



PNP Epitaxial Planar Silicon Transistor

CPH6153 — Load Switch Applications

Applications

- Load switch, DC-DC converter, motor drivers, charger

Features

- Adoption of MBIT process
- Large current capacity
- Low collector-to-emitter saturation voltage
- High speed switching
- Ultrasmall-sized package permitting applied sets to be made small and slim (0.9mm)
- High allowable power dissipation
- IECO is guaranteed for preventing reverse flow from the collector to the emitter

Specifications

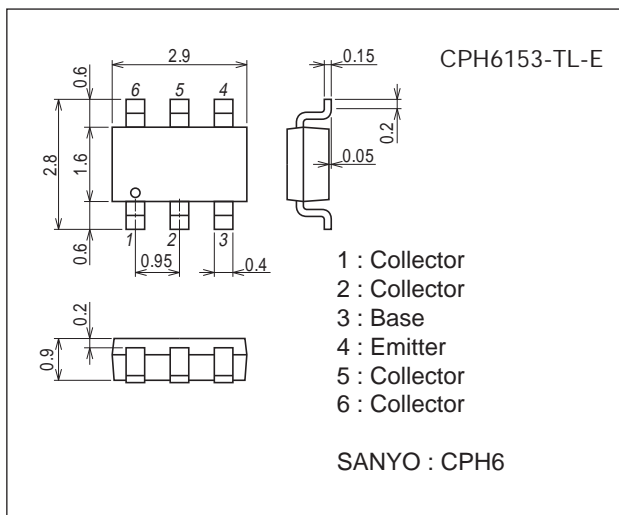
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		-20	V
Collector-to-Emitter Voltage	VCEO		-20	V
Emitter-to-Base Voltage	VEBO		-5	V
Collector Current	IC		-3	A
Collector Current (Pulse)	ICP		-5	A
Base Current	IB		-600	mA
Collector Dissipation	PC	When mounted on ceramic substrate (600mm ² x0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

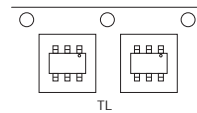
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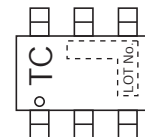
Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

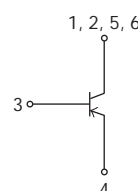
Packing Type: TL



Marking



Electrical Connection

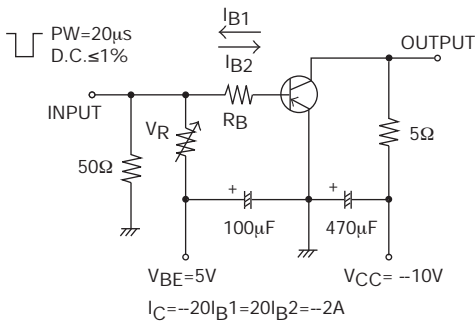


CPH6153

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

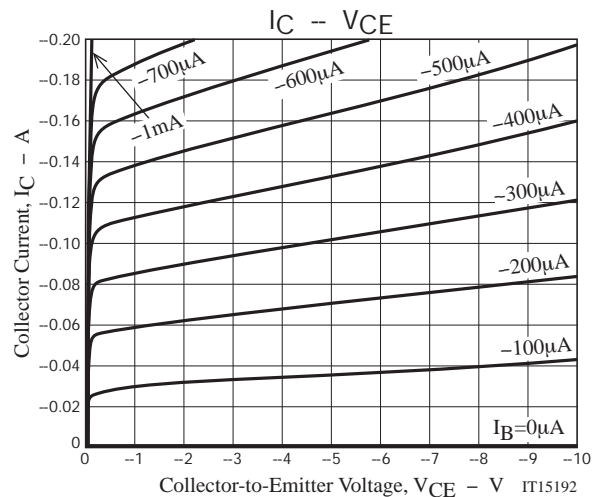
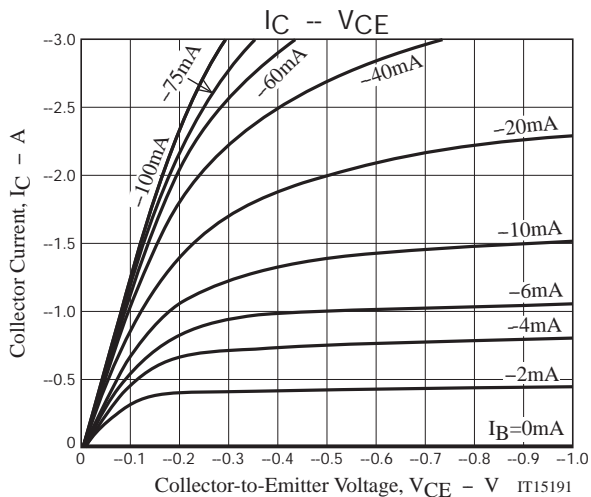
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20\text{V}, I_E = 0\text{A}$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0\text{A}$			-0.1	μA
Emitter Cutoff Current	I_{ECO}	$V_{EC} = -4.5\text{V}, I_B = 0\text{A}$			-1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -100\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE} = -10\text{V}, I_C = -300\text{mA}$		400		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		22		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5\text{A}, I_B = -75\text{mA}$		-130	-195	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5\text{A}, I_B = -75\text{mA}$		-0.93	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0\text{A}$	-20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, R_{BE} = \infty$	-20			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}	See specified Test Circuit.		65		ns
Fall Time	t_f	See specified Test Circuit.		12		ns

