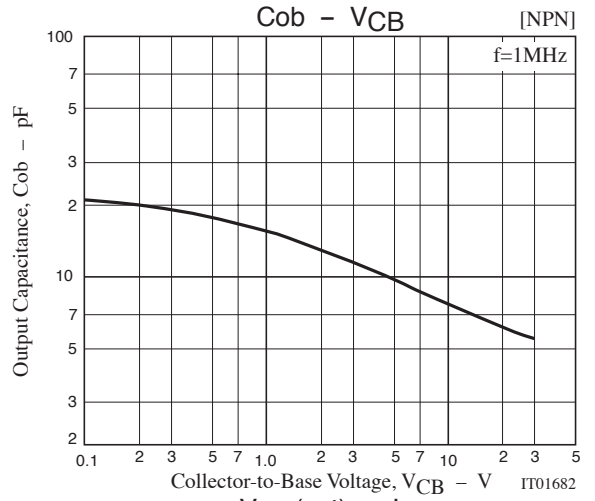
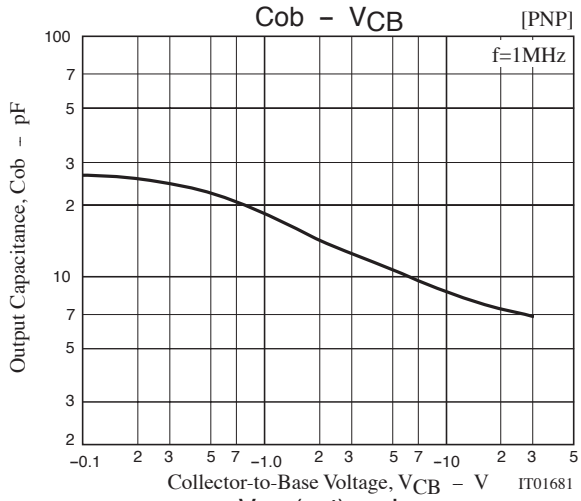
Switching Time Test Circuit

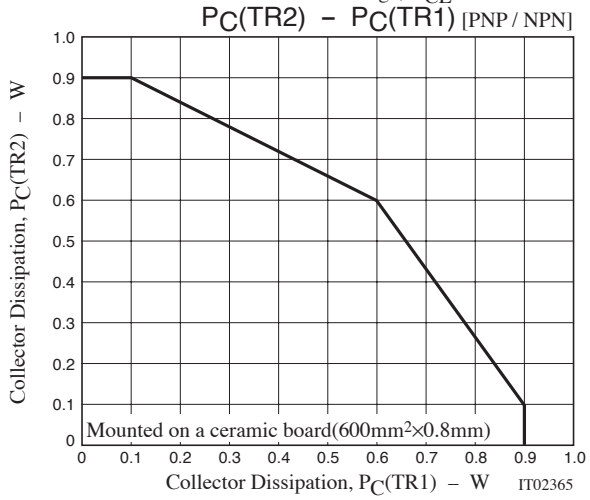
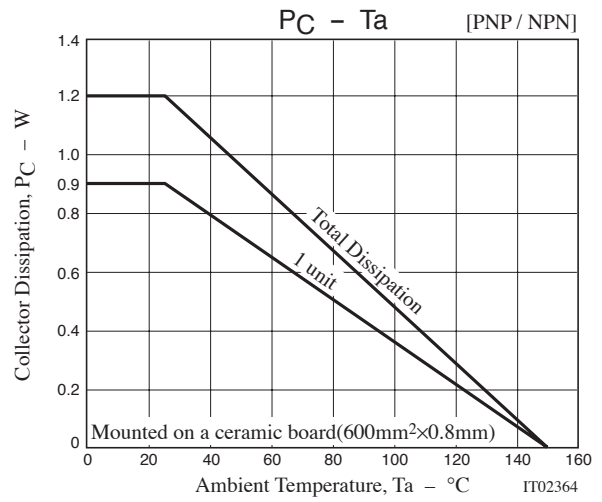
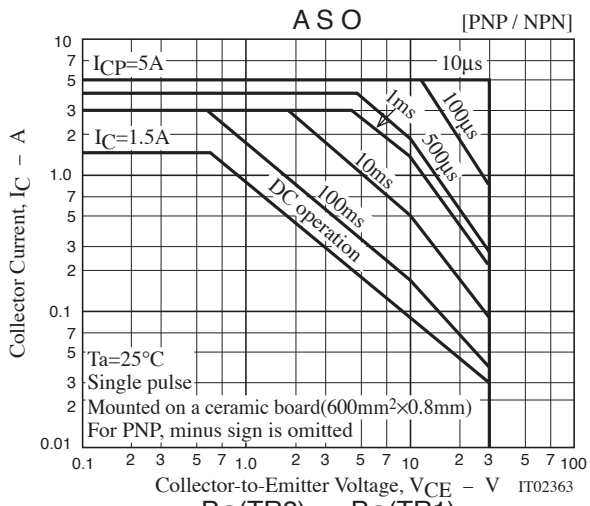


