



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH3101 — PNP Silicon Epitaxial Planar Transistor

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, flash

Features

- Adoption of FBET and MBIT processes
- Large current capacity
- Low collector-to-emitter saturation voltage
- High-speed switching
- Ultrasmall-sized package permitting applied sets to be made small and slim
- High allowable power dissipation

Specifications

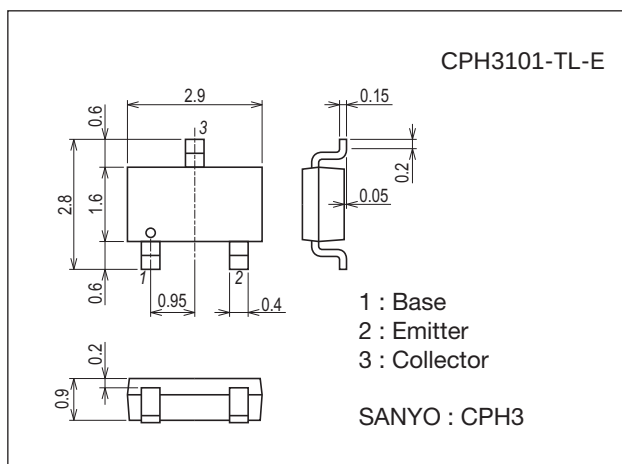
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-30	V
Collector-to-Emitter Voltage	V _{CE0}		-30	V
Emitter-to-Base Voltage	V _{EB0}		-6	V
Collector Current	I _C		-2	A
Collector Current (Pulse)	I _{CP}		-4	A
Base Current	I _B		-400	mA
Collector Dissipation	P _C	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.9	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

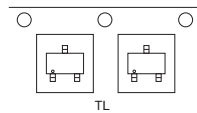
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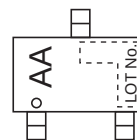
Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-59, TO-236, SOT-23
- Minimum Packing Quantity : 3,000 pcs./reel

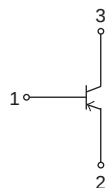
Packing Type: TL



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

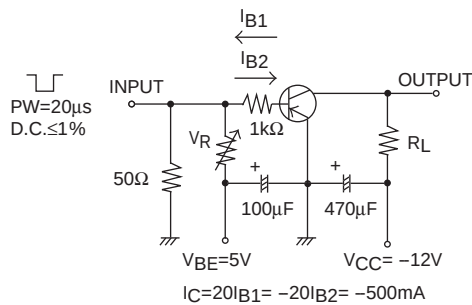
<http://www.sanyosemi.com/en/network/>

CPH3101

Electrical Characteristics at Ta=25°C

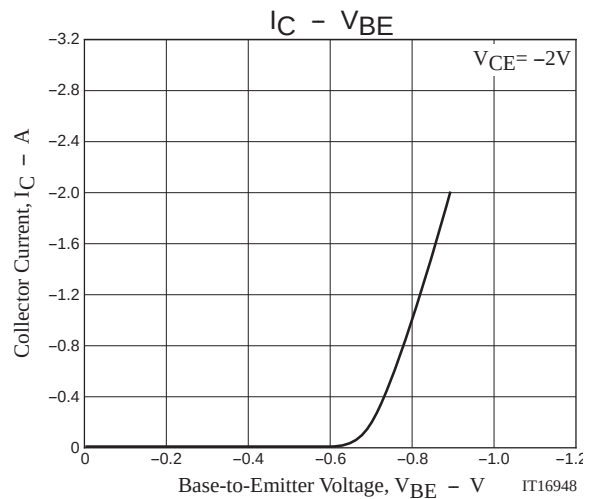
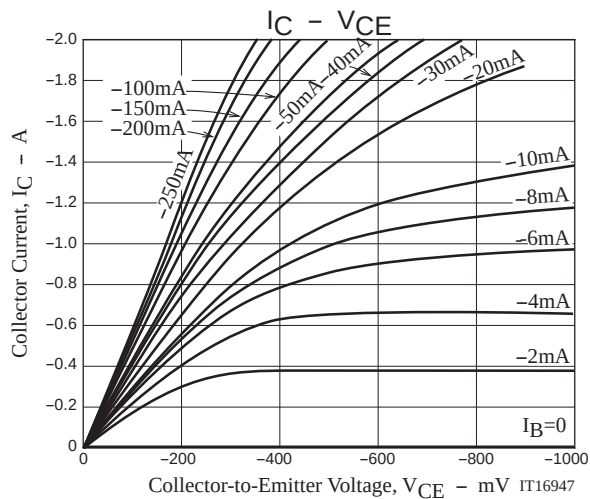
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20V, I_E = 0A$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -3V, I_C = 0A$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2V, I_C = -100mA$	200		400	
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -50mA$		150		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		32		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5A, I_B = -75mA$		-350	-600	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5A, I_B = -75mA$		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = -10\mu A, I_C = 0A$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		60		ns
Storage Time	t_{stg}			350		ns
Fall Time	t_f			25		ns

