



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

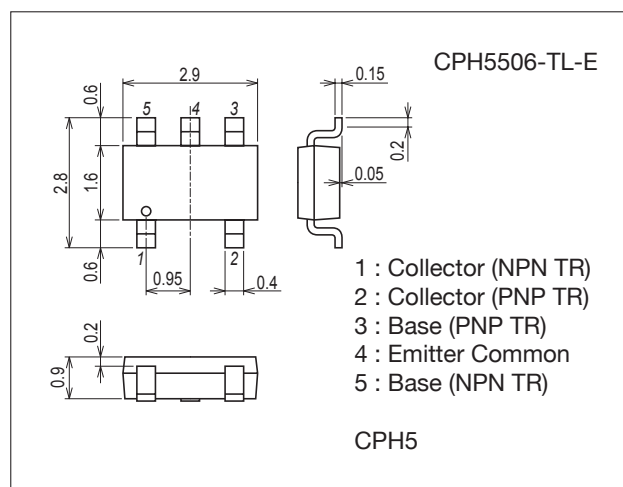
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-30)40	V
Collector-to-Emitter Voltage	V _{CEO}		(-)30	V
Emitter-to-Base Voltage	V _{EBO}		(-)5	V
Collector Current	I _C		(-)1.5	A
Collector Current (Pulse)	I _{CP}		(-)5	A
Base Current	I _B		(-)300	mA
Collector Dissipation	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)

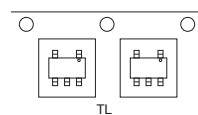
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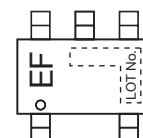
Product & Package Information

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

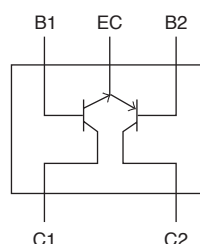
Packing Type : TL



Marking



Electrical Connection



ORDERING INFORMATION

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

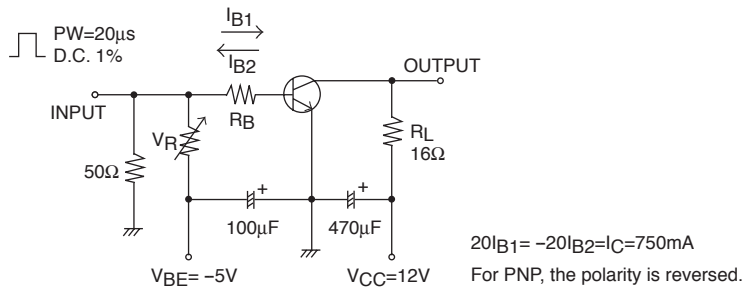
CPH5506

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)30\text{V}, I_E=0\text{A}$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0\text{A}$			(-)0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)2\text{V}, I_C=(-)100\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)300\text{mA}$		(450)500		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(9)8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)750\text{mA}, I_B=(-)15\text{mA}$		(-250)150	(-375)225	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)750\text{mA}, I_B=(-)15\text{mA}$		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0\text{A}$	(-30)40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-)30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}, I_C=0\text{A}$	(-)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

