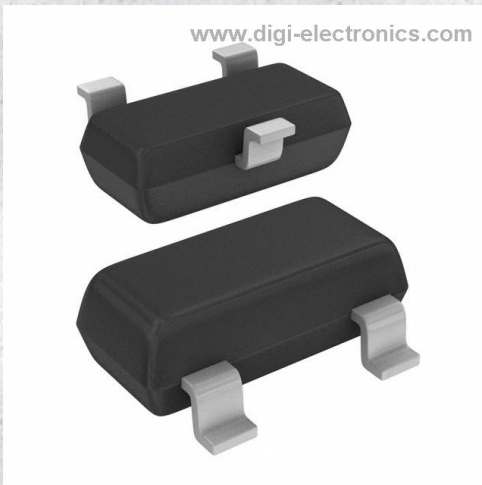


# CPH3240-TL-E Datasheet



[www.digi-electronics.com](http://www.digi-electronics.com)

<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	CPH3240-TL-E-DG
Manufacturer	<a href="#">onsemi</a>
Manufacturer Product Number	CPH3240-TL-E
Description	TRANS NPN 100V 1A 3CPH
Detailed Description	Bipolar (BJT) Transistor NPN 100 V 1 A 120MHz 900 mW Surface Mount 3-CPH



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

CPH3240-TL-E

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

100 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

900 mW

Operating Temperature:

150°C (TJ)

Package / Case:

SC-96

Base Product Number:

CPH3240

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

1 A

Vce Saturation (Max) @ Ib, Ic:

400mV @ 40mA, 400mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

140 @ 100mA, 5V

Frequency - Transition:

120MHz

Mounting Type:

Surface Mount

Supplier Device Package:

3-CPH

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Ordering number : EN7907A



# CPH3140/CPH3240

## Bipolar Transistor (-100V, (-)1A, Low $V_{CE(sat)}$ , (PNP)NPN Single CPH3

ON Semiconductor®

<http://onsemi.com>

### Features

- Adoption of FBIT, MBIT processes
- High breakdown voltage and large current capacity
- High-speed switching
- Ultrasmall size making it easy to provide high-density, small-sized hybrid ICs

### Specifications ( ) : CPH3140

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

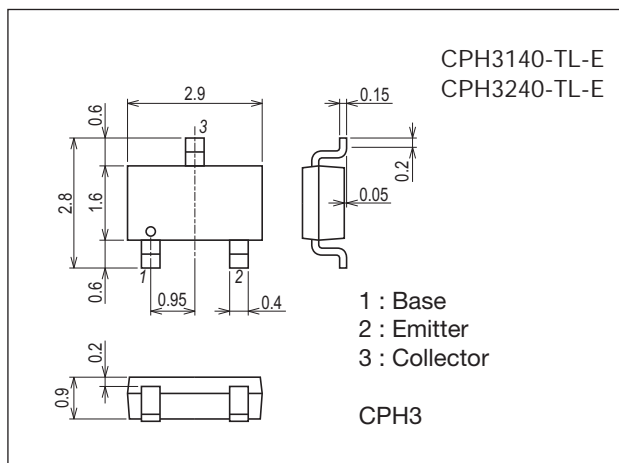
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)120	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)100	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)6	V
Collector Current	$I_C$		(-)1	A
Collector Current (Pulse)	$I_{CP}$		(-)2	A
Collector Dissipation	$P_C$	When mounted on ceramic substrate (600mm <sup>2</sup> ×0.8mm)	0.9	W
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

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

### Package Dimensions

unit : mm (typ)

