



CPH6122

Bipolar Transistor -30V, -3A, Low $V_{CE(sat)}$, PNP Single CPH6

ON Semiconductor®

<http://onsemi.com>

Applications

- Relay drivers, lamp drivers, motor drivers, flash

Features

- Adoption of MBIT process
- High current capacitance
- Low collector-to-emitter saturation voltage
- High-speed switching
- Ultrasmall package facilitates miniaturization in end products (mounting height 0.8mm)
- High allowable power dissipation

Specifications

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

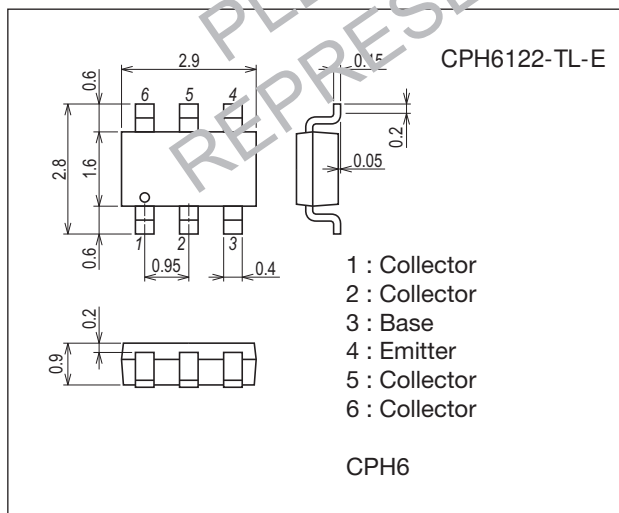
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-30	V
Collector-to-Emitter Voltage	V_{CE}		-30	V
Emitter-to-Base Voltage	V_{EB}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C	Mounted on a ceramic board (600mm x 3.8mm)	1.3	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not intended. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

Unit: mm (typ)

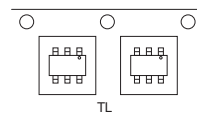
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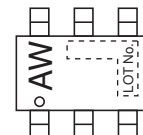
Product & Package Information