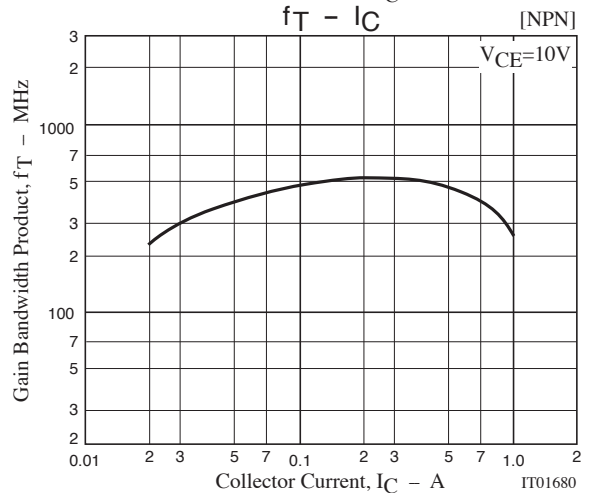
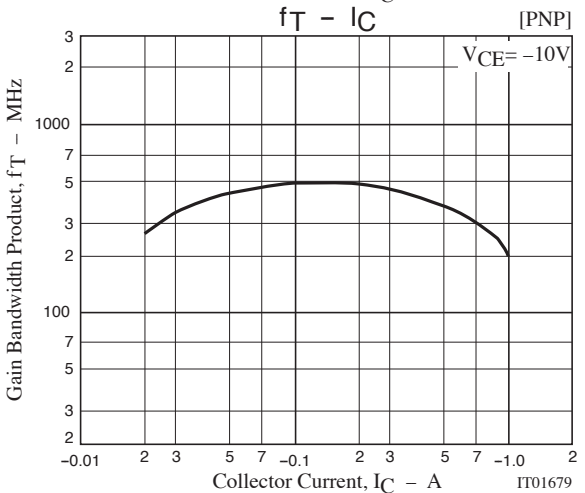
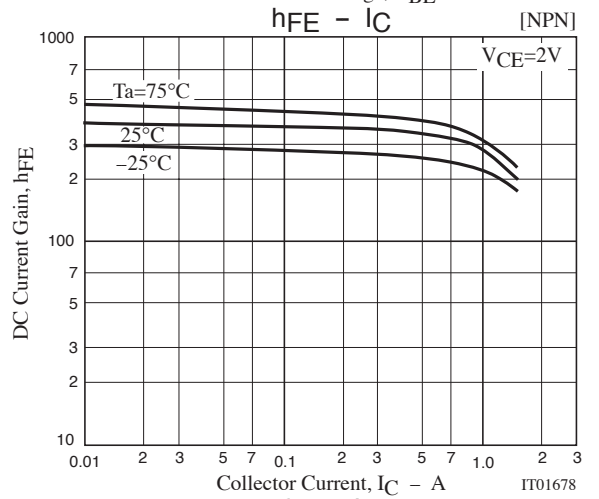
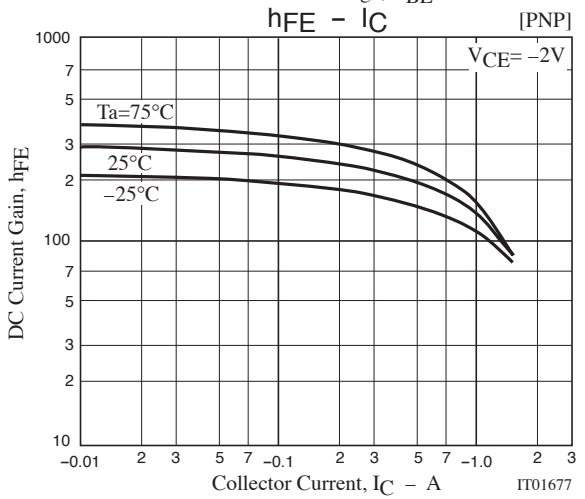
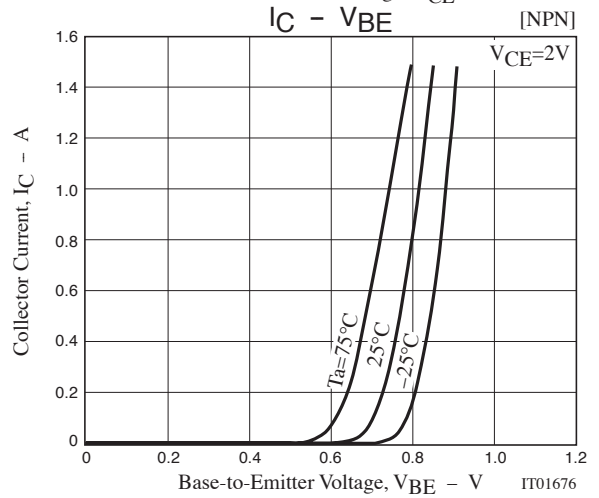
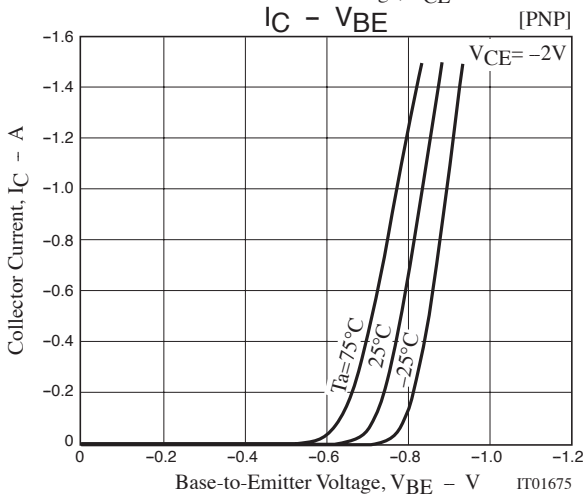
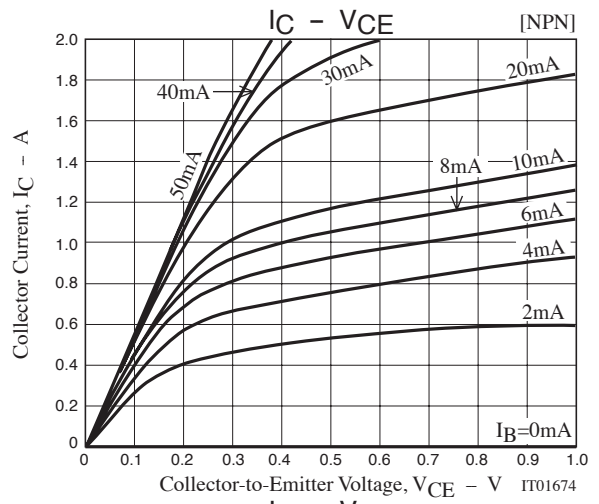
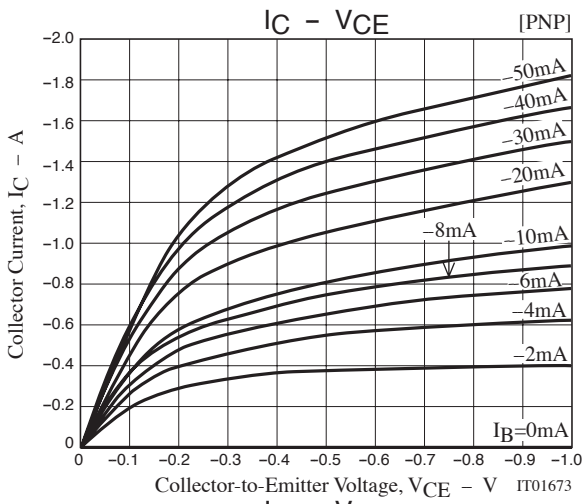
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

