



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

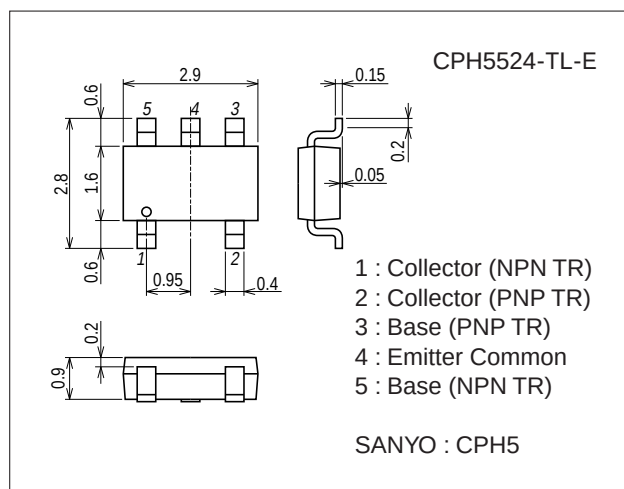
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-50)100	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EB0}		(-)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)

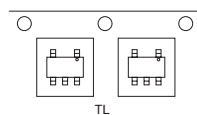
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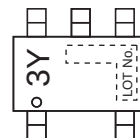
Product & Package Information

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

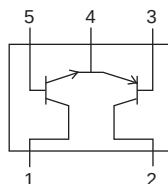
Packing Type : TL



Marking



Electrical Connection

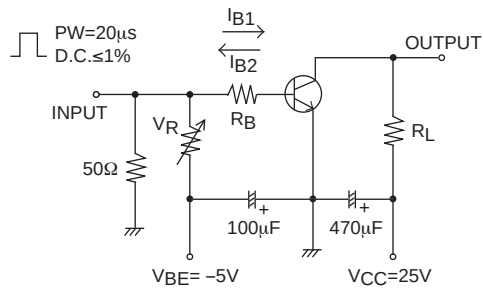


CPH5524

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0A$			(-) 1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0A$			(-) 1	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)2V, I_C=(-)100mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)500mA$		(390)380		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(24)13		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)1A, I_B=(-)50mA$		(-115)	(-230)	mV
				90	130	mV
	$V_{CE(sat)2}$	$I_C=(-)2A, I_B=(-)100mA$		(-240)	(-650)	mV
				160	240	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-)0.88	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	(-50)100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	(-)6			V
Turn-On Time	t_{on}	See specified Test Circuit.		(30)35		ns
Storage Time	t_{stg}			(230)300		ns
Fall Time	t_f			(18)25		ns

