



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH5524

PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

- Relay drivers, lamp drivers, motor drivers, IGBT gate drivers

Features

- Composite type with a PNP transistor and an NPN transistor contained in one package, facilitating high-density mounting
- Ultrasmall package facilitate miniaturization in end products. (0.9mm mounting height)

Specifications () : PNP

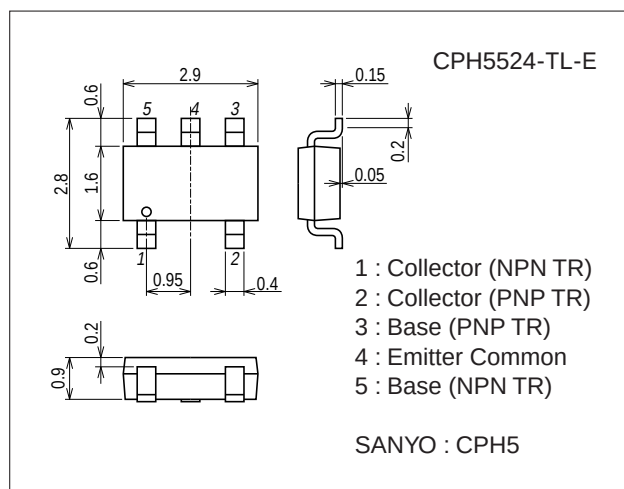
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-50)100	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	I _C		(-)3	A
Collector Current (Pulse)	I _{CP}		(-)6	A
Base Current	I _B		(-)600	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² ×0.8mm) 1unit	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

Package Dimensions

unit : mm (typ)

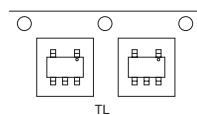
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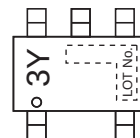
Product & Package Information

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

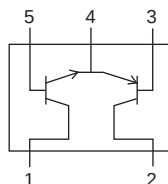
Packing Type : TL



Marking



Electrical Connection

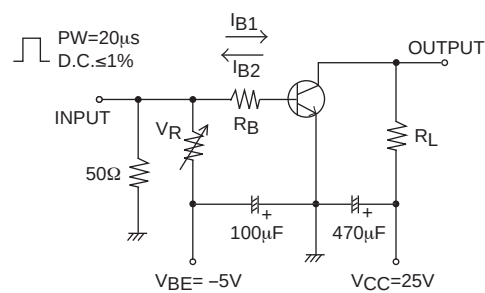


CPH5524

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCB=(-)40V, IE=0A			(-)1	μA
Emitter Cutoff Current	IEBO	VEB=(-)4V, IC=0A			(-)1	μA
DC Current Gain	hFE	VCE=(-)2V, IC=(-)100mA	200		560	
Gain-Bandwidth Product	fT	VCE=(-)10V, IC=(-)500mA		(390)380		MHz
Output Capacitance	Cob	VCB=(-)10V, f=1MHz		(24)13		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)1	IC=(-)1A, IB=(-)50mA		(-115)	(-230)	mV
				90	130	mV
	VCE(sat)2	IC=(-)2A, IB=(-)100mA		(-240)	(-650)	mV
				160	240	mV
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=(-)2A, IB=(-)100mA		(-)0.88	(-)1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=(-)10μA, IE=0A	(-50)100			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=(-)1mA, RBE=∞	(-)50			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=(-)10μA, IC=0A	(-)6			V
Turn-On Time	ton	See specified Test Circuit.		(30)35		ns
Storage Time	tstg			(230)300		ns
Fall Time	tf			(18)25		ns