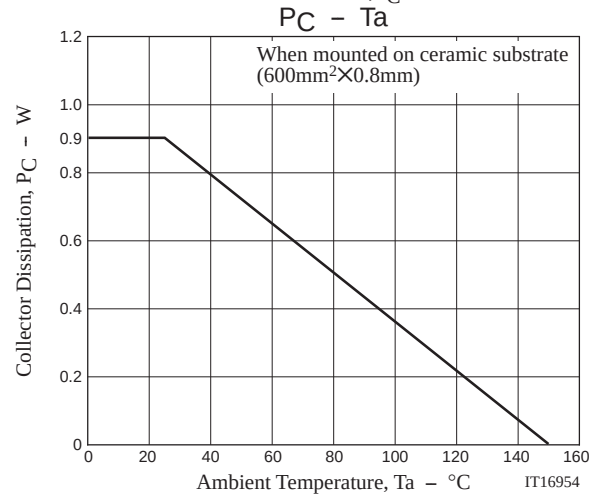
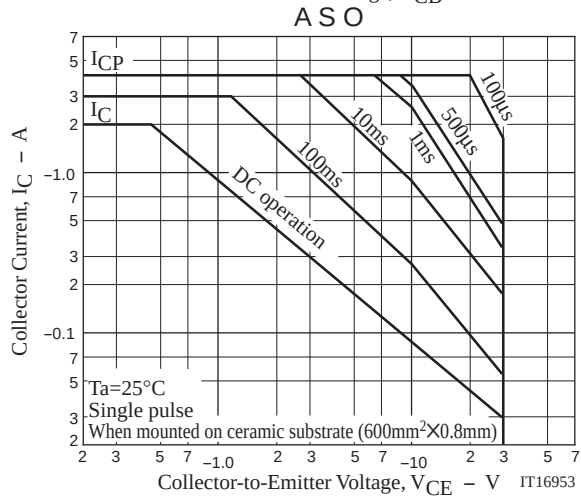
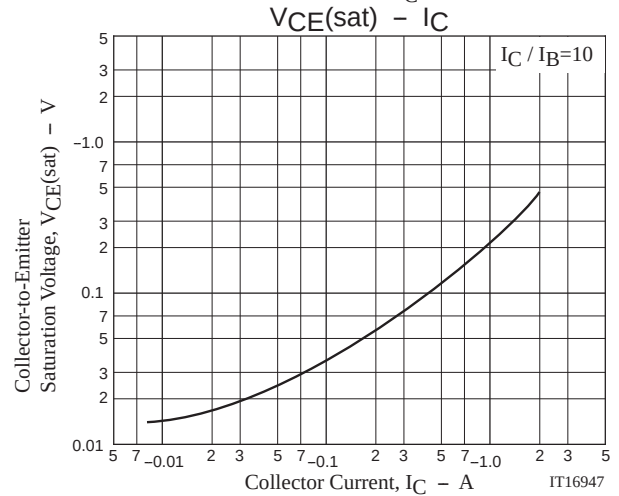
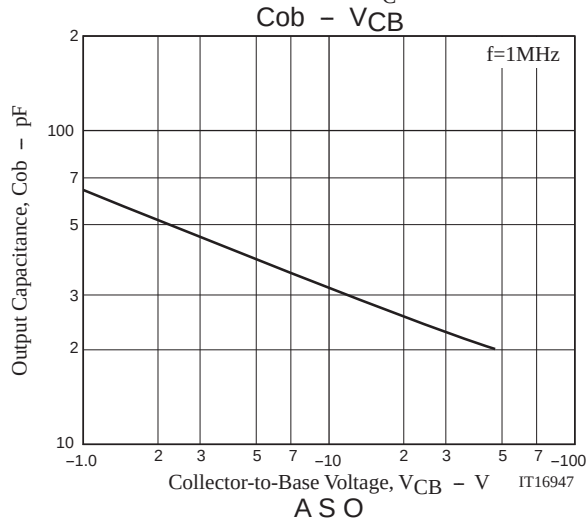
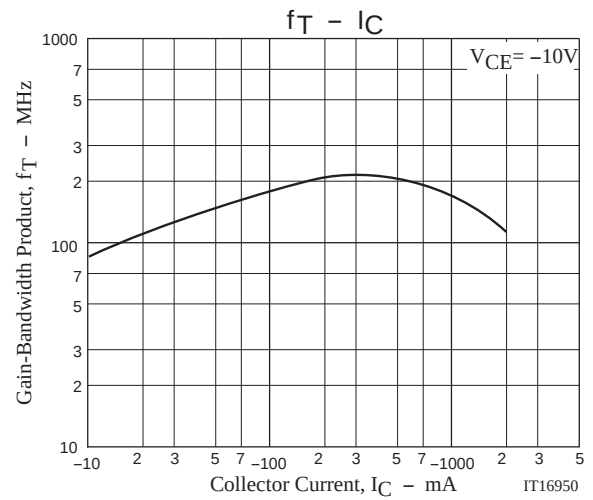
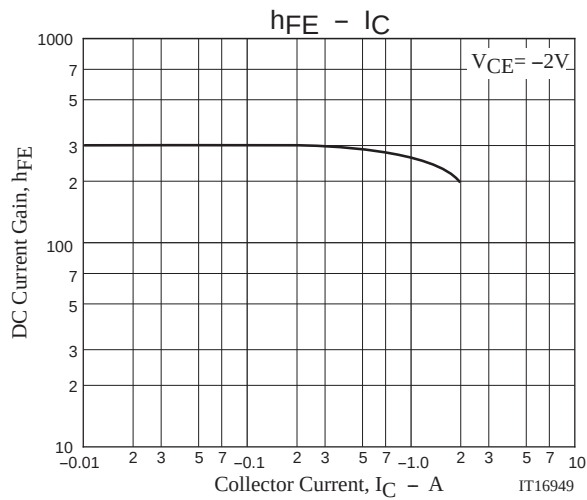
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH3101-TL-E	CPH3	3,000pcs./reel	Pb Free