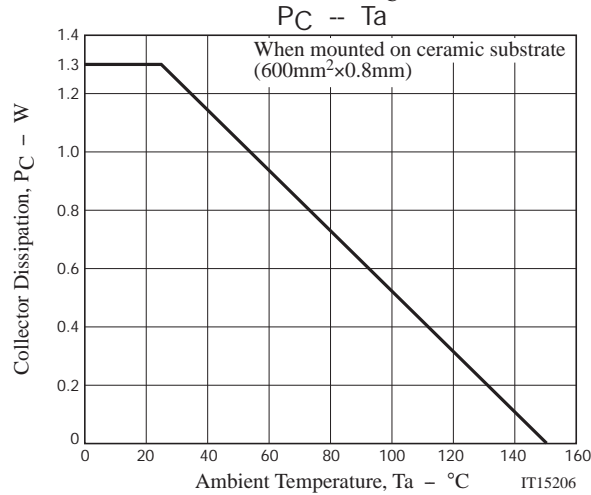
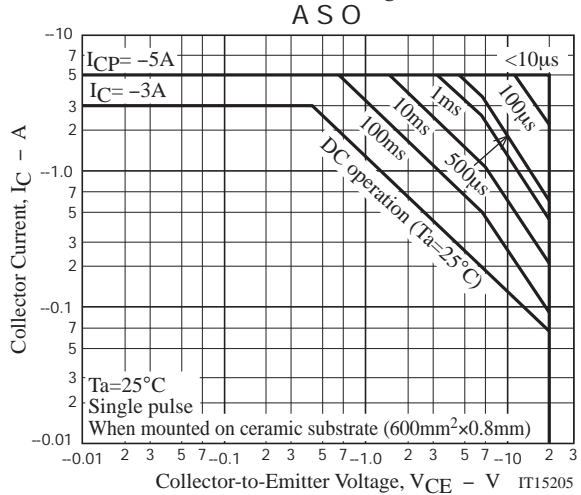
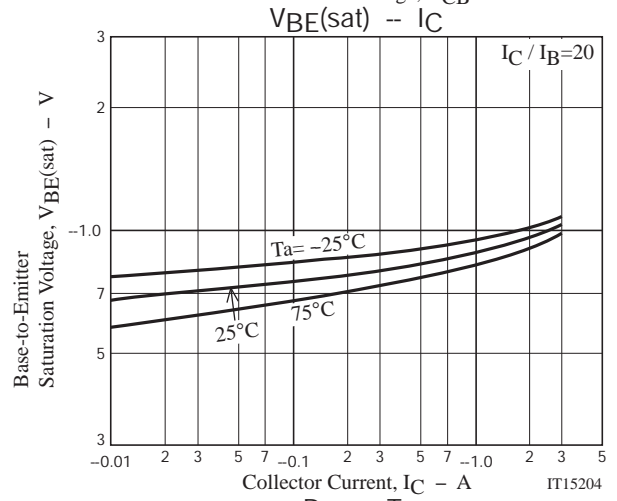
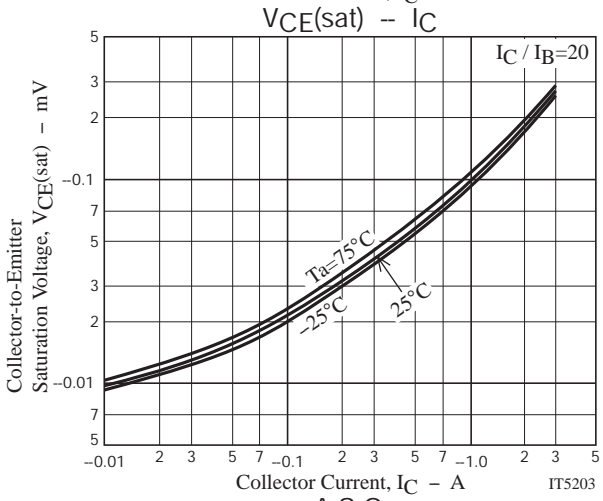
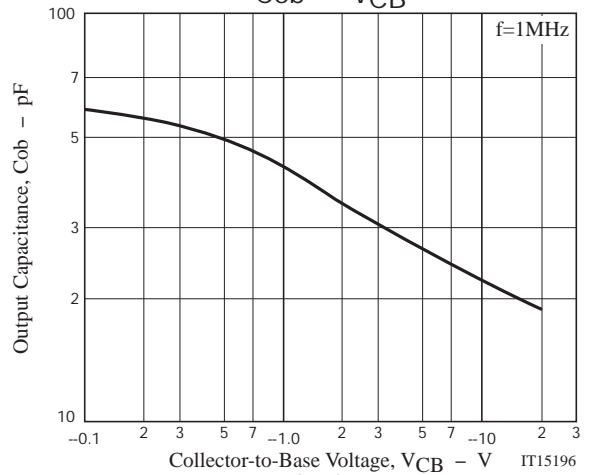