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

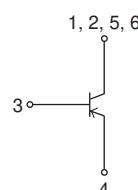
Packing Type: TL



Marking



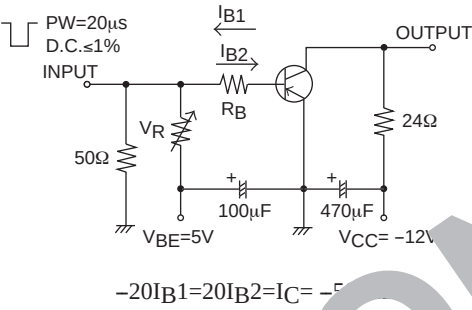
Electrical Connection



Electrical Characteristics at Ta=25°C

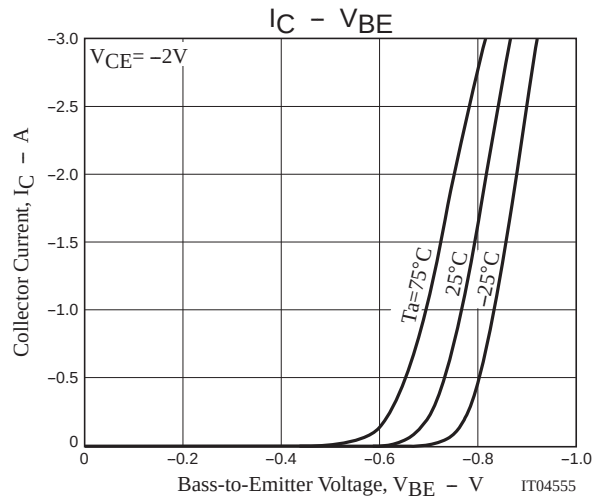
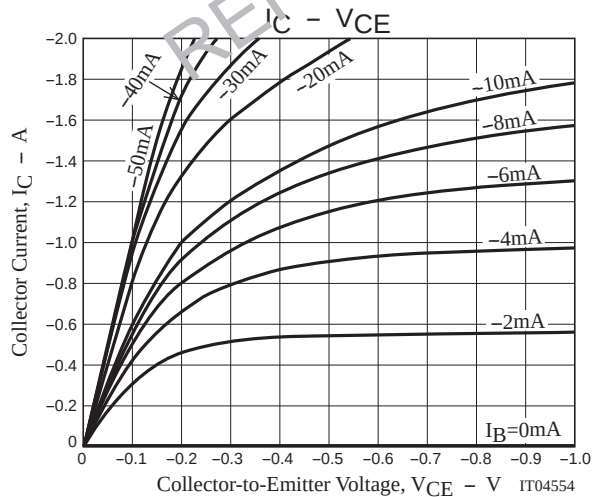
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCE= -30V, IE=0A			-0.1	μA
Emitter Cutoff Current	IEBO	VEB= -4V, IC=0A			-0.1	μA
DC Current Gain	hFE	VCE= -2V, IC= -500mA	200		560	
Gain-Bandwidth Product	fT	VCE= -10V, IC= -500mA		400		MHz
Output Capacitance	Cob	VCE= -10V, f=1MHz		25		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)1	IC= -1.5A, IB= -30mA		-180	-270	mV
	VCE(sat)2	IC= -1.5A, IB= -75mA		-120	-180	mV
Base-to-Emitter Saturation Voltage	VBE(sat)	IC= -1.5A, IB= -30mA		-0.83	-1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC= -10μA, IE=0A	-30			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC= -1mA, RBE=∞	-30			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE= -10μA, IC=0A	-5			V
Turn-On Time	ton	See specified Test Circuit.		50		ns
Storage Time	tstg			270		ns
Fall Time	tf					ns