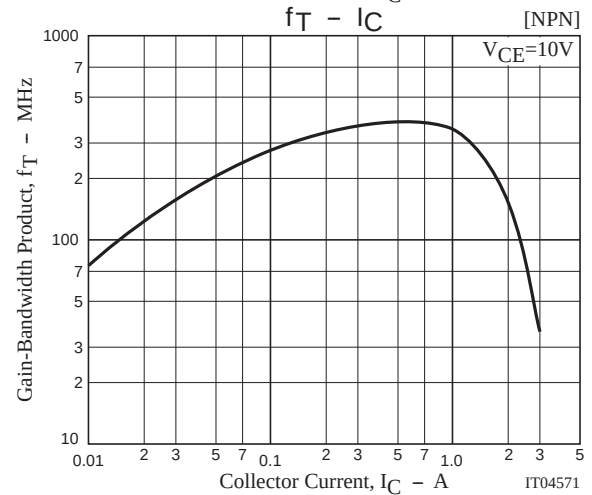
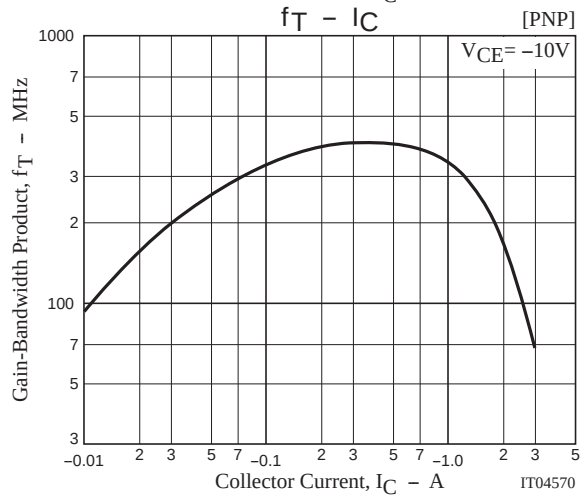
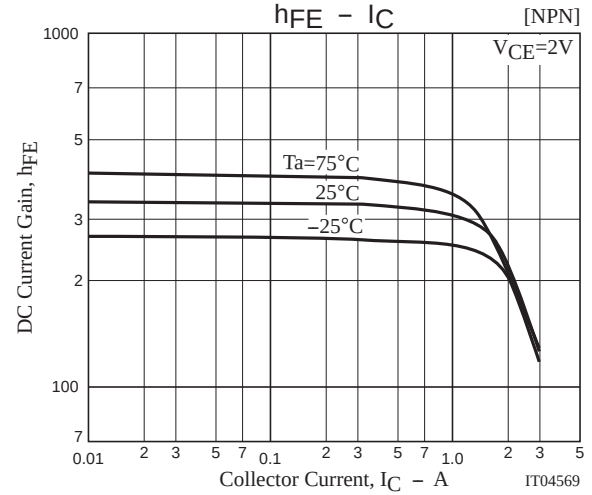
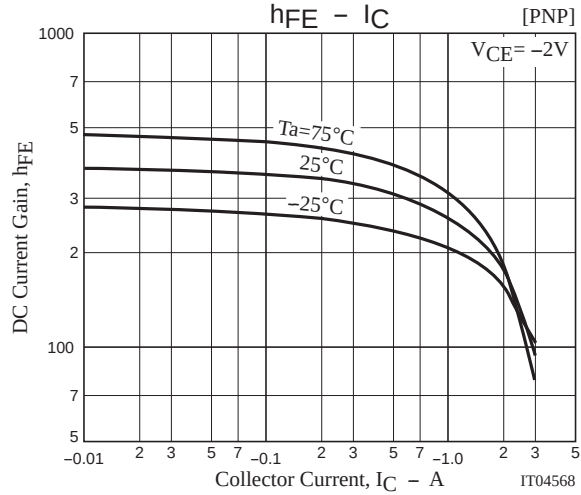
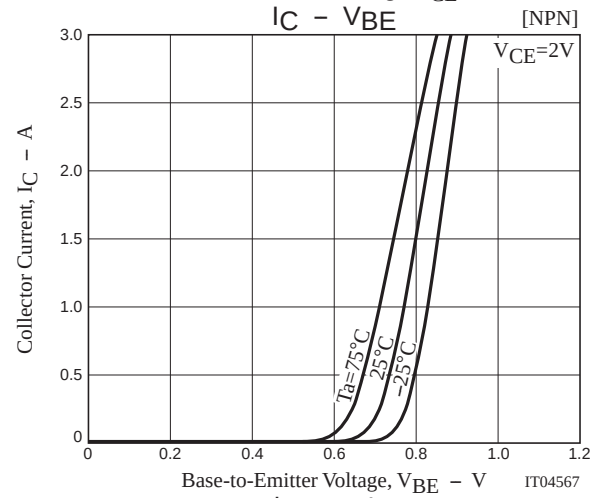
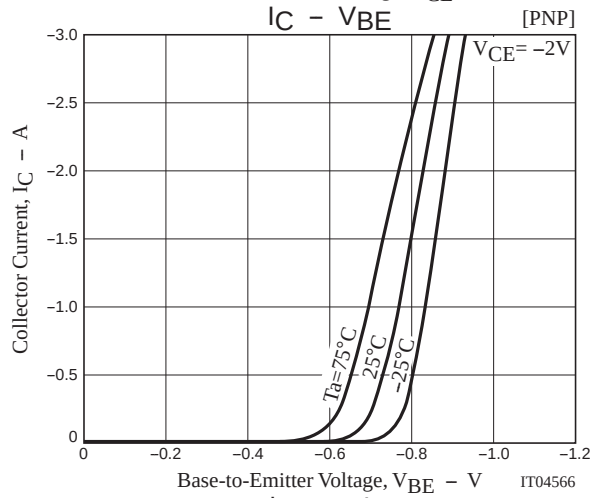
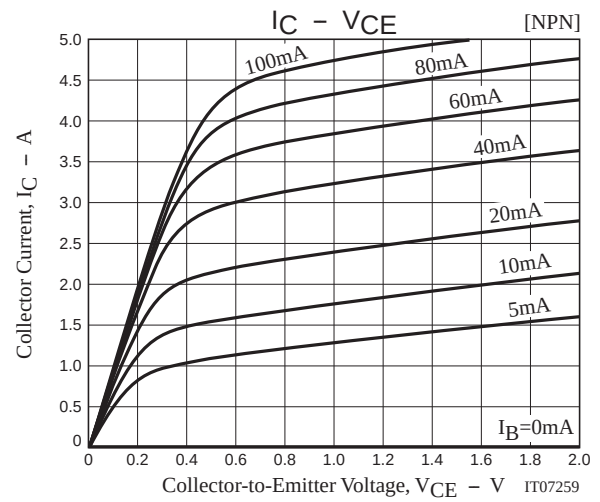
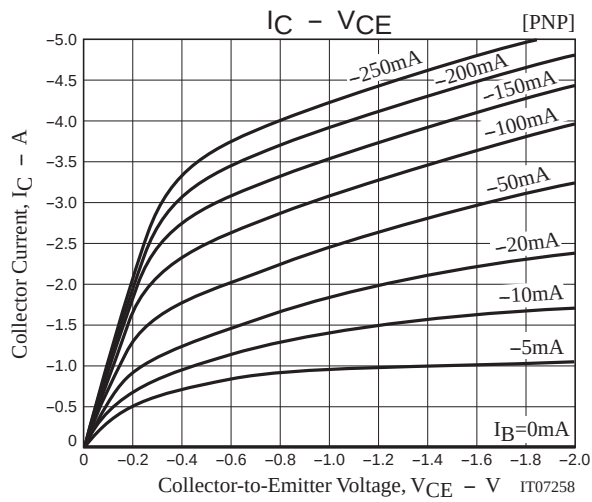
Switching Time Test Circuit