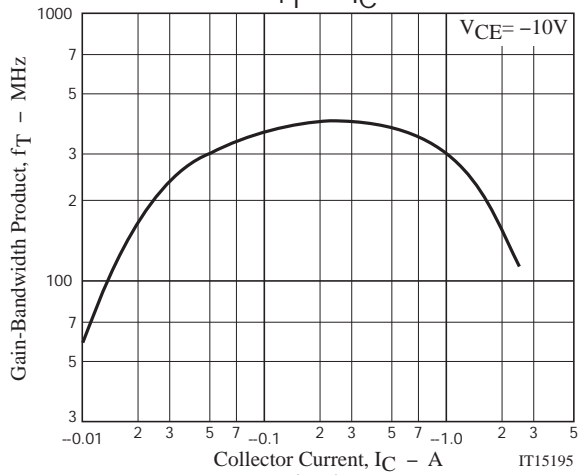
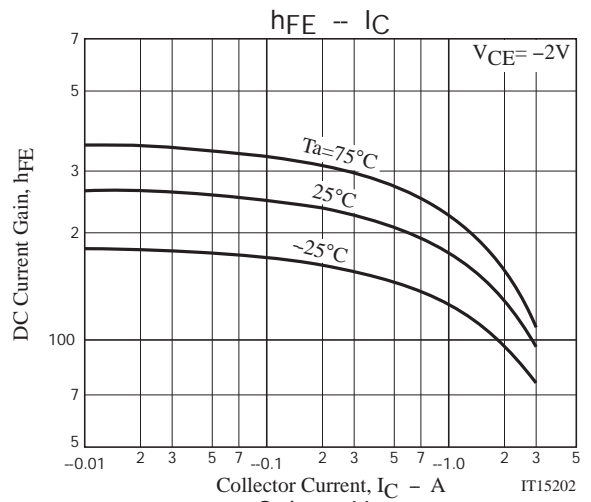
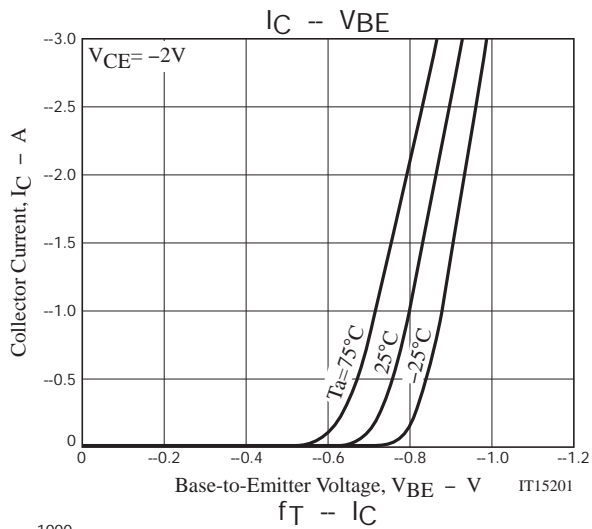
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH6153-TL-E	CPH6	3,000pcs./reel	Pb Free