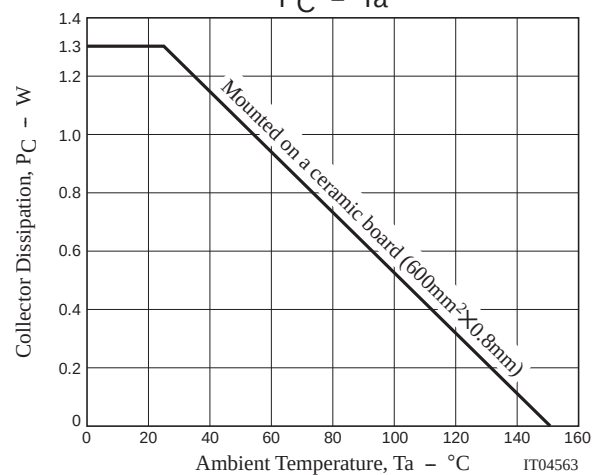
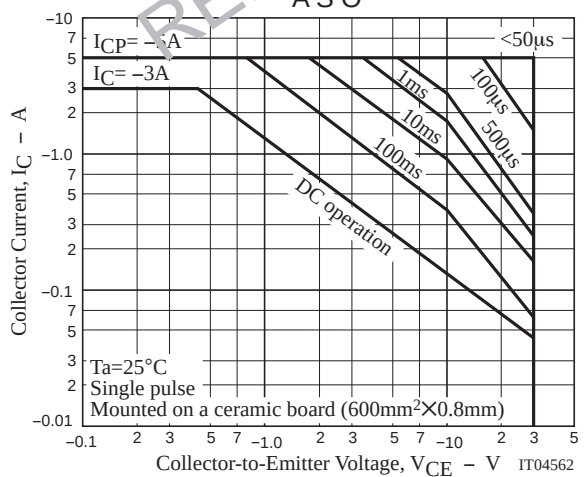
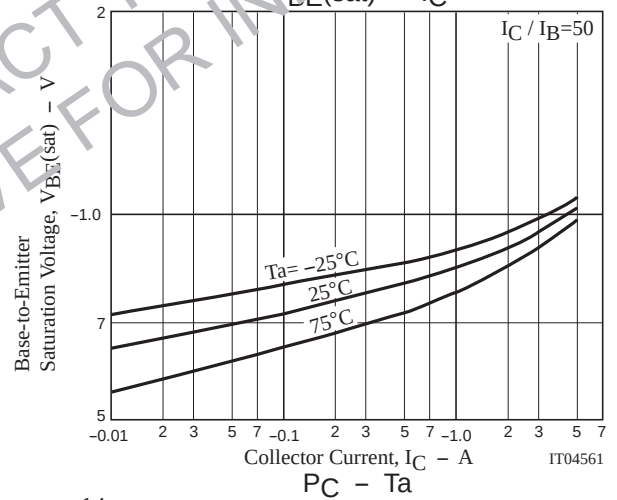
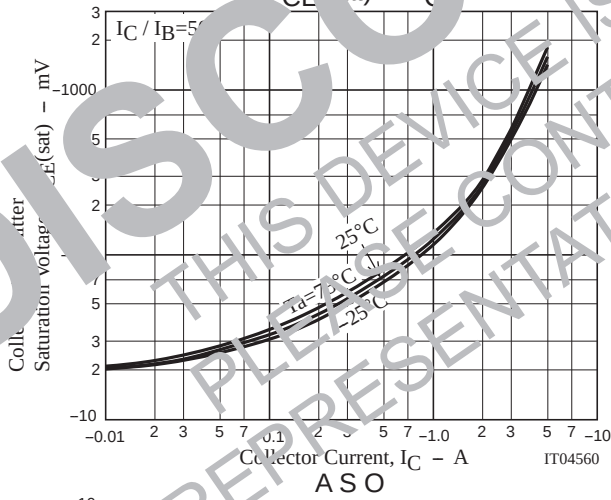
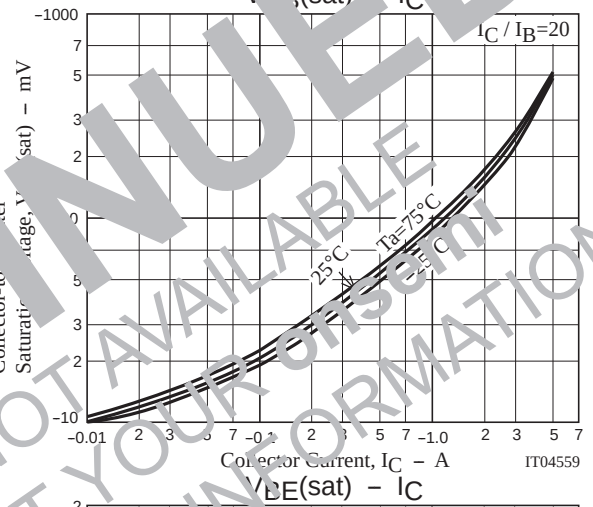
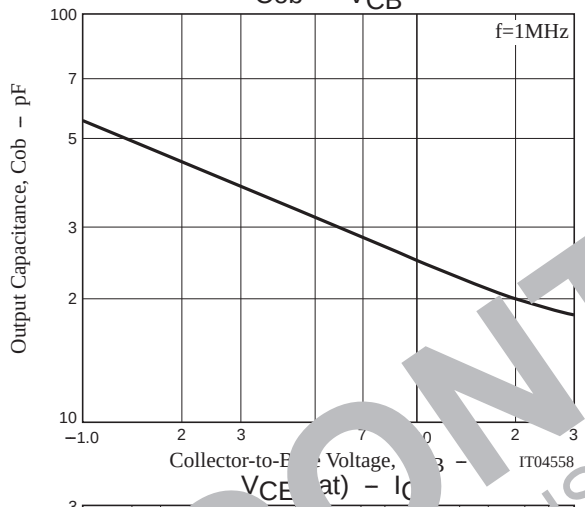
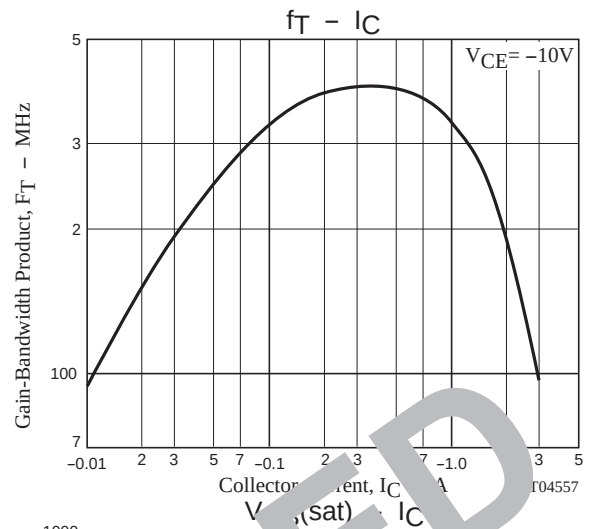
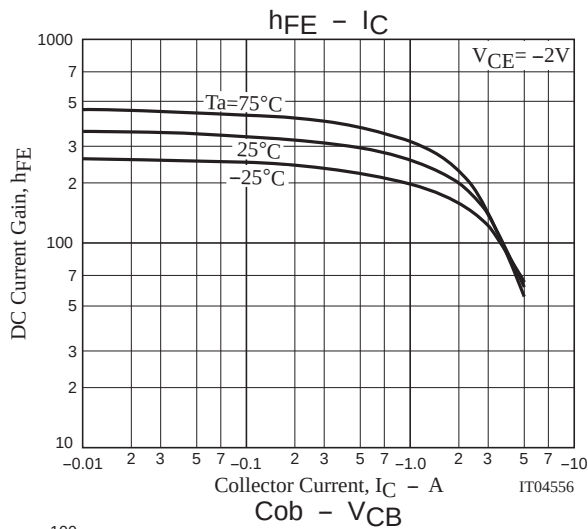
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH6122	CPH6	3,000pcs./reel	Pb Free