Ordering Information

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

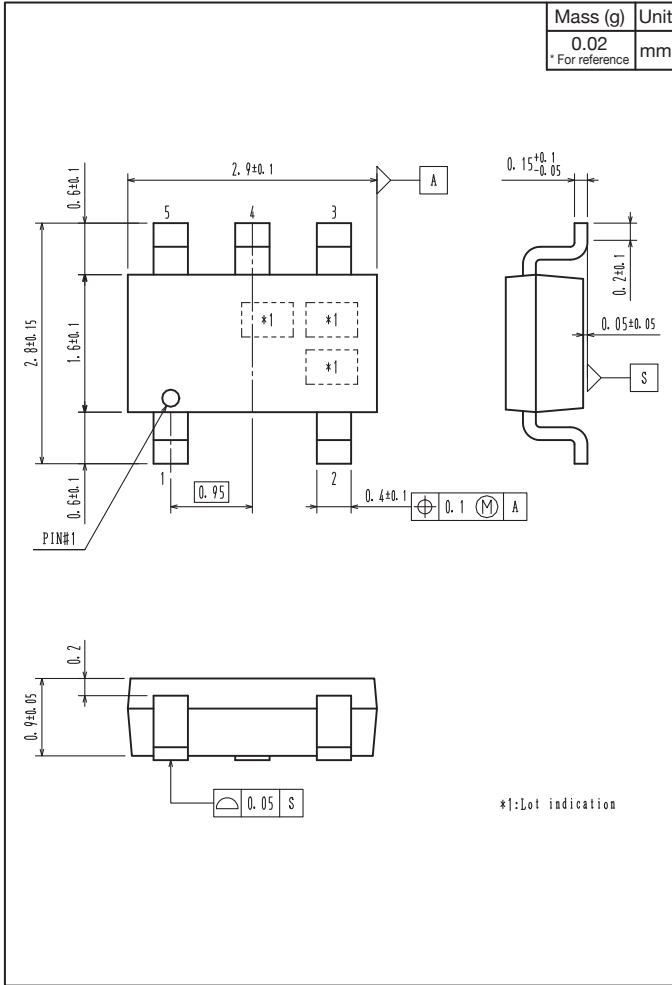




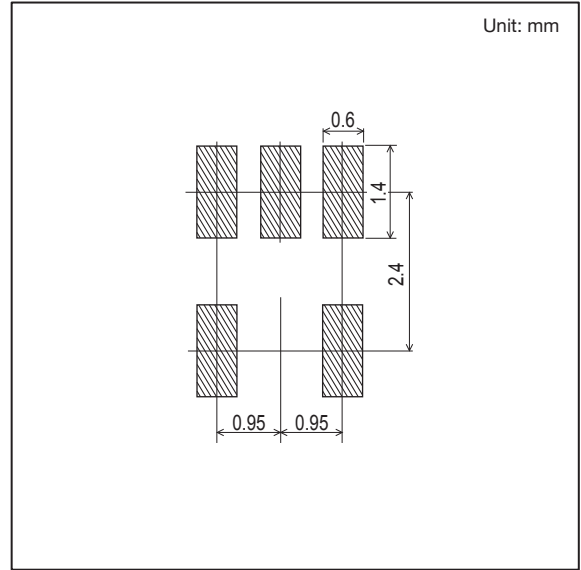


Outline Drawing

CPH5506-TL-E



Land Pattern Example



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