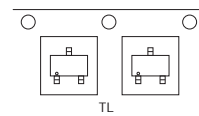
7015A-003



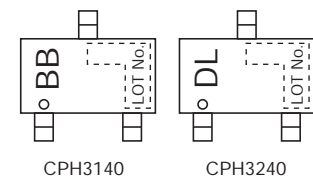
### Product & Package Information

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

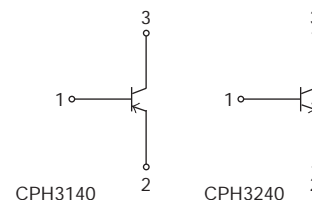
### Packing Type: TL



### Marking



### Electrical Connection

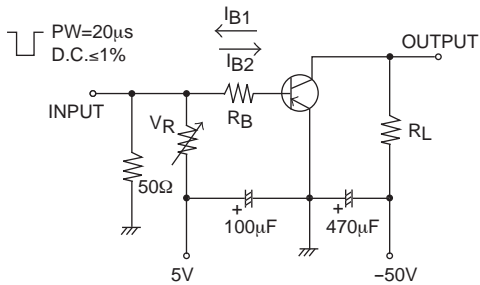


## CPH3140 / CPH3240

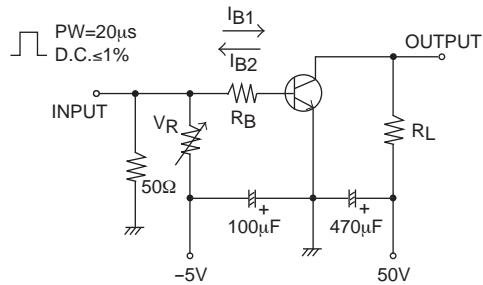
### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =(-)100V, I <sub>E</sub> =0A			(-) 100	nA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0A			(-) 100	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)100mA	140		400	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)100mA		120		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz		(13)8.5		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)400mA, I <sub>B</sub> =(-)40mA		(-0.2)0.1	(-0.6)0.4	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)400mA, I <sub>B</sub> =(-)40mA		(-) 0.85	(-) 1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A	(-) 120			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞	(-) 100			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =(-)10μA, I <sub>C</sub> =0A	(-) 6			V
Turn-On Time	t <sub>on</sub>	See specified Test Circuit.		(80)80		ns
Storage Time	t <sub>stg</sub>			(700)850		ns
Fall Time	t <sub>f</sub>			(40)50		ns

### Switching Time Test Circuit



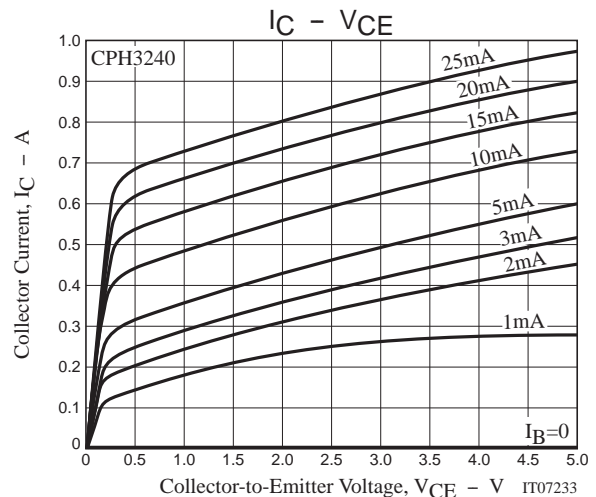
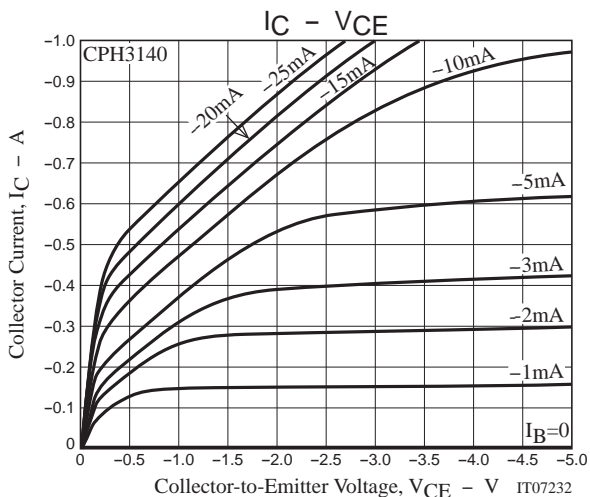
IC = -10IB1 = 10IB2 = -400mA  
CPH3140