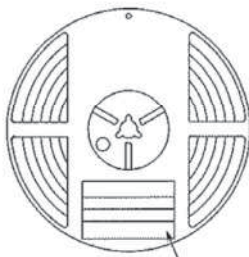
Embossed Taping Specification

CPH6122-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

Type No.
LOT No.
Quantity
Origin

Reel label, Inner box label
(unit:mm)

TYPE	000000000
LOT	00
QTY	0,000 (1)
SPECIAL	LEAD FREE #
ASSEMBLY	***** (DIFFUSION:*)

Outer box label

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

TYPE CODE	*****
TYPE	00
QTY	00
LOT	00
PACKAGE	*****
SPECIAL	*****
ASSEMBLY	***** (DIFFUSION:*)

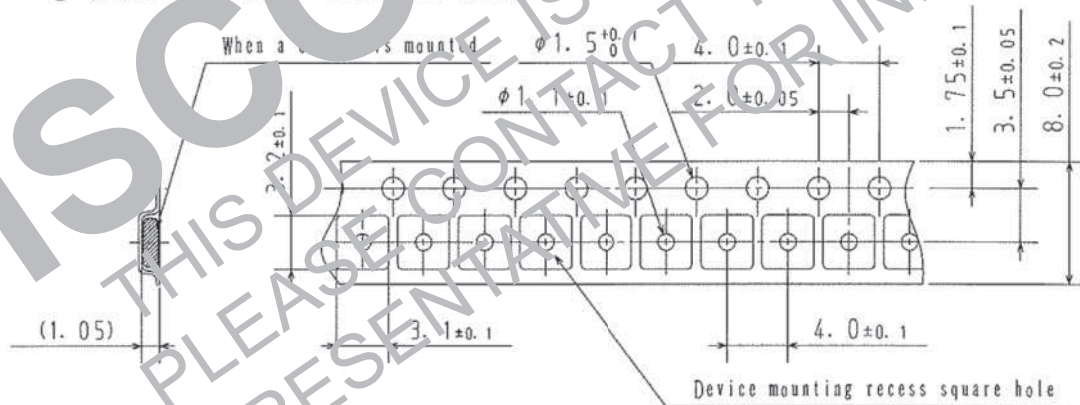
NOTE (1)

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

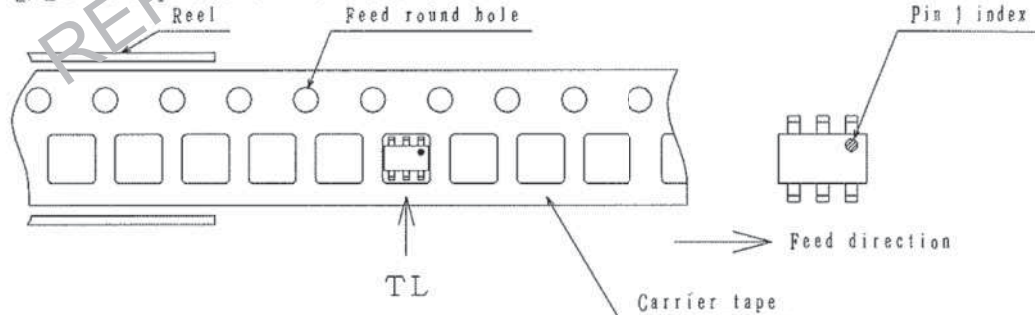
Label	JETA Phase 1
LEAD FREE #	JEITA Phase 3A
LEAD FREE #	JEITA Phase 3