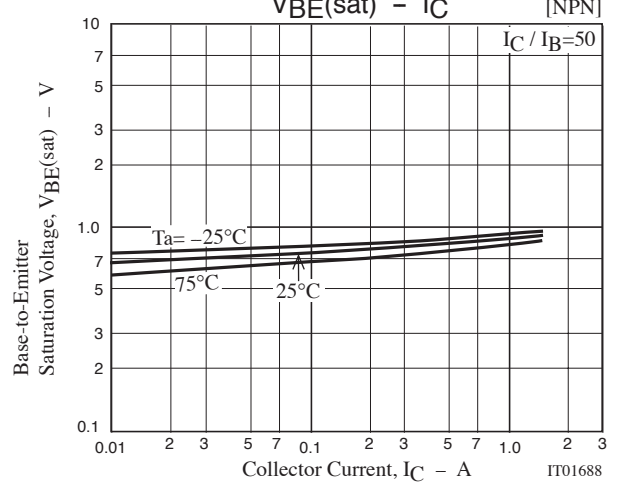
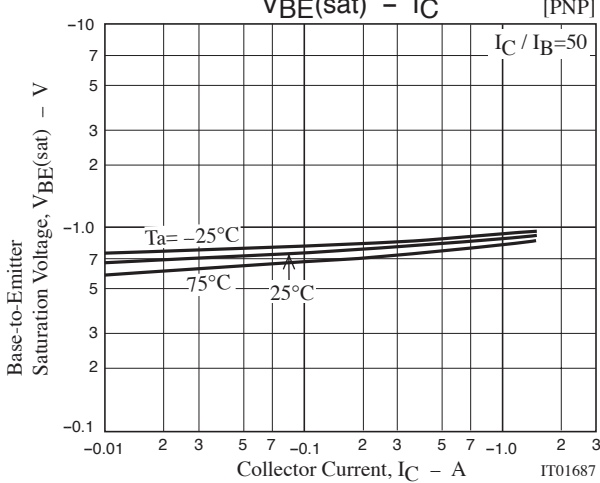
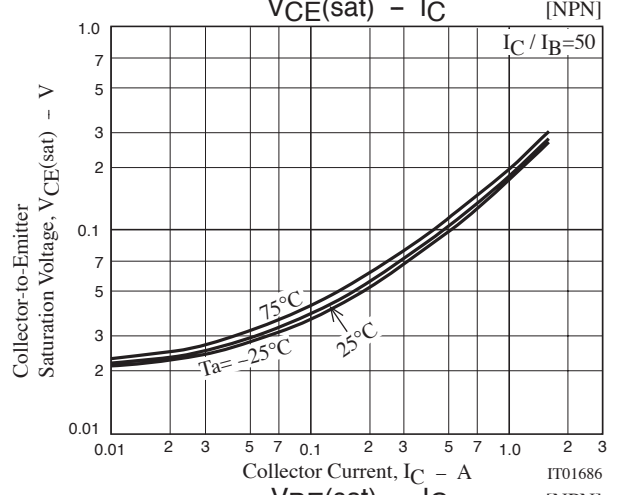
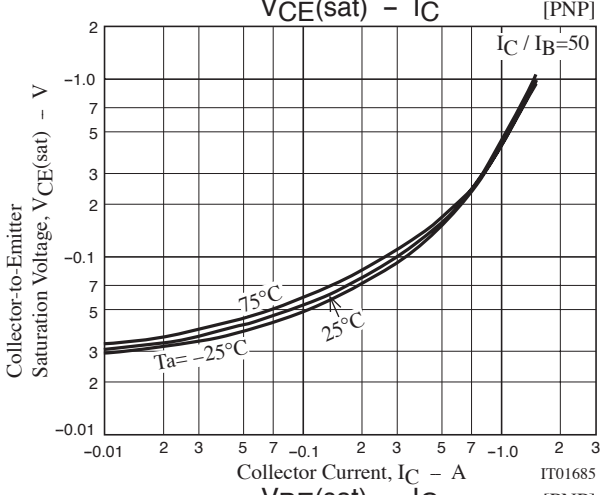