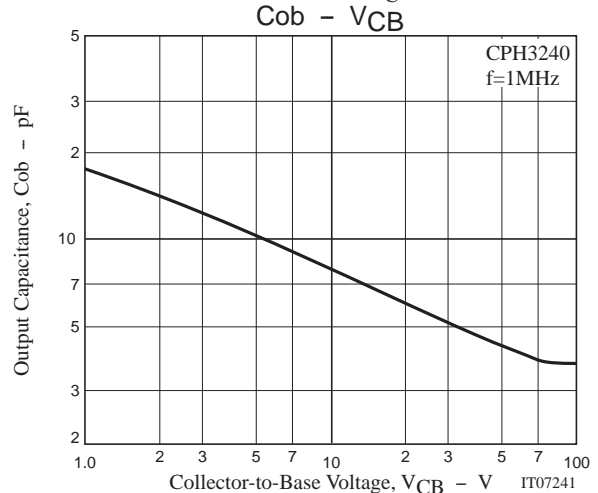
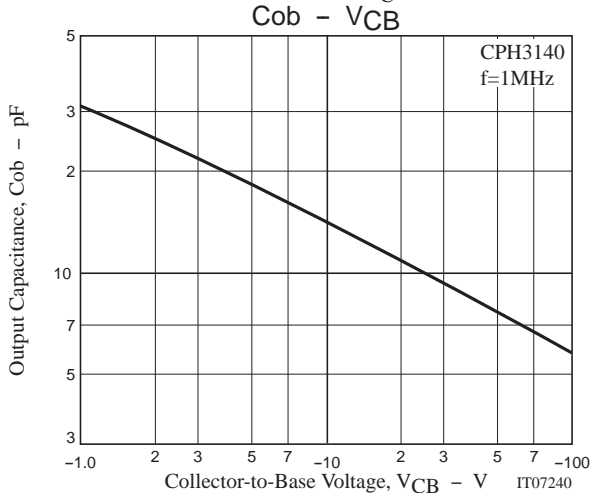
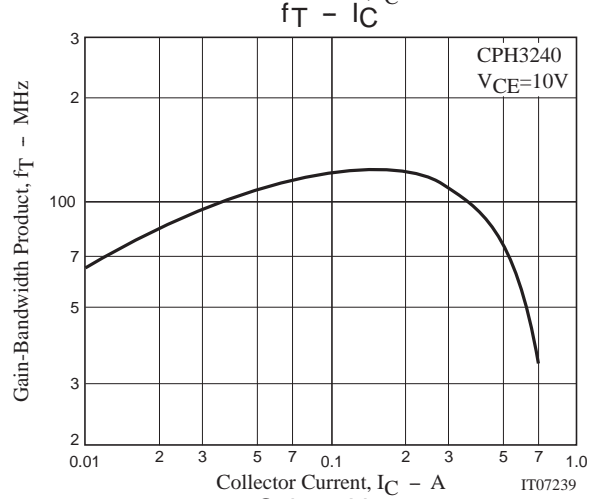
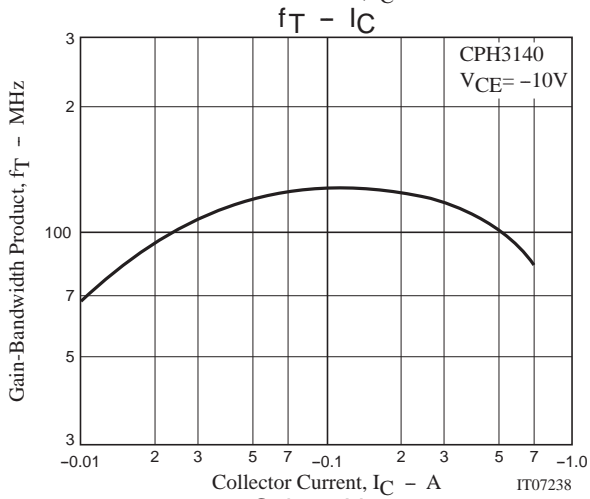