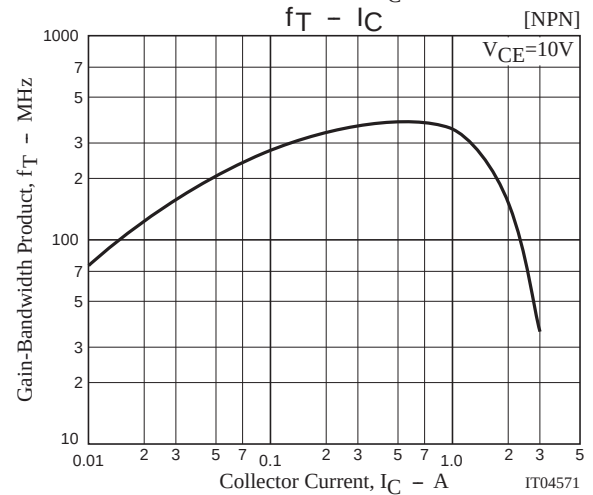
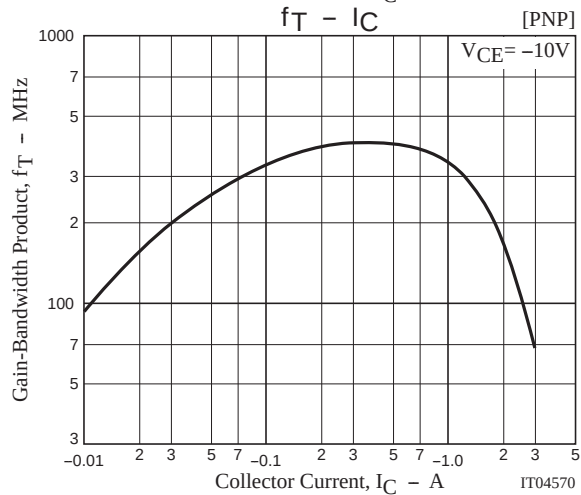
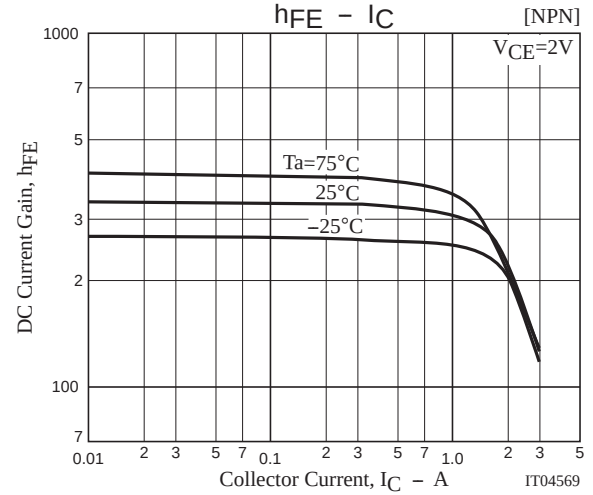
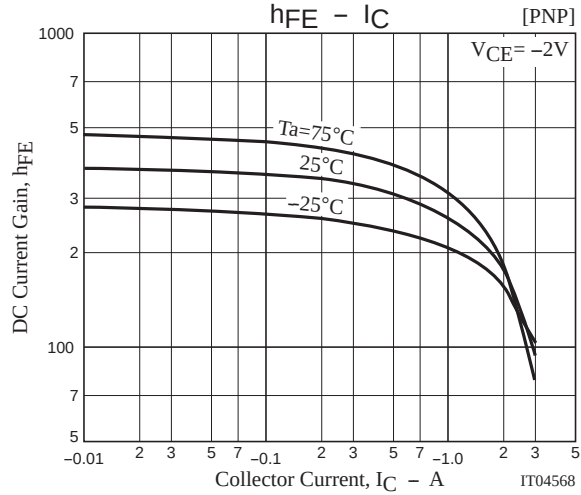
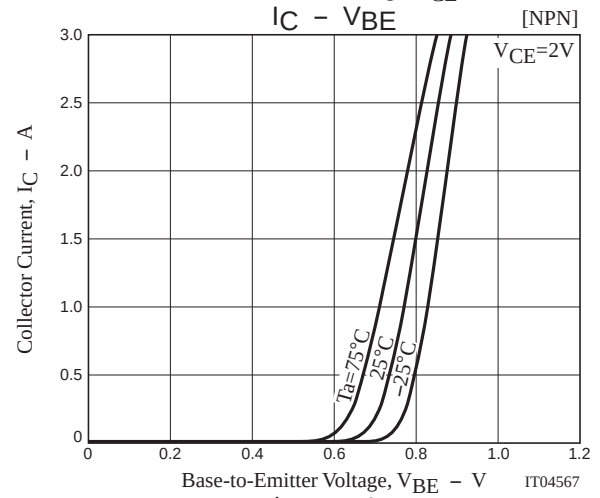
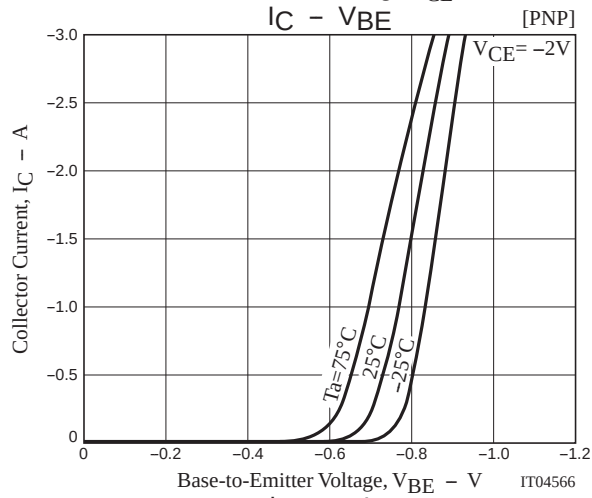
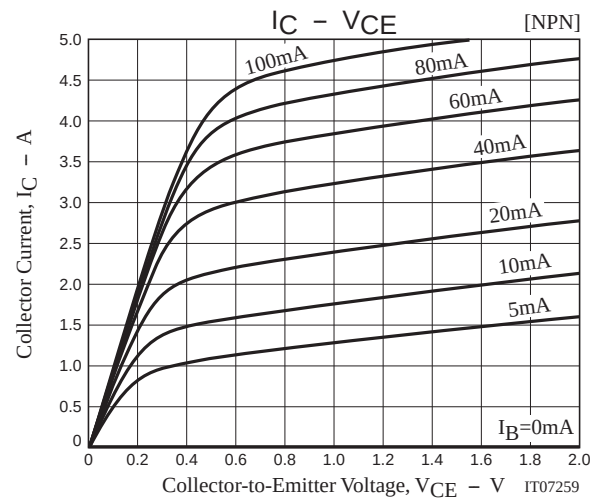
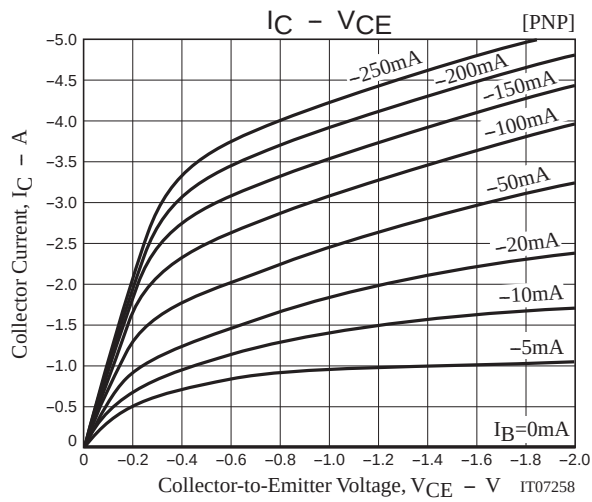
Switching Time Test Circuit