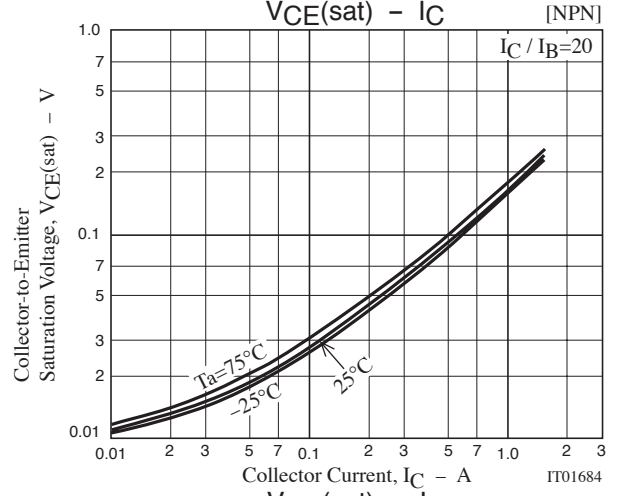
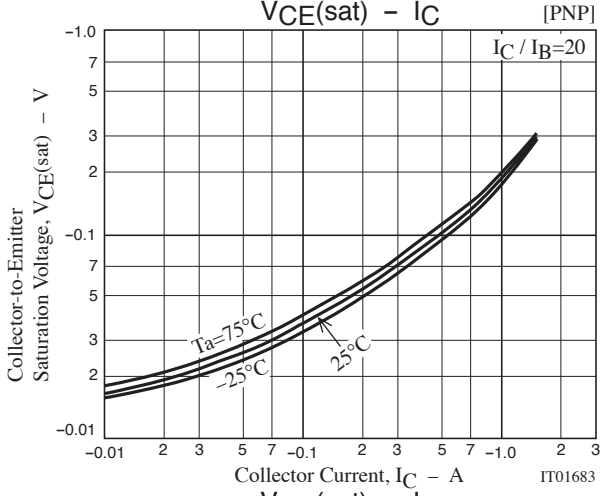
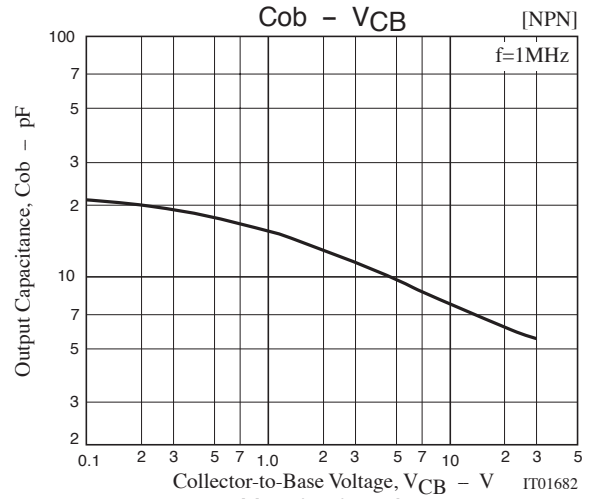
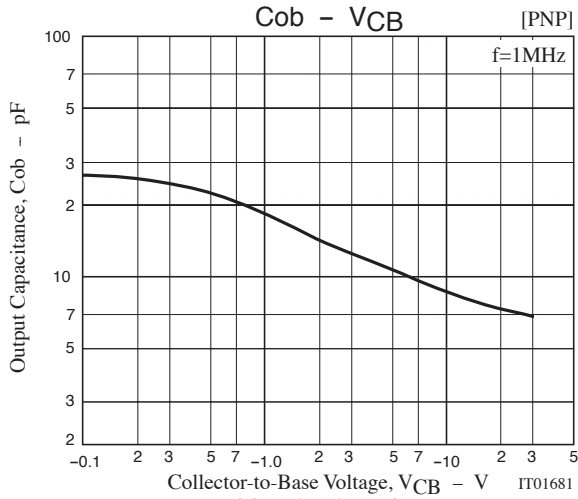
Switching Time Test Circuit