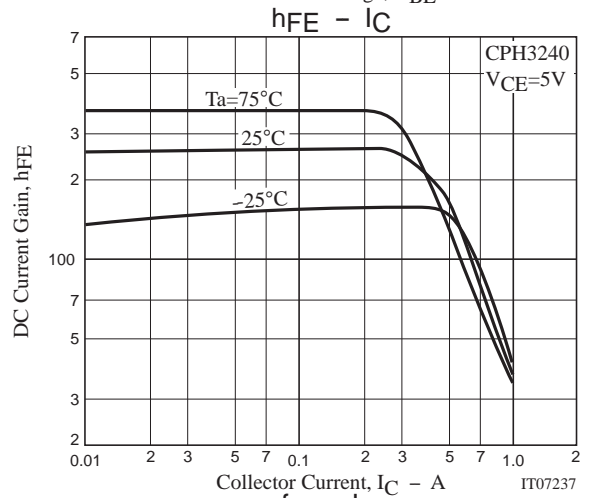
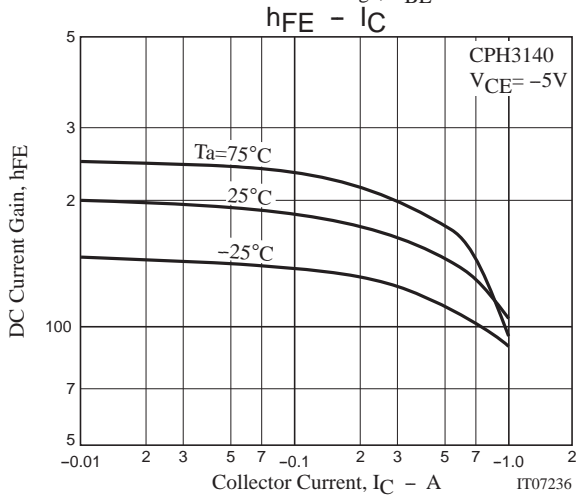
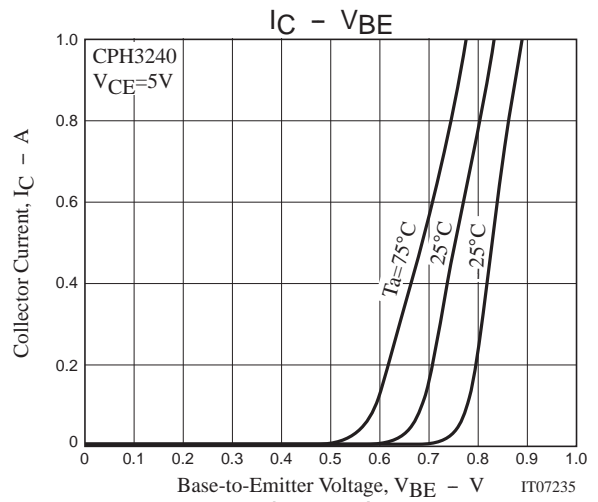
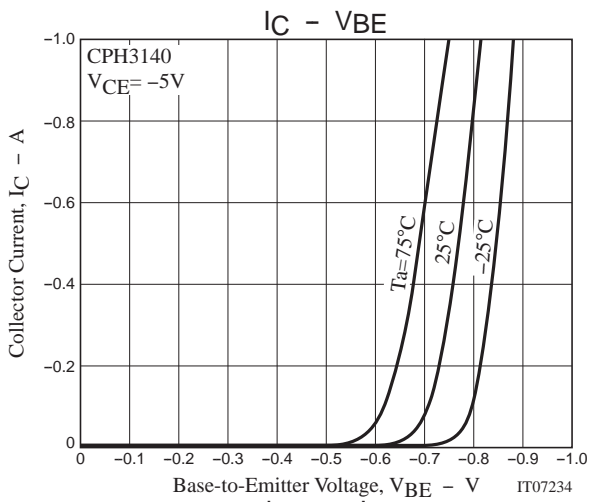
IC = 10IB1 = -10IB2 = 400mA  
CPH3240

