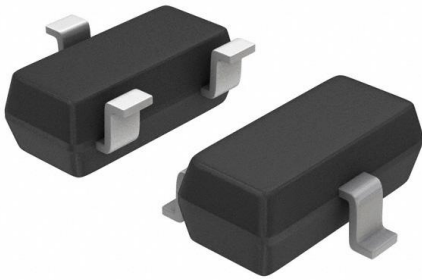


CPH3215-TL-H Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	CPH3215-TL-H-DG
Manufacturer	onsemi
Manufacturer Product Number	CPH3215-TL-H
Description	TRANS NPN 30V 1.5A 3CP
Detailed Description	Bipolar (BJT) Transistor NPN 30 V 1.5 A 500MHz 900 mW Surface Mount 3-CP



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

CPH3215-TL-H

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

30 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

900 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

CPH3215

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

1.5 A

Vce Saturation (Max) @ Ib, Ic:

225mV @ 15mA, 750mA

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

200 @ 100mA, 2V

Frequency - Transition:

500MHz

Mounting Type:

Surface Mount

Supplier Device Package:

3-CP

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 : EN6344C



CPH3115/CPH3215

Bipolar Transistor

(-30V, (-)1.5A, Low $V_{CE(sat)}$, (PNP)NPN Single CPH3

ON Semiconductor®

<http://onsemi.com>

Applications

- Relay drivers, lamp drivers, motor drivers, and strobes

Features

- Adoption of MBIT processes
- Large current capacity
- Low collector-to-emitter saturation voltage
- High-speed switching
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm)
- High allowable power dissipation
- Halogen free compliance

Specifications () : CPH3115

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

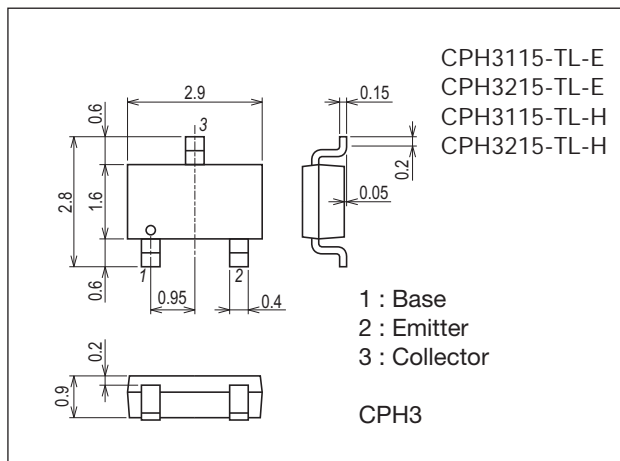
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-30)40	V
Collector-to-Emitter Voltage	V_{CEO}		(-30)	V
Emitter-to-Base Voltage	V_{EBO}		(-5)	V
Collector Current	I_C		(-1.5)	A
Collector Current (Pulse)	I_{CP}		(-3)	A
Base Current	I_B		(-300)	mA
Collector Dissipation	P_C	When 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

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)

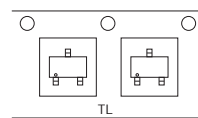
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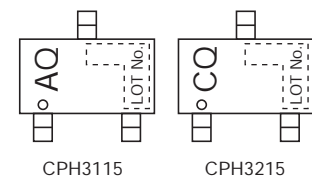
Product & Package Information