2. Taping configuration

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

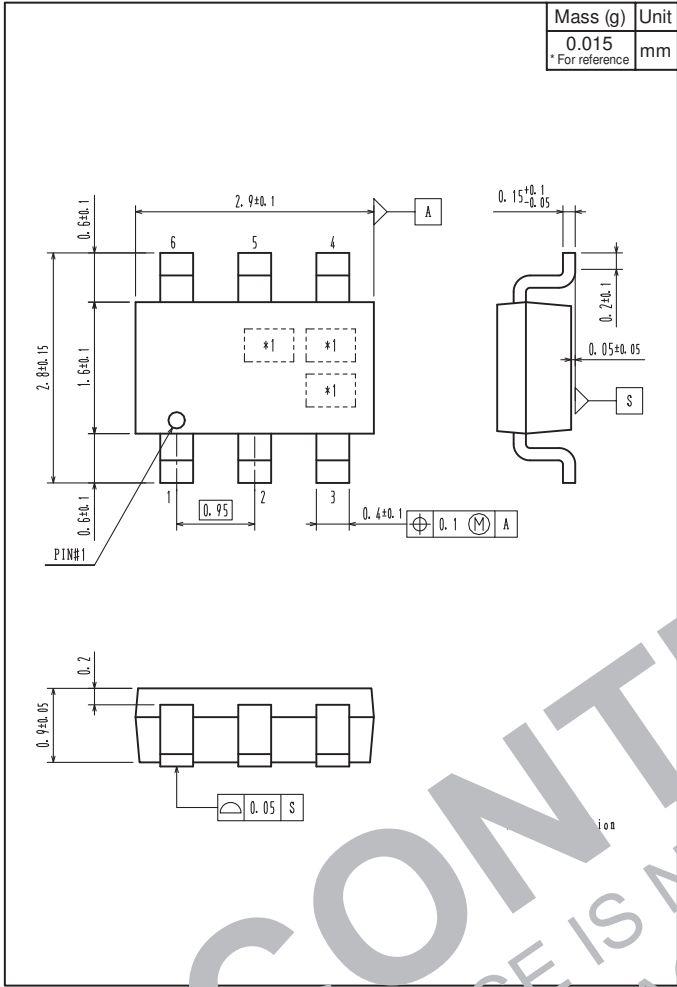


2-2. Device placement direction

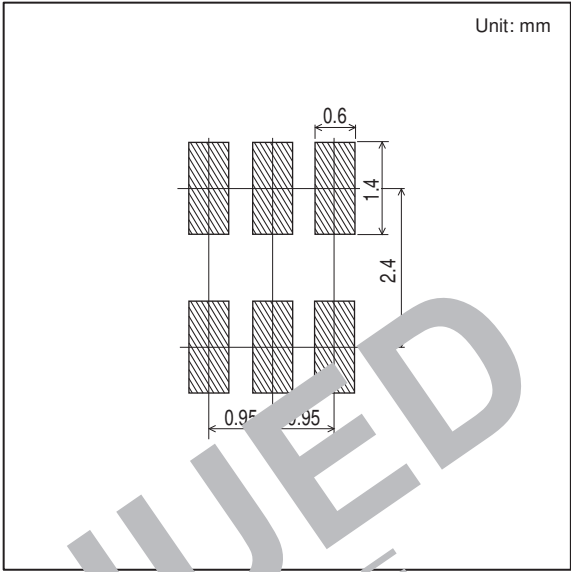


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
CPH6122-TL-E



Land Pattern Example



DISCONTINUED

THIS DEVICE IS NOT AVAILABLE

PLEASE CONTACT YOUR onsemi REPRESENTATIVE FOR INFORMATION

DISCONTINUED
THIS DEVICE IS NOT AVAILABLE
PLEASE CONTACT YOUR onsemi
REPRESENTATIVE FOR INFORMATION

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