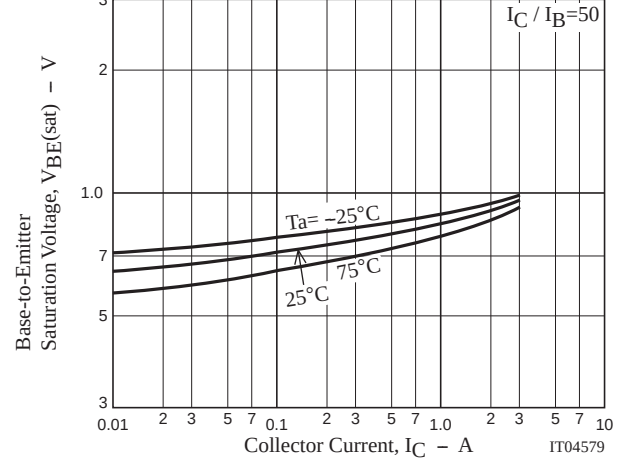
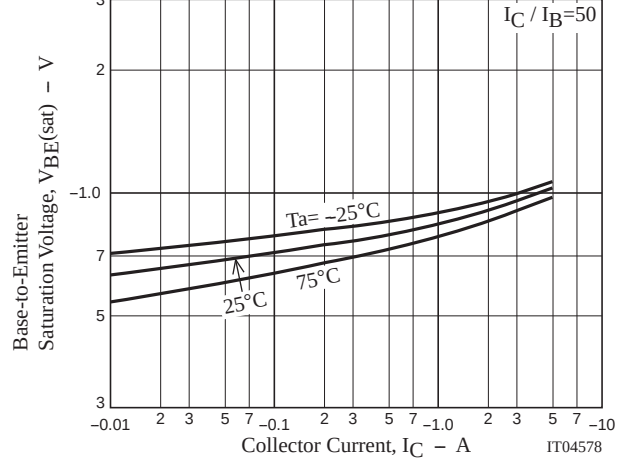
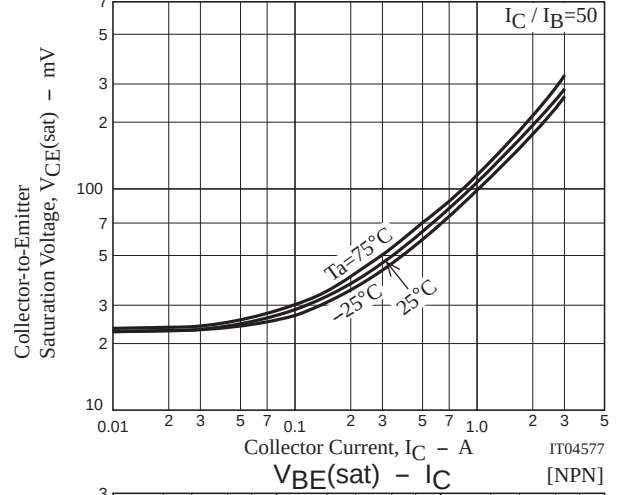
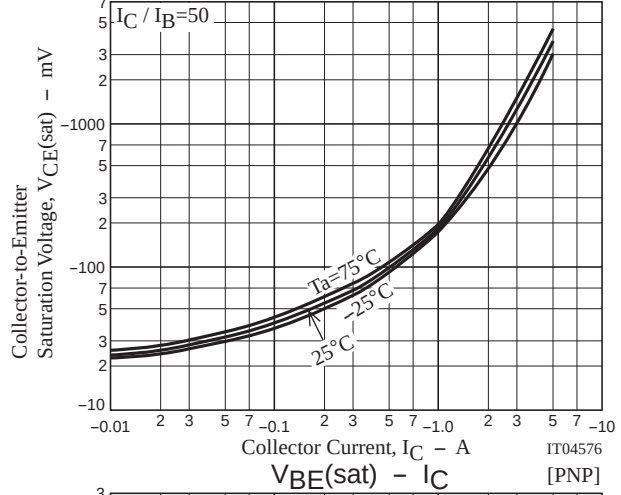