### Ordering Information

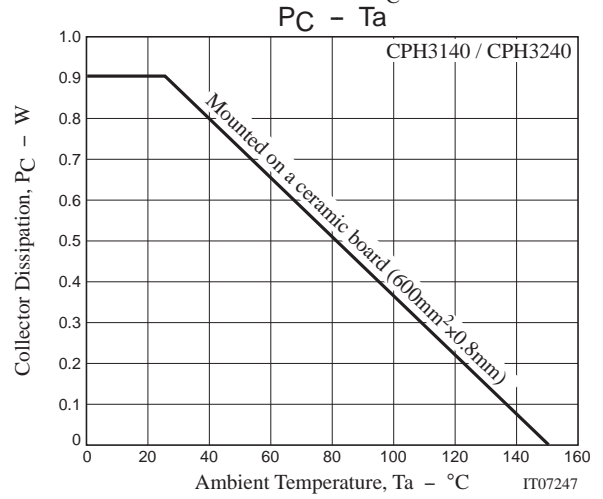
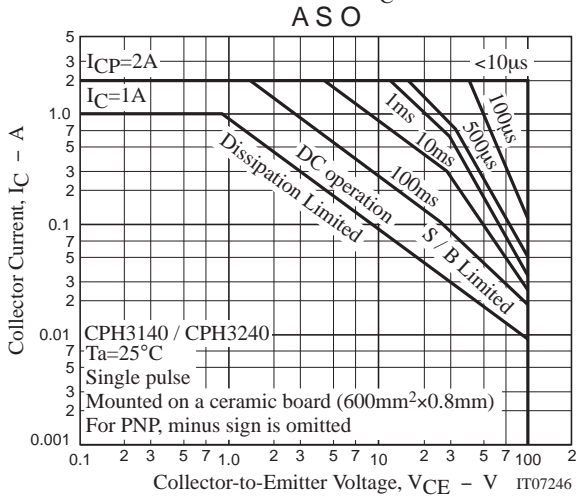
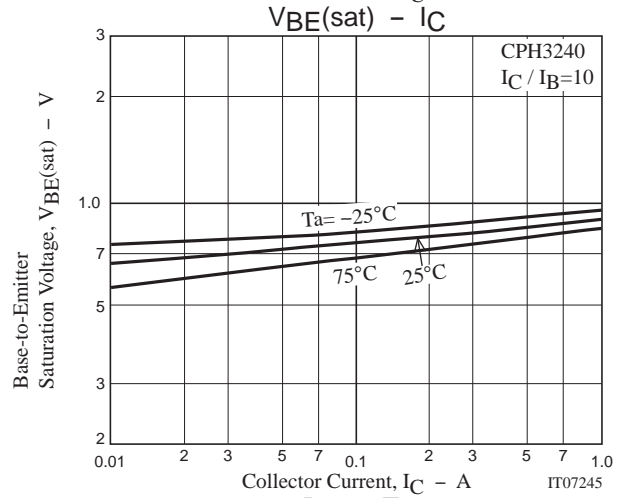
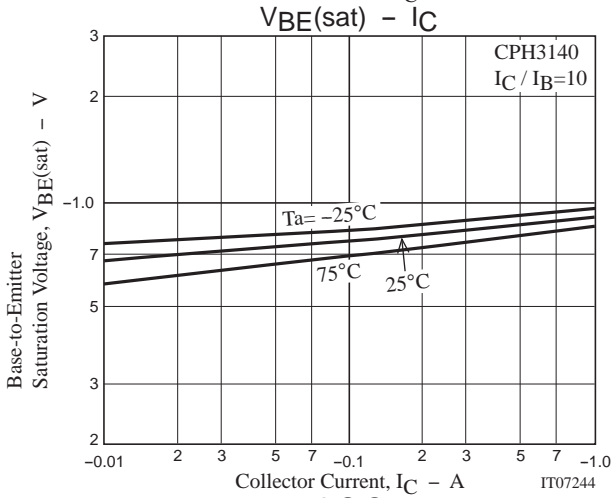
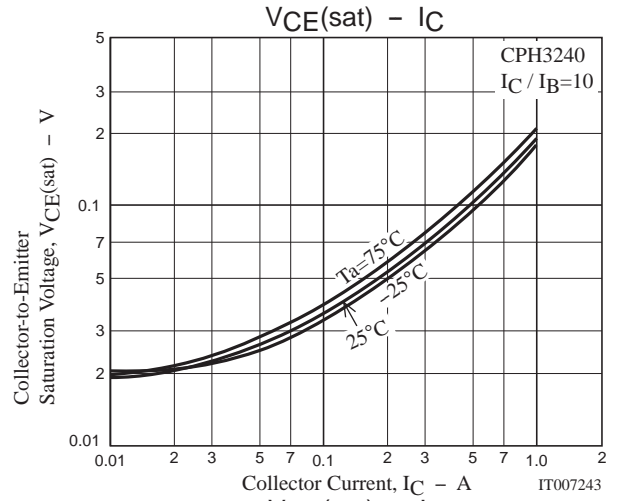
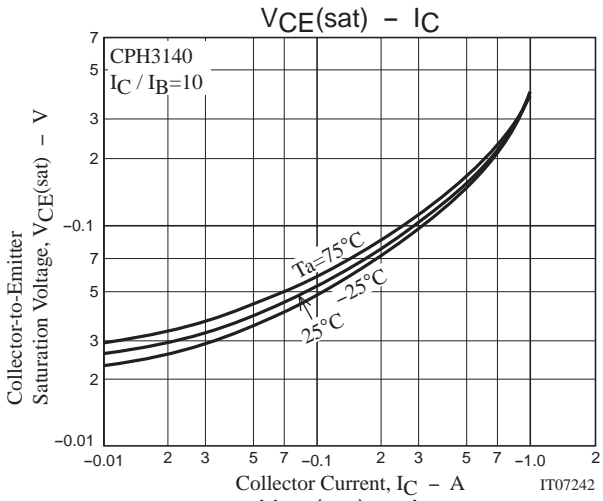
Device	Package	Shipping	memo
CPH3140-TL-E	CPH3	3,000pcs./reel	Pb Free
CPH3240-TL-E	CPH3	3,000pcs./reel	Pb Free



