



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH5504 — NPN Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- DC-DC converter, relay drivers, lamp drivers, motor drivers, flash

Features

- Composite type with 2 NPN transistors in one package facilitating high-density mounting
- The CPH5504 is composed of 2 chips each equivalent to the CPH3205
- Ultrasmall package facilitates miniaturization in end products. (mounting height : 0.9mm)

Specifications

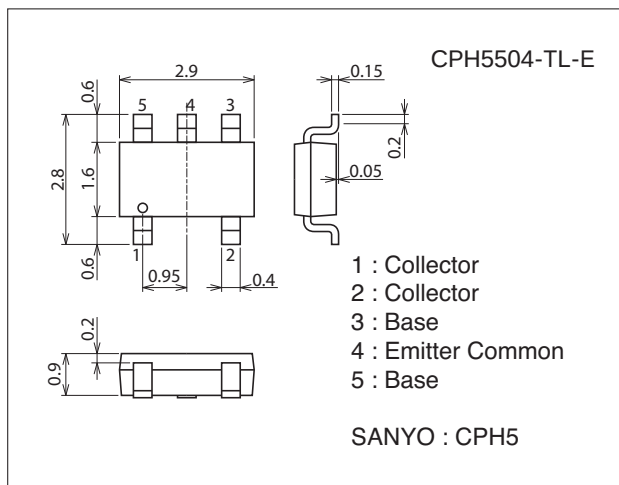
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		100	V
Collector-to-Emitter Voltage	V_{CES}		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)	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)

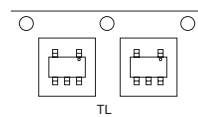
7017A-009



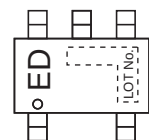
Product & Package Information

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

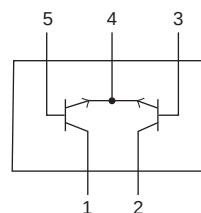
Packing Type : TL



Marking



Electrical Connection



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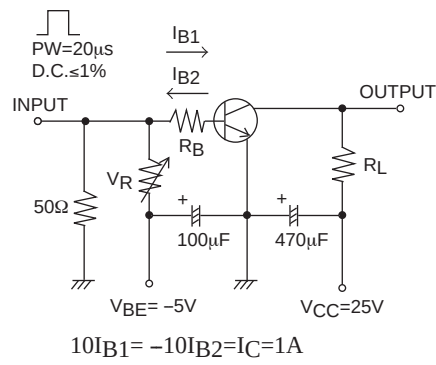
<http://semicon.sanyo.com/en/network>