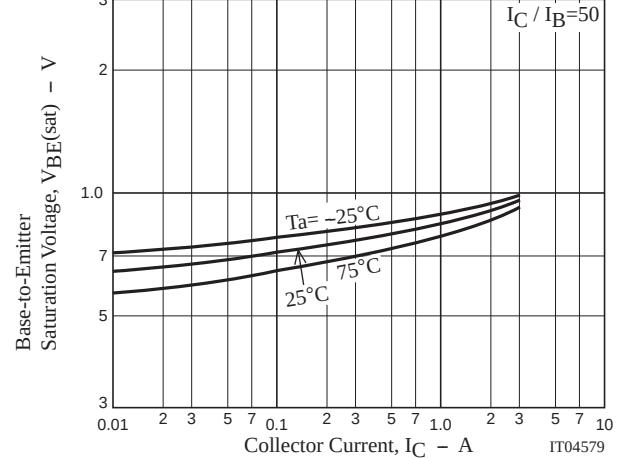
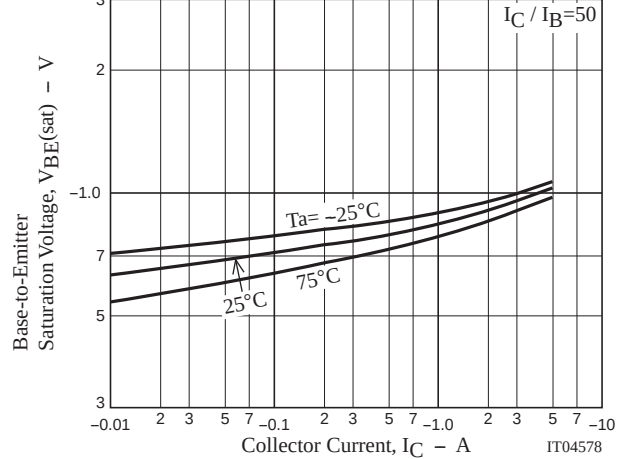
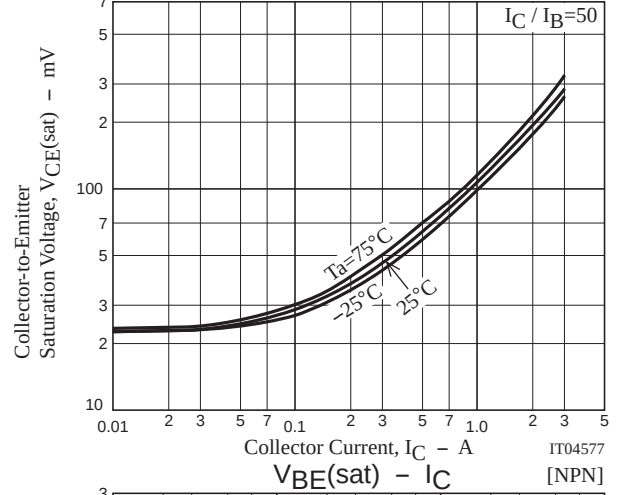
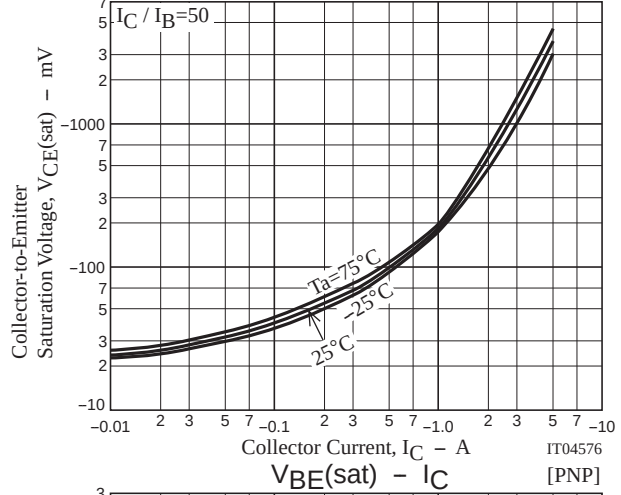