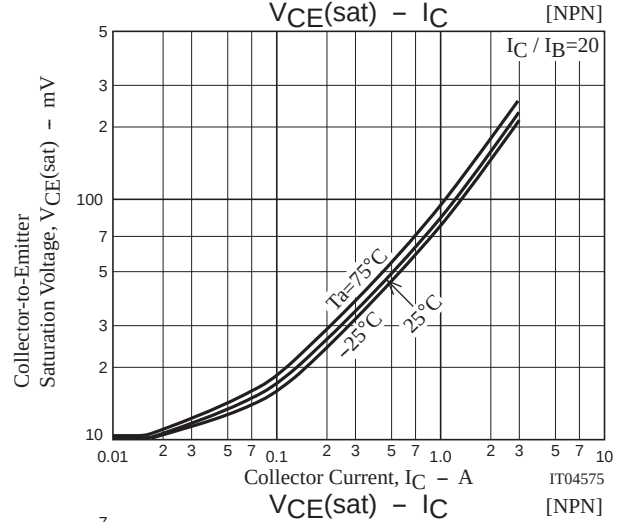
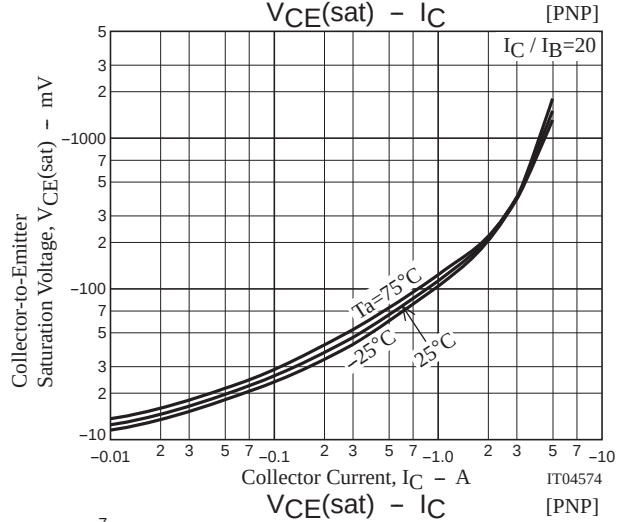
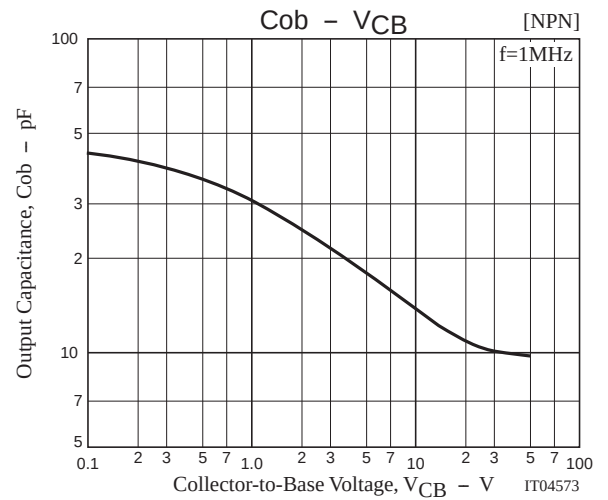
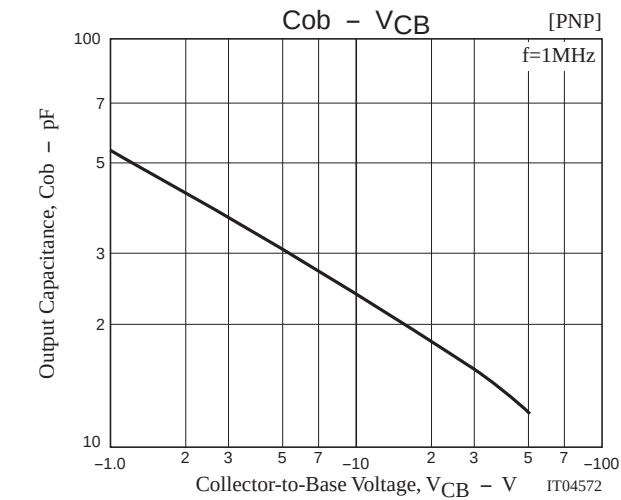