CPH5504

Electrical Characteristics at Ta=25°C

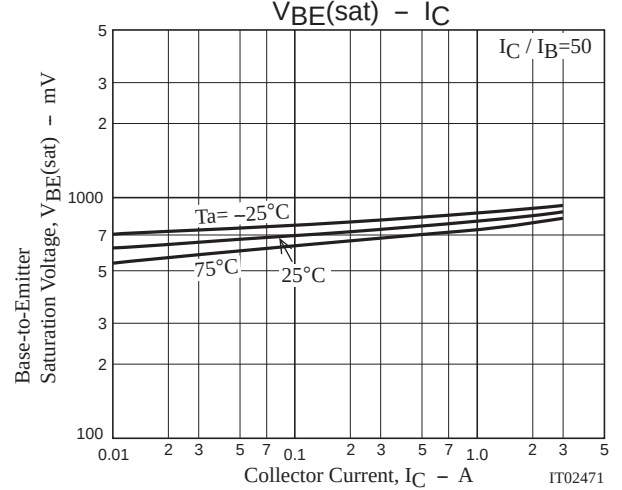
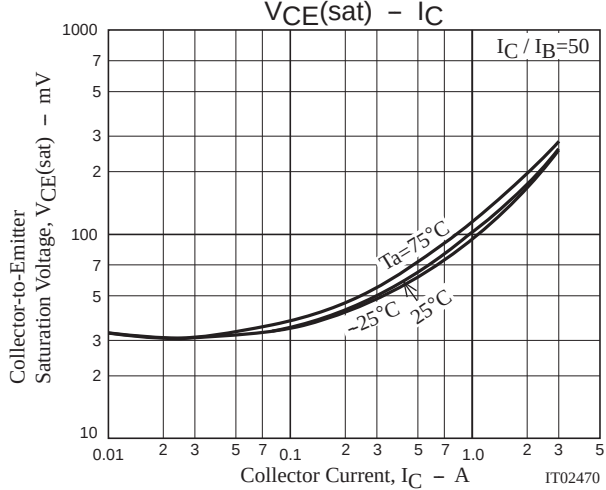
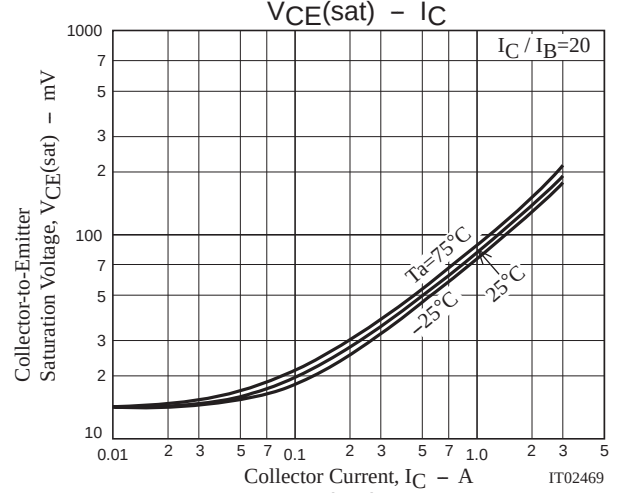
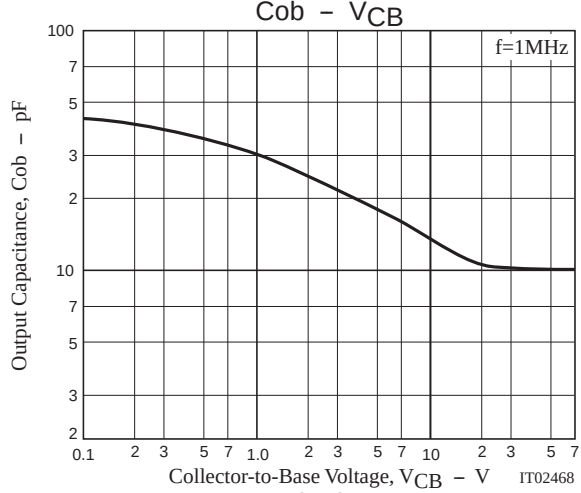
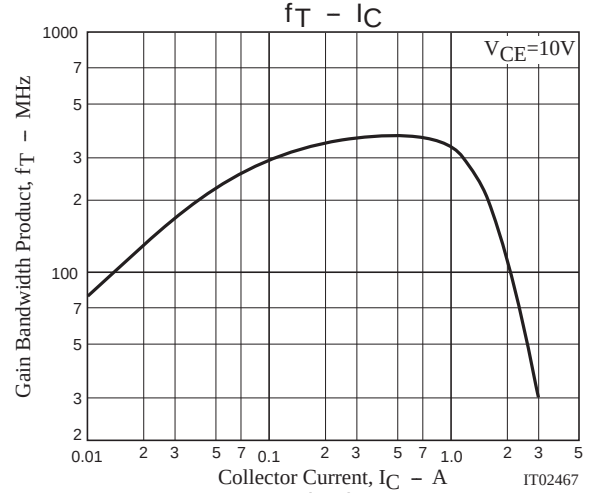
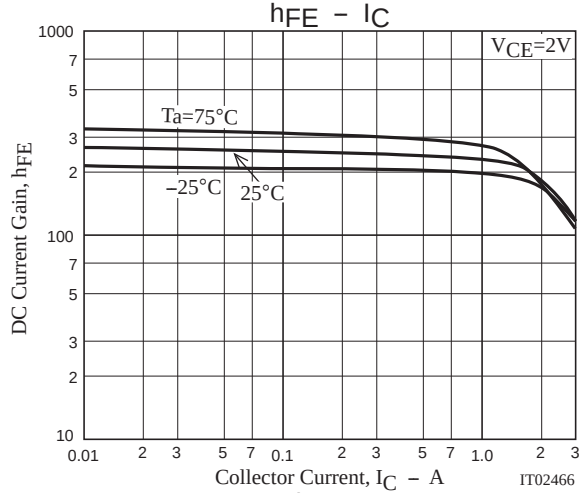
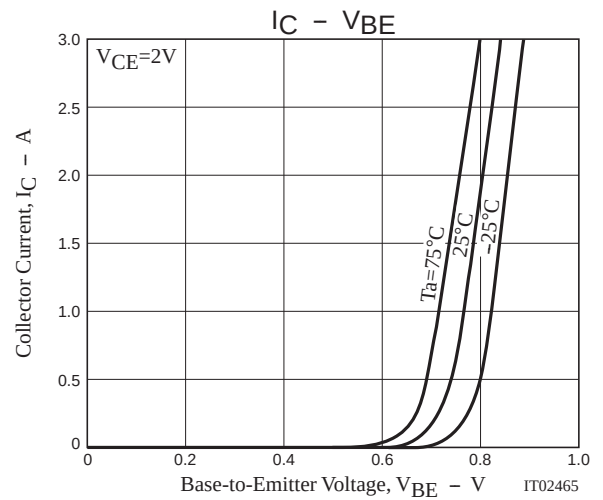
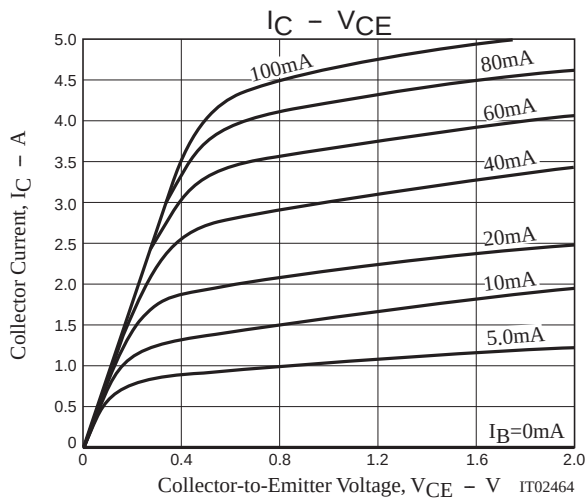
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =40V, I _E =0A			1	μA
Emitter Cutoff Current	IEBO	V _{EB} =4V, I _C =0A			1	μA
DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =100mA	200		560	
	h _{FE2}	V _{CE} =2V, I _C =3A	70			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =500mA		380		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		13		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =1A, I _B =50mA		80	120	mV
		I _C =2A, I _B =100mA		140	210	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 =10μA, I _E =0A	100			V
Collector-to-Base Breakdown Voltage	V(BR)CES	I _C =100μA, R _{BE} =0Ω	100			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =1mA, R _{BE} =∞	50			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =10μA, I _C =0A	6			V
Turn-On Time	t _{on}	See specified Test Circuit.		35		ns
Storage Time	t _{stg}			300		ns
Fall Time	t _f			22		ns