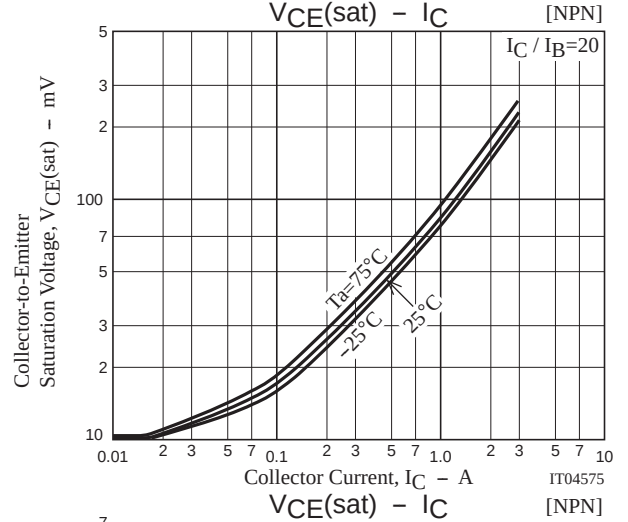
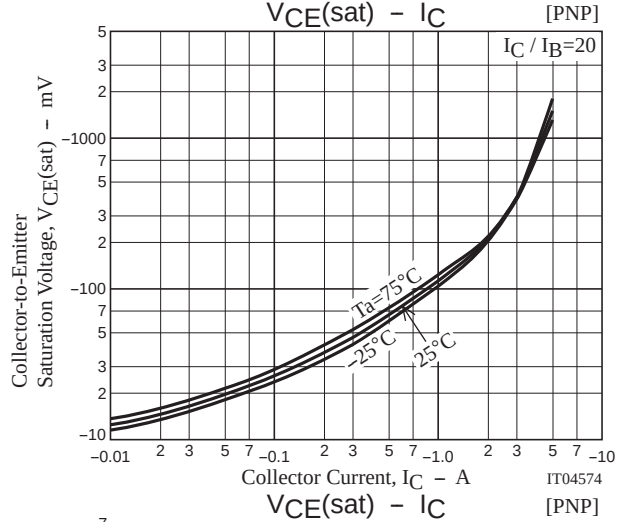
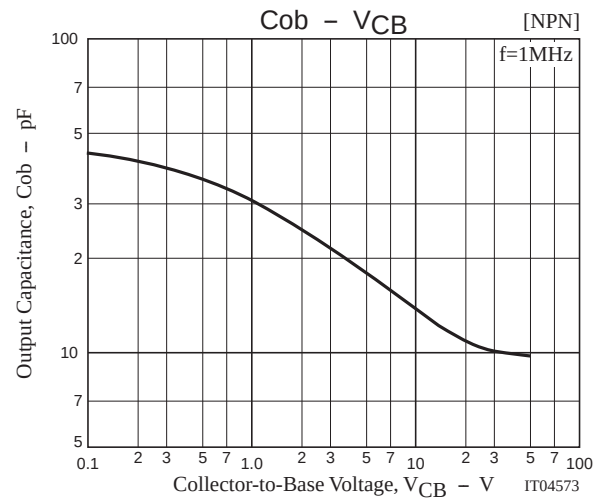
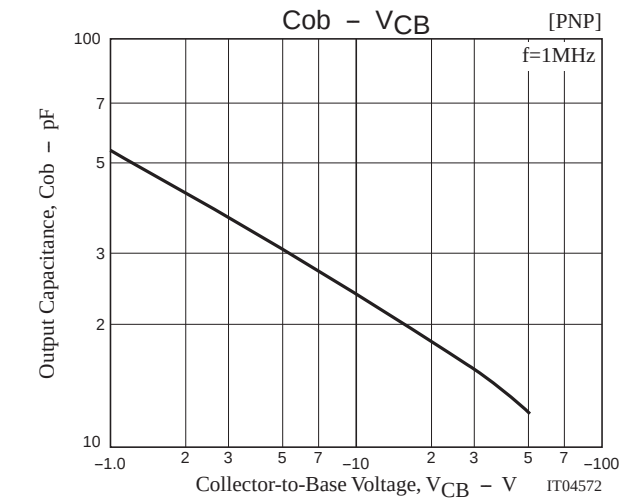