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

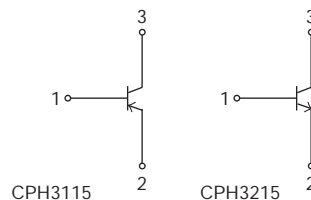
Packing Type: TL



Marking



Electrical Connection

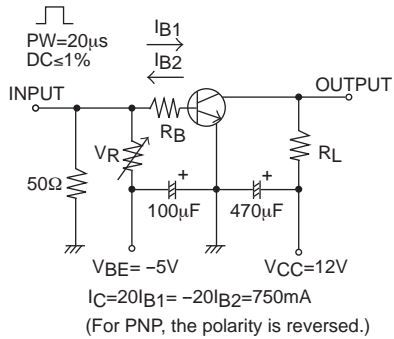


CPH3115 / CPH3215

Electrical Characteristics at Ta=25°C

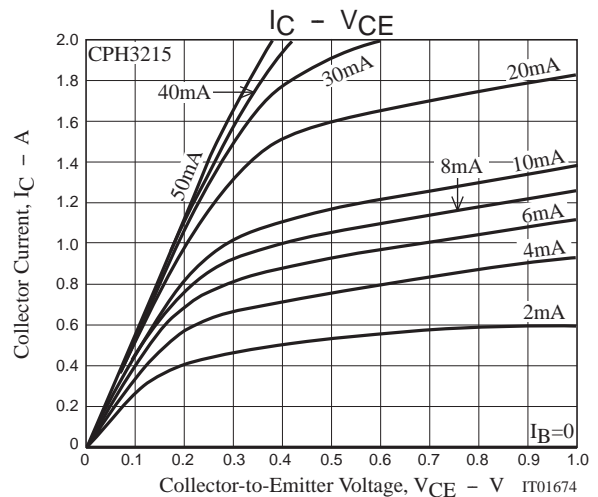
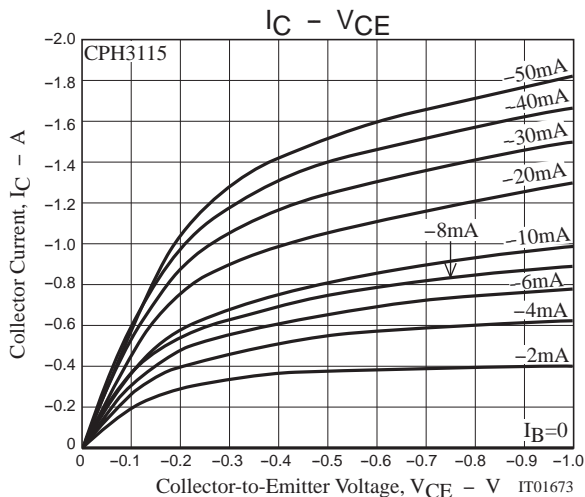
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =(-)30V, I _E =0A			(-)0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0A			(-)0.1	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)300mA		(450)500		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(9)8		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)750mA, I _B =(-)15mA		(-250)150	(-375)225	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)750mA, I _B =(-)15mA		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)10μA, I _E =0A	(-30)40			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =(-)1mA, R _{BE} =∞	(-)30			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)10μA, I _C =0A	(-)5			V
Turn-On Time	t _{on}	See specified Test Circuit.		35		ns
Storage Time	t _{stg}			(115)205		ns
Fall Time	t _f			30		ns

Switching Time Test Circuit

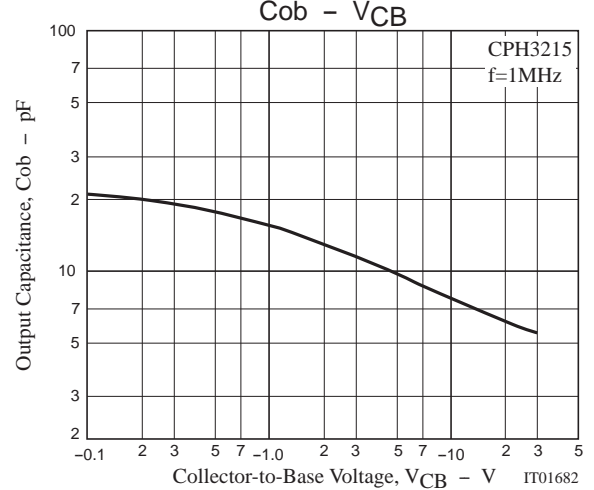
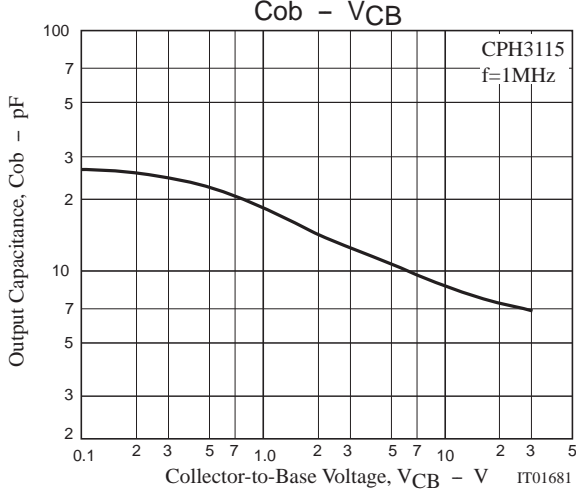