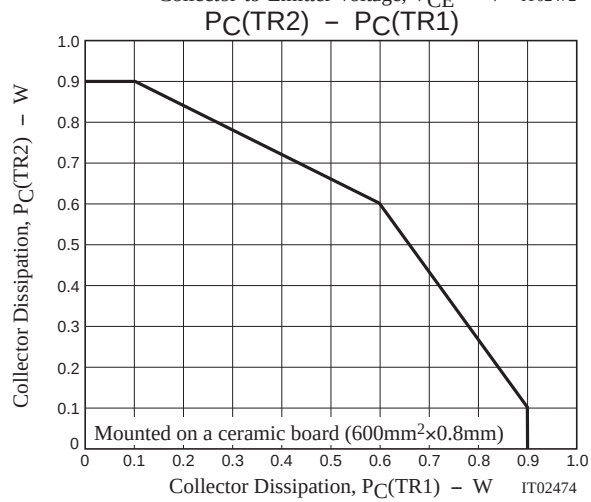
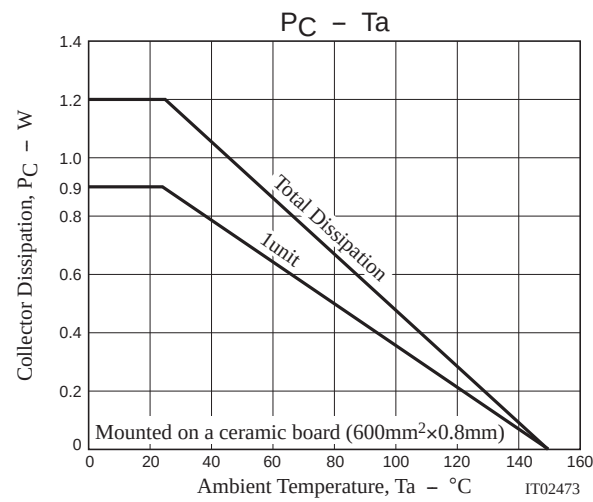
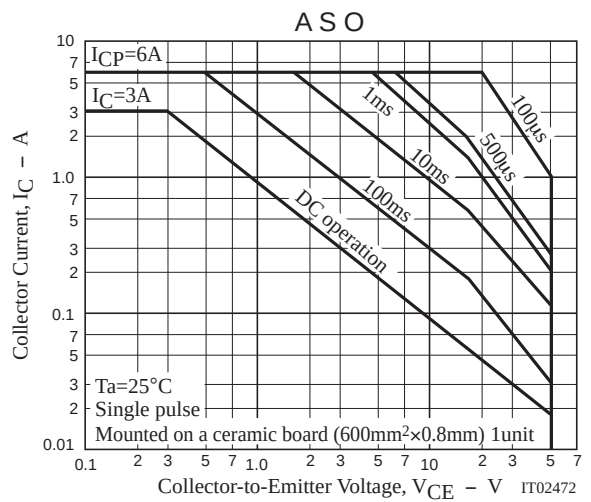
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH5504-TL-E	CPH5	3,000pcs./reel	Pb Free