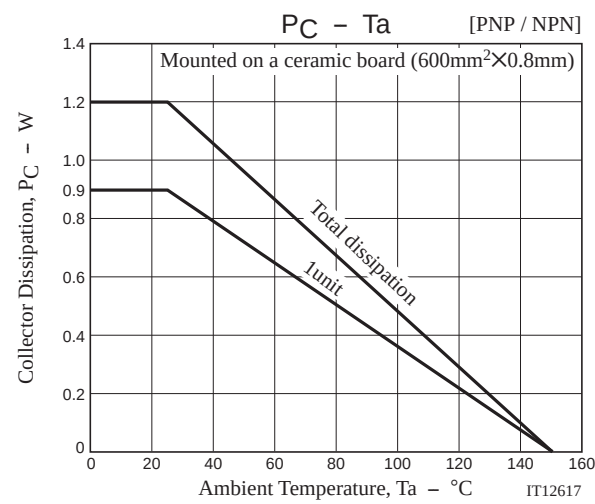
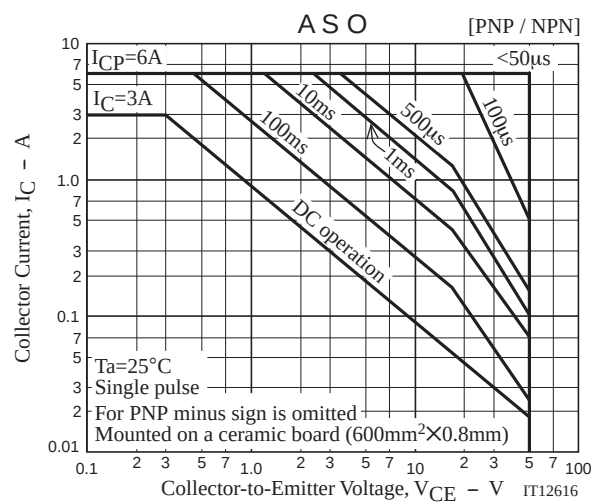
IC=10IB1= -10IB2=1A
For PNP, the polarity is reversed.