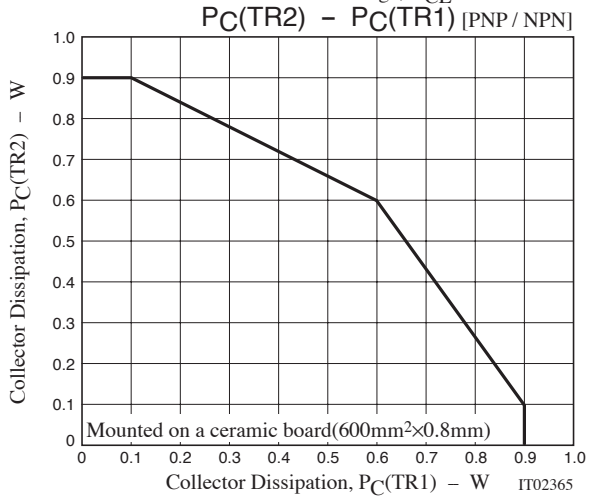
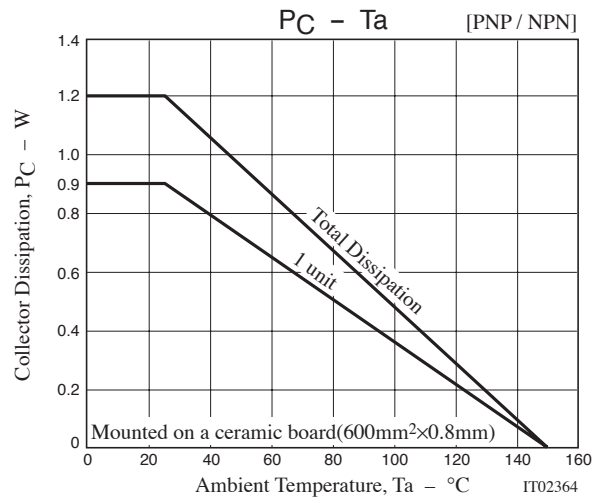
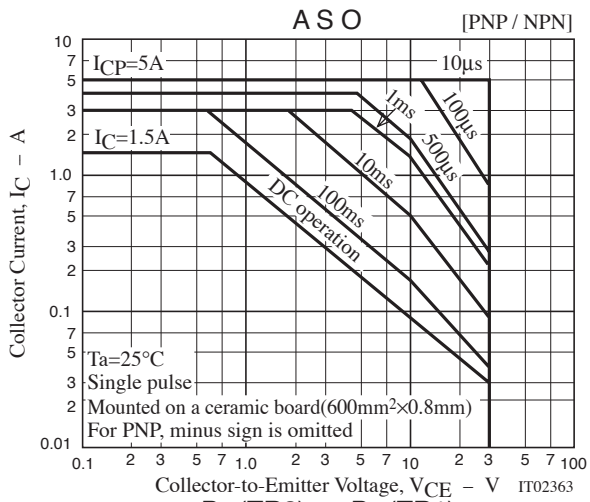