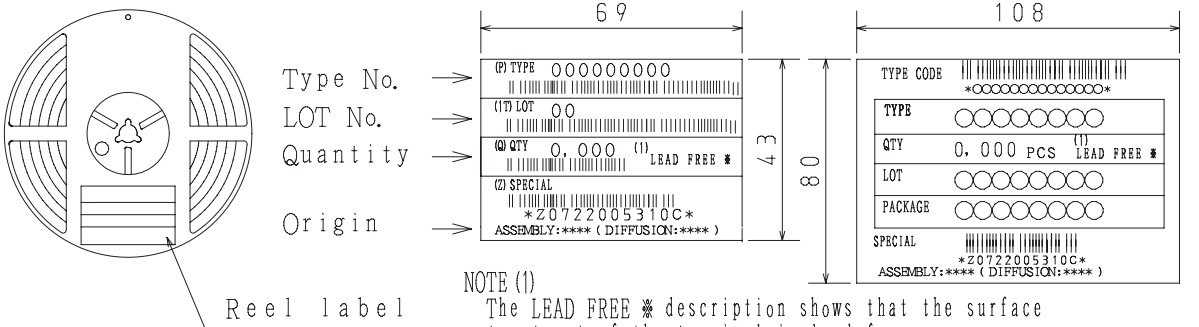
Embossed Taping Specification

CPH5504-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

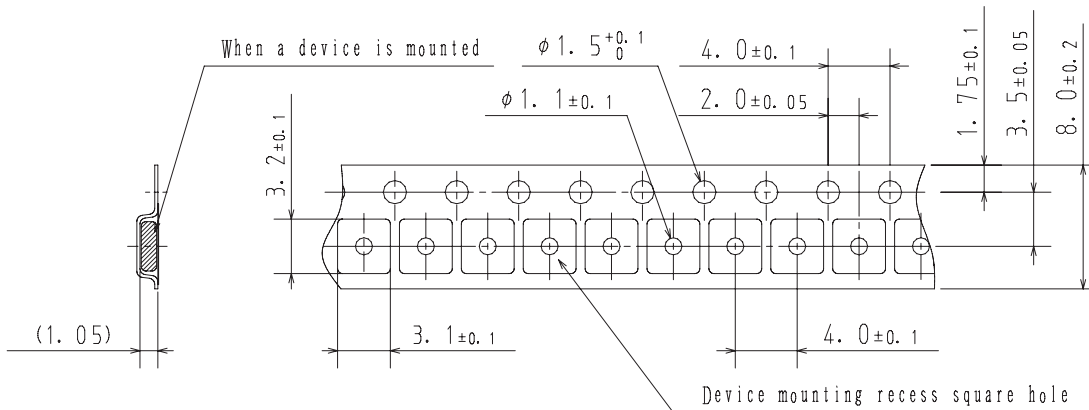
Packing method



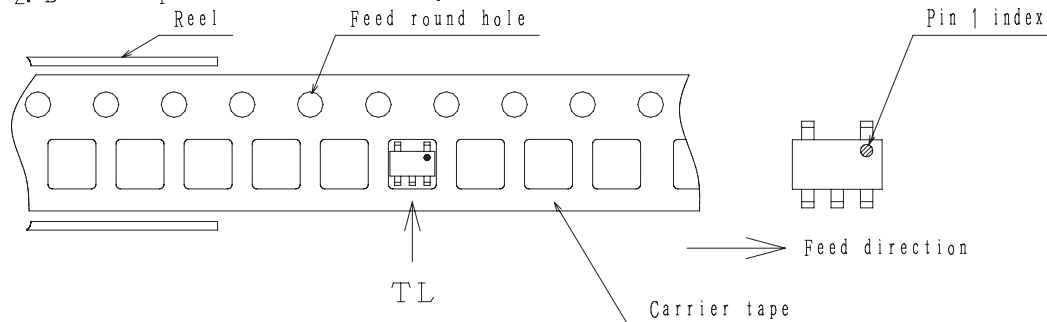
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

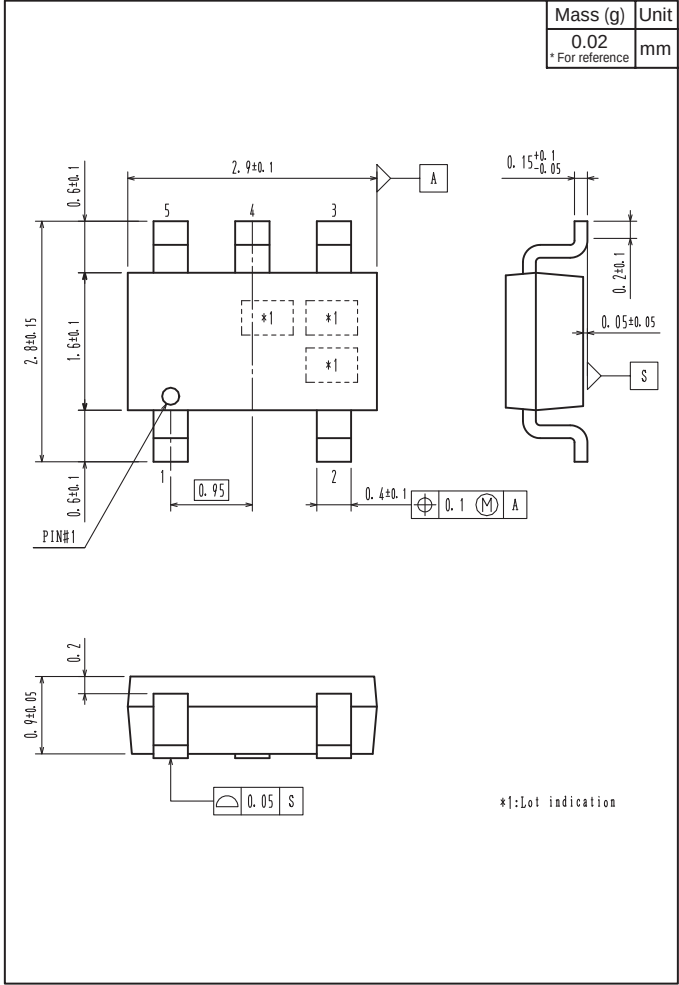


2-2. Device placement direction

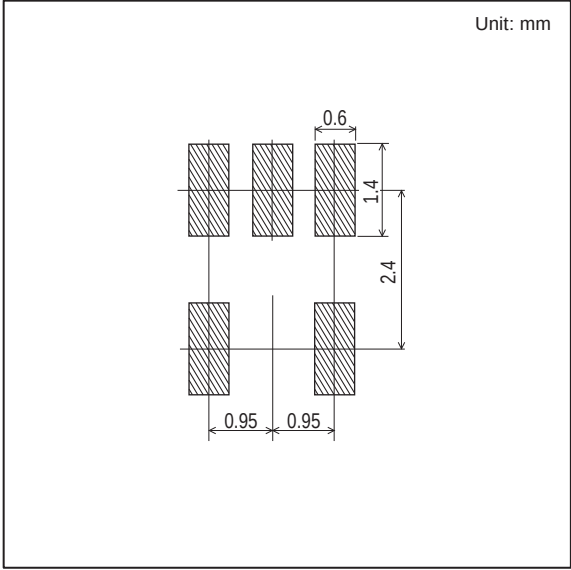


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
CPH5504-TL-E



Land Pattern Example



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