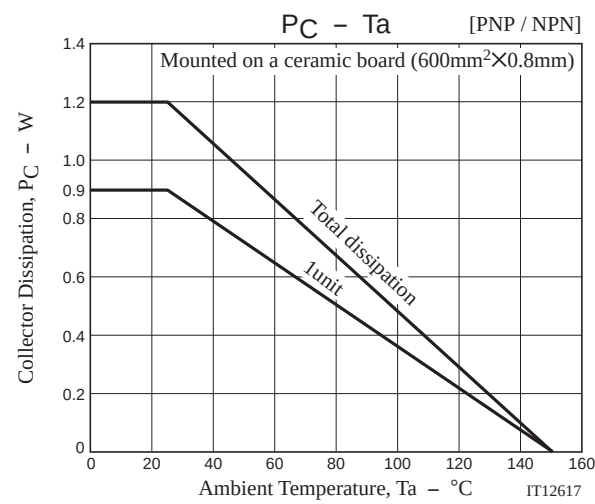
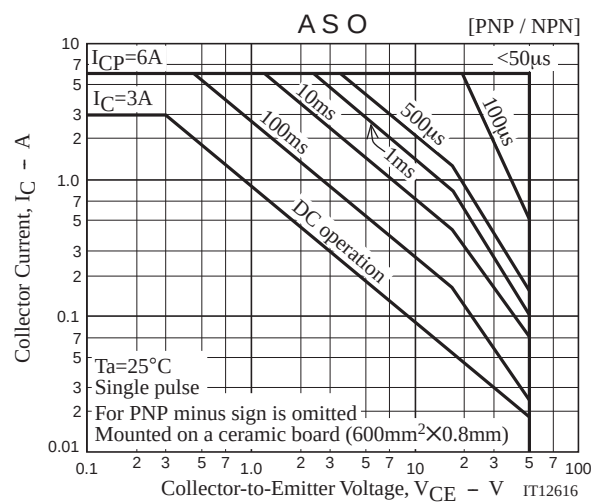
$I_C=10I_{B1}= -10I_{B2}=1A$
For PNP, the polarity is reversed.