Ordering Information

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

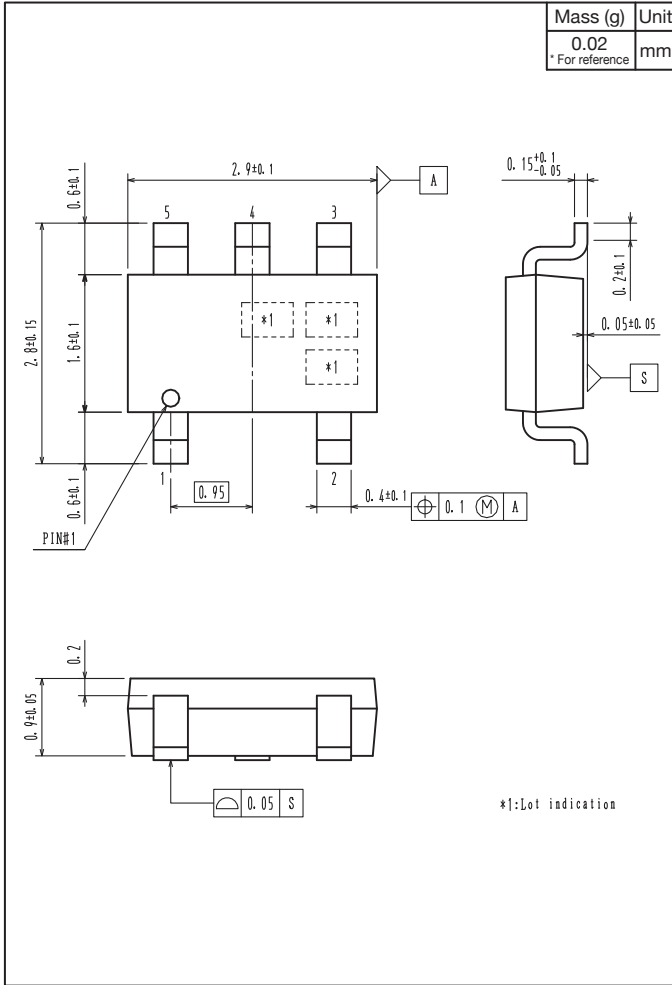




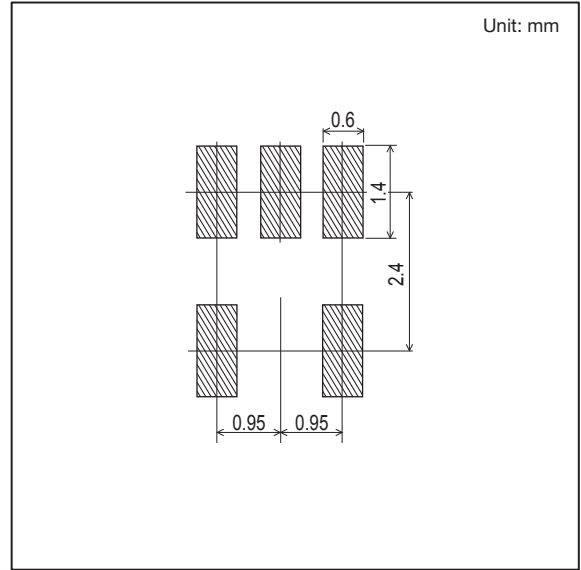


Outline Drawing

CPH5506-TL-E



Land Pattern Example



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