Ordering Information

Device	Package	Shipping	memo
CPH5524-TL-E	CPH5	3,000pcs./reel	Pb Free







Embossed Taping Specification

CPH5524-TL-E

1. Packing Format

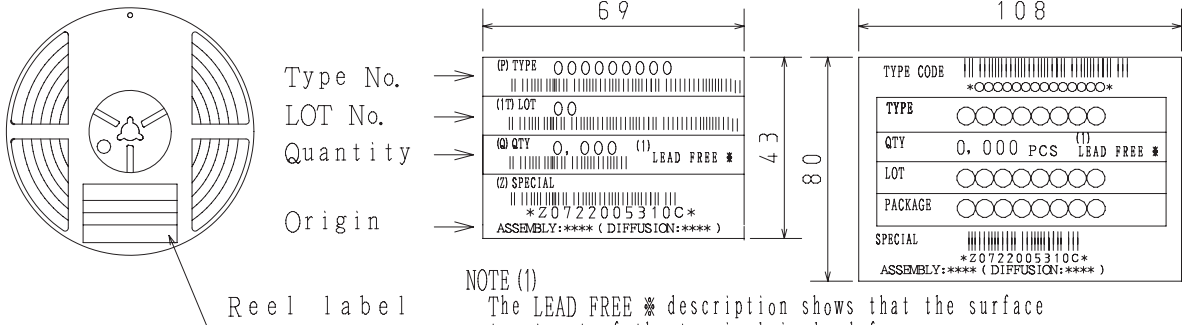
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
CPH5	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label
(unit:mm)

Outer box label

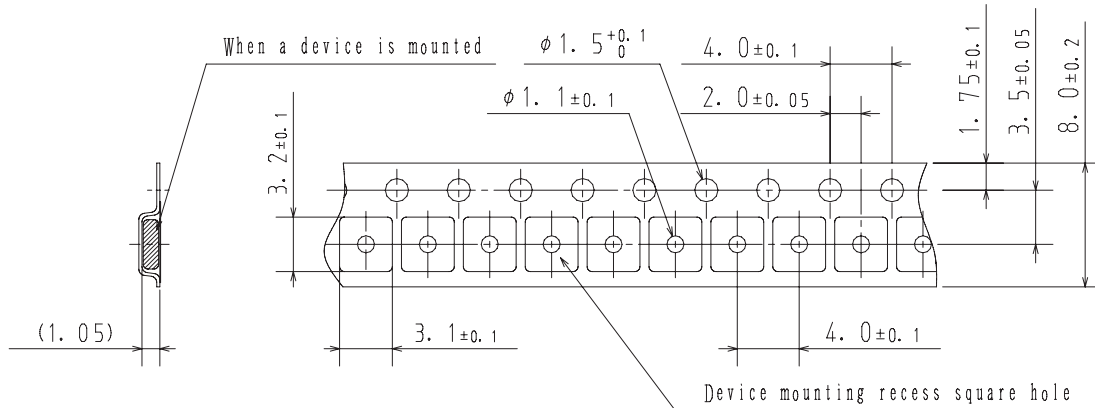
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method