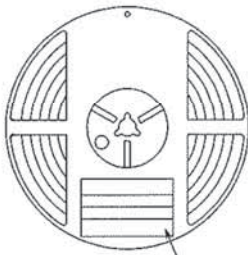


Embossed Taping Specification
CPH6153-TL-E

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)
CPH6	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

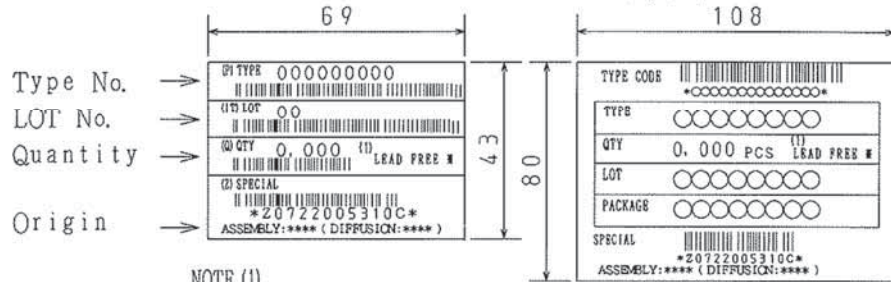


Reel label

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.



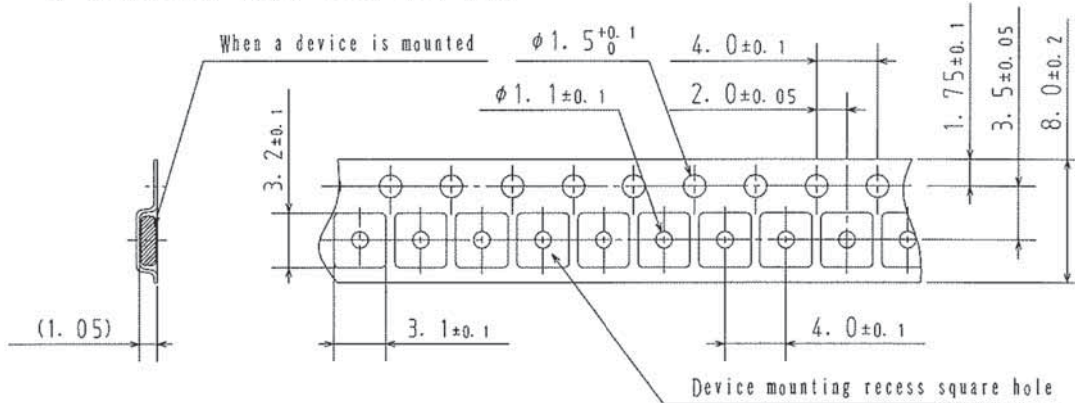
NOTE (1)