Ordering Information

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







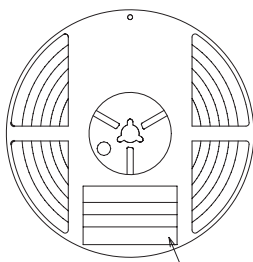
Embossed Taping Specification

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

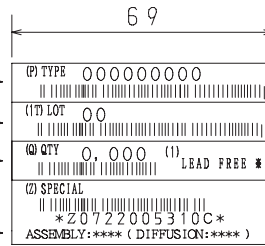
Packing method



Reel label

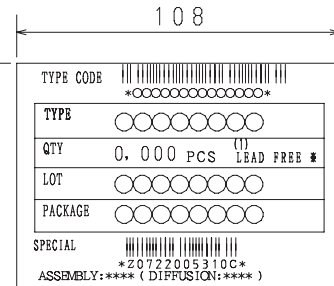
Type No.
LOT No.
Quantity
Origin

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.



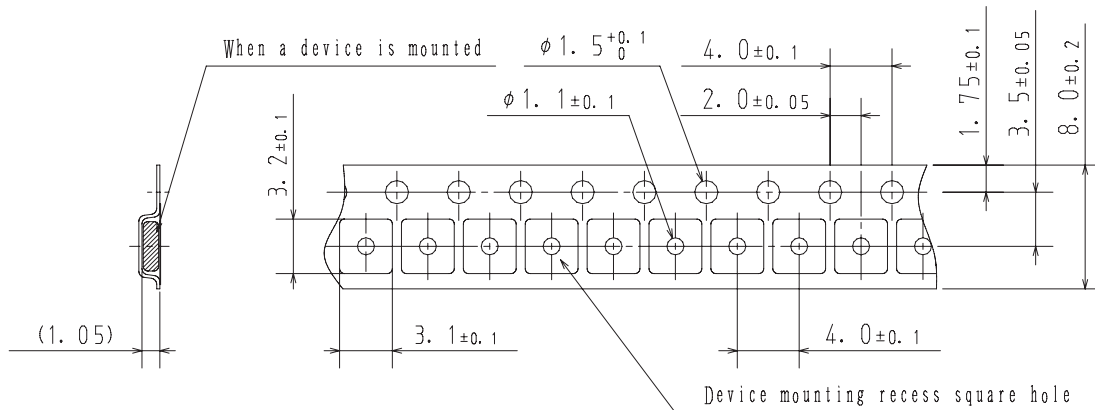
NOTE (1)

The LEAD FREE * description shows that the surface
treatment of the terminal is lead free.