CPH3140 / CPH3240



CPH3140 / CPH3240



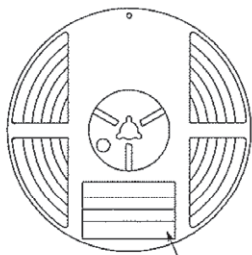
CPH3140 / CPH3240

Embossed Taping Specification  
CPH3140-TL-E, CPH3240-TL-E

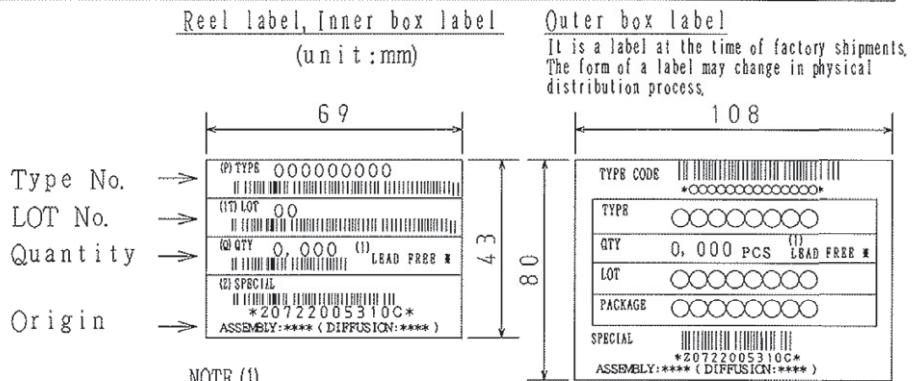
1. Packing Format

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



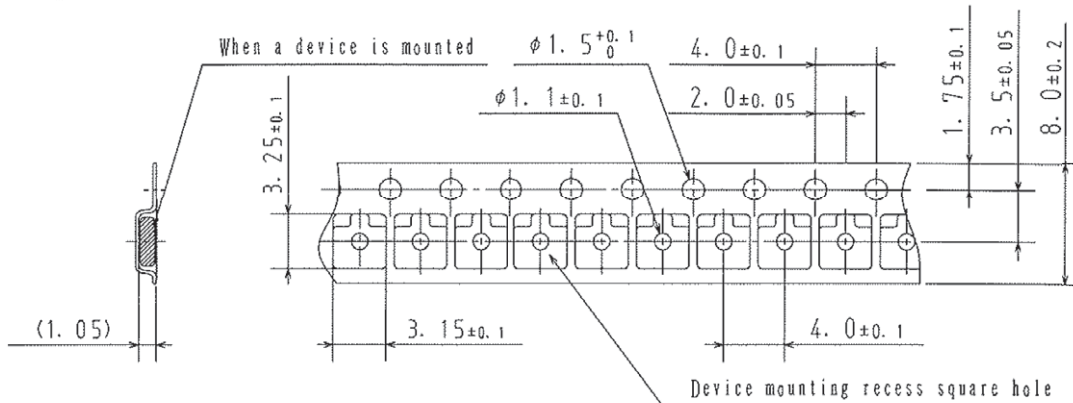
NOTE (1)