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

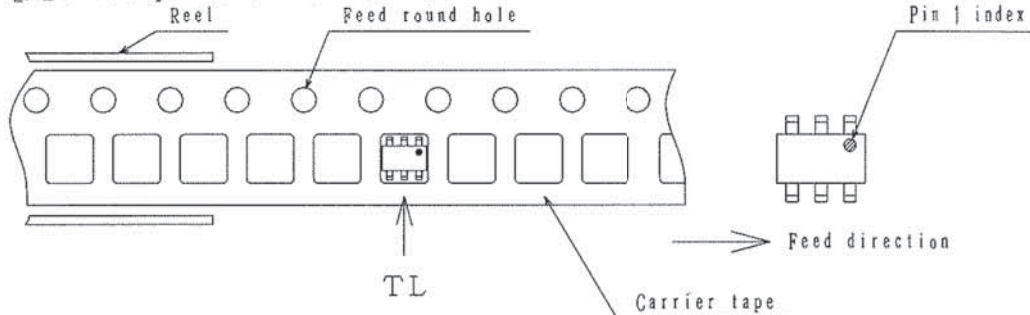
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



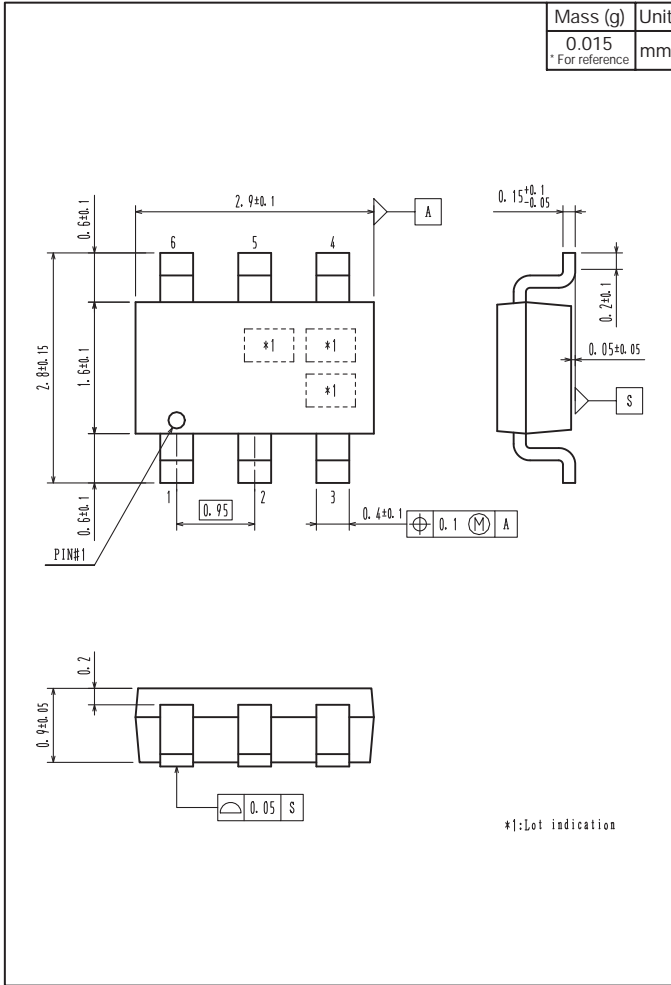
2-2. Device placement direction



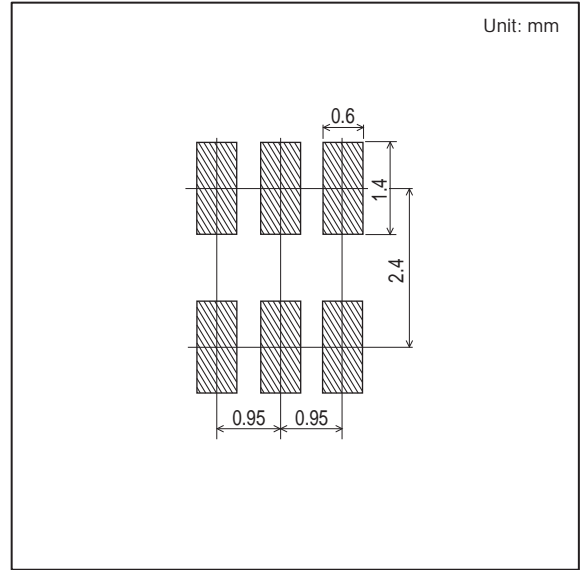
Those with pin 1 index on the feed hole side.....TL

CPH6153

Outline Drawing CPH6153-TL-E



Land Pattern Example



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