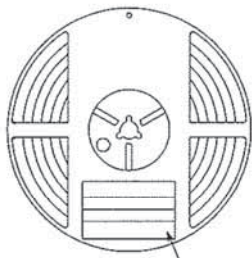
Embossed Taping Specification

CPH3101-TL-E

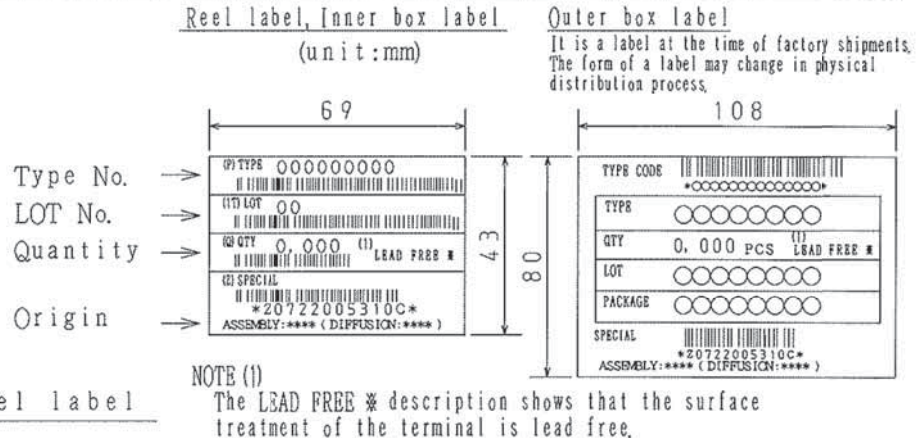
1. Packing Format

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)
CPH3	CPH3	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

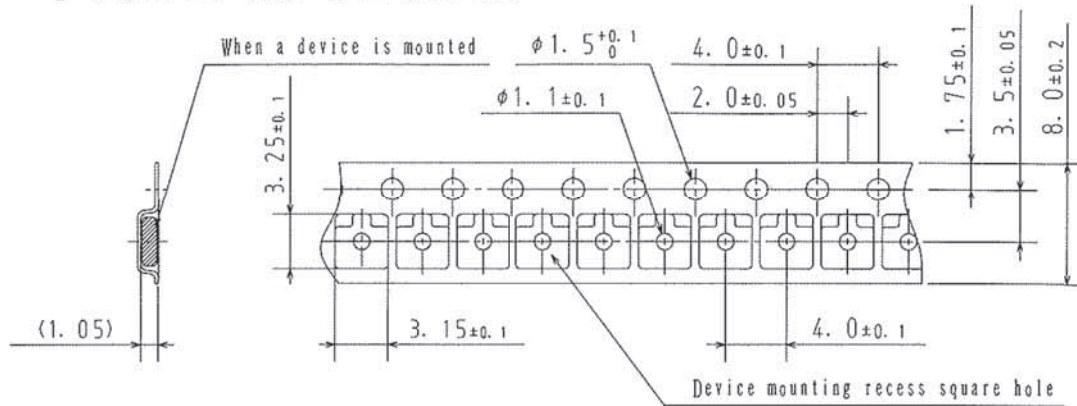


Reel label

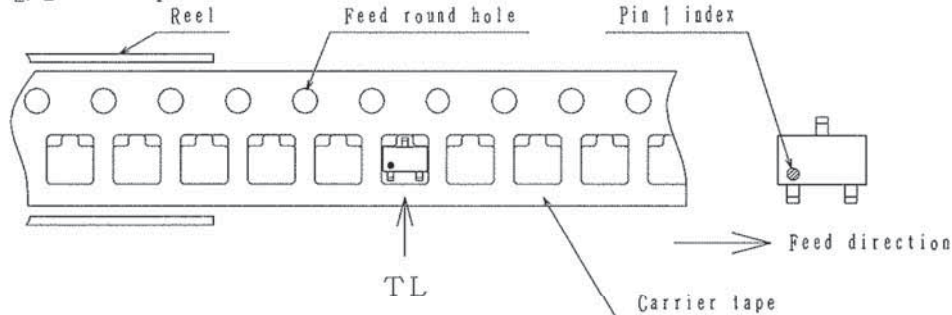


2. Taping configuration

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



2-2. Device placement direction



Those with one electrode terminal on the feed hole side.....TL

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