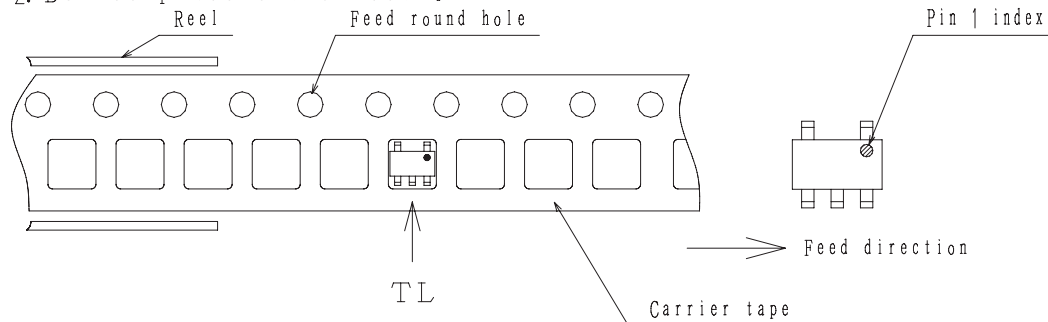


2. Taping configuration

2-1. Carrier tape size (unit:mm)

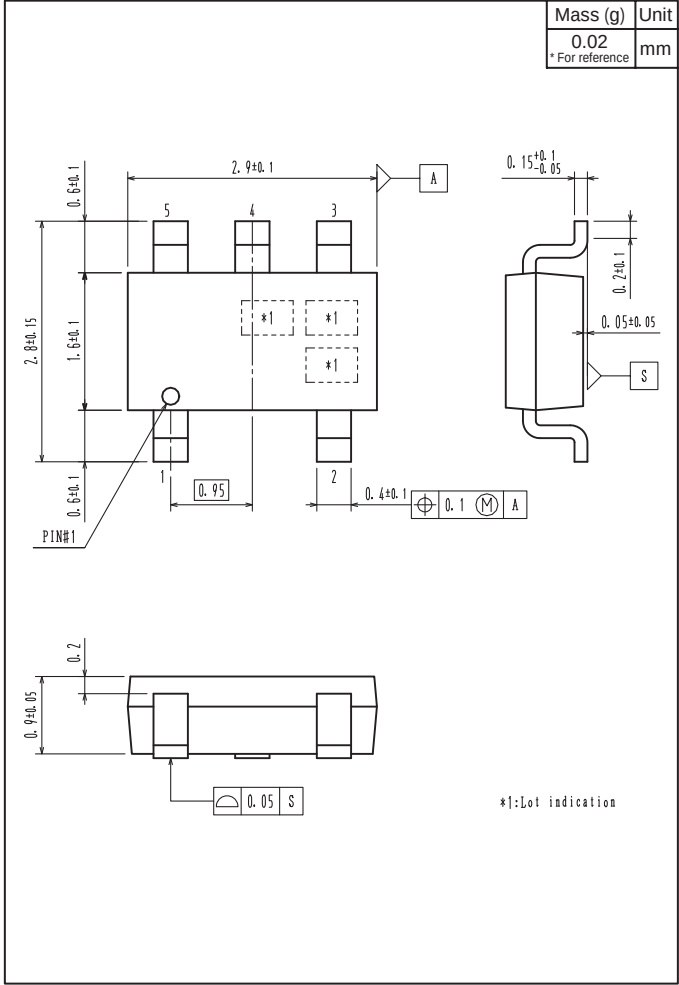


2-2. Device placement direction

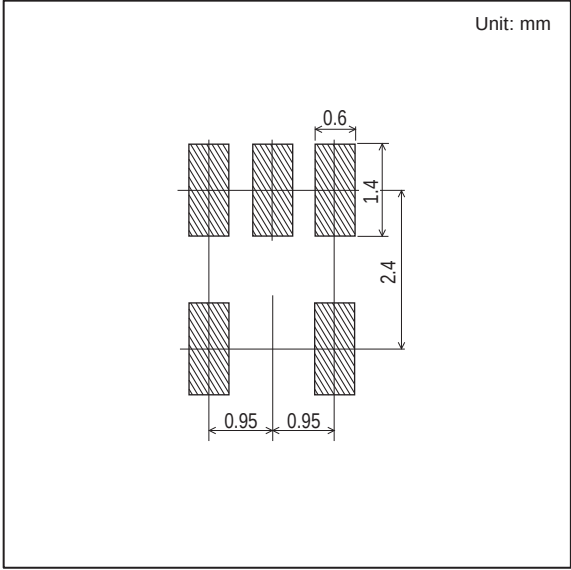


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
CPH5524-TL-E



Land Pattern Example



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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

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