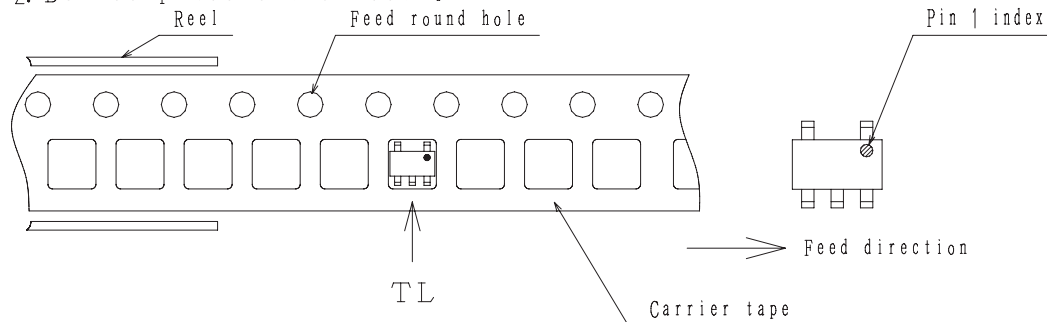
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

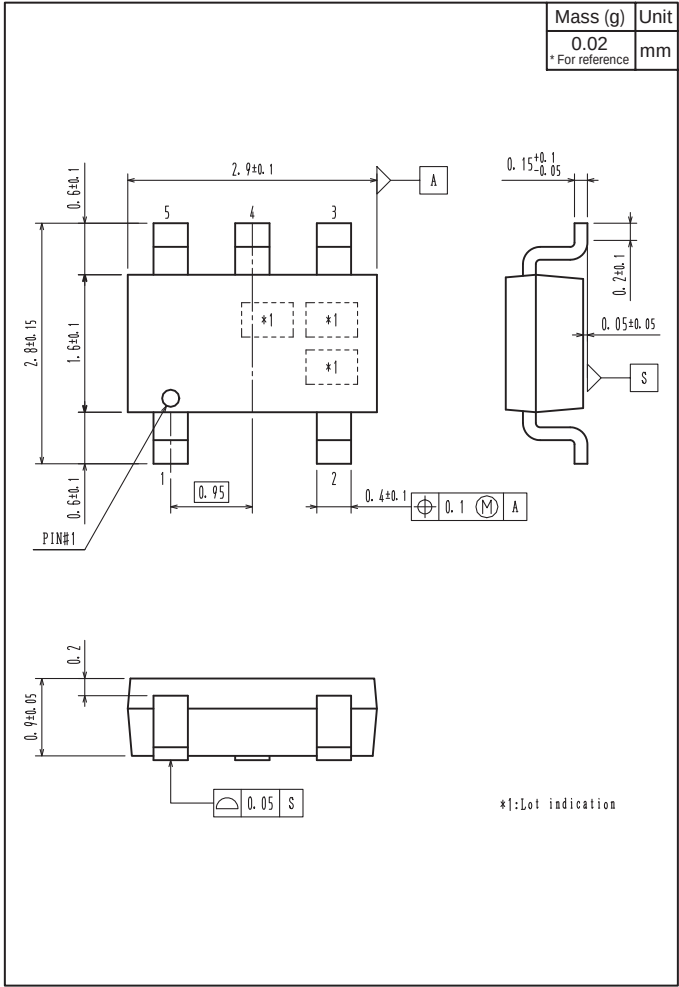


2-2. Device placement direction

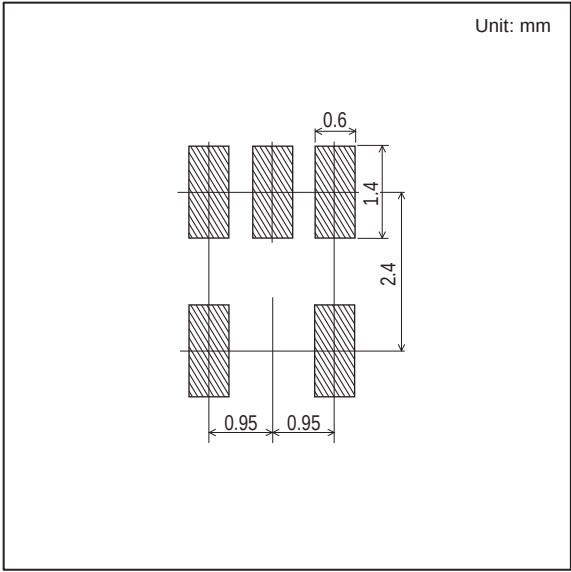


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
CPH5524-TL-E



Land Pattern Example



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