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

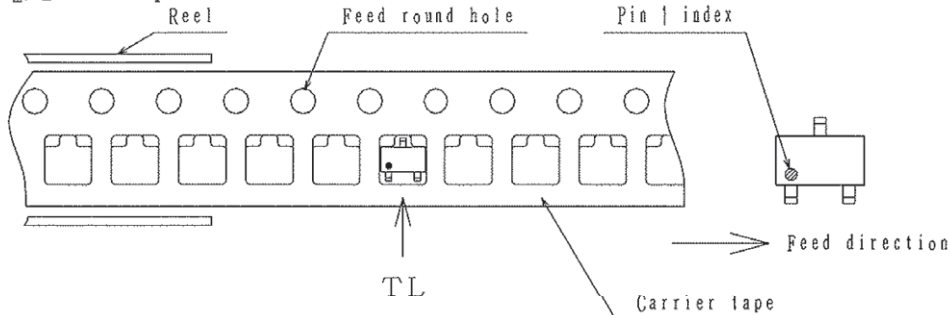
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

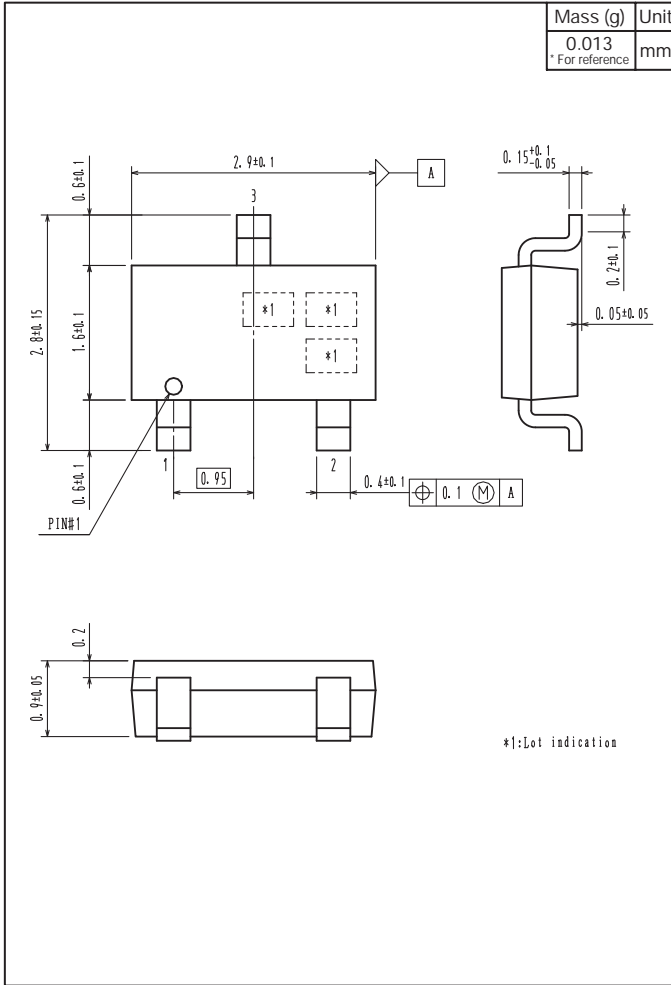


Those with one electrode terminal on the feed hole side.....TL

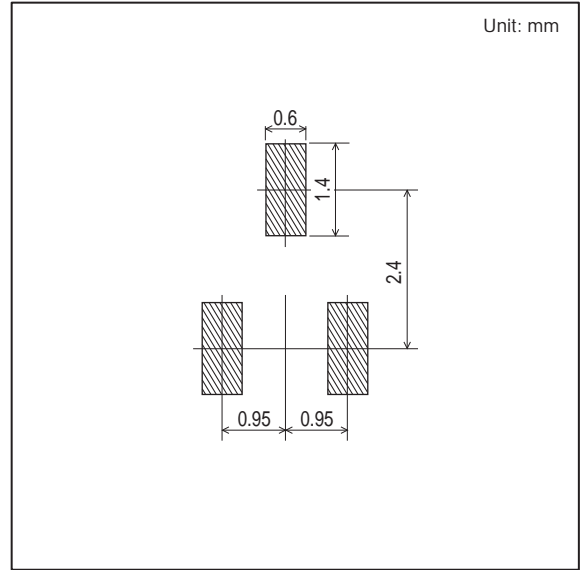
CPH3140 / CPH3240

Outline Drawing

CPH3140-TL-E, CPH3240-TL-E



Land Pattern Example





CPH3140 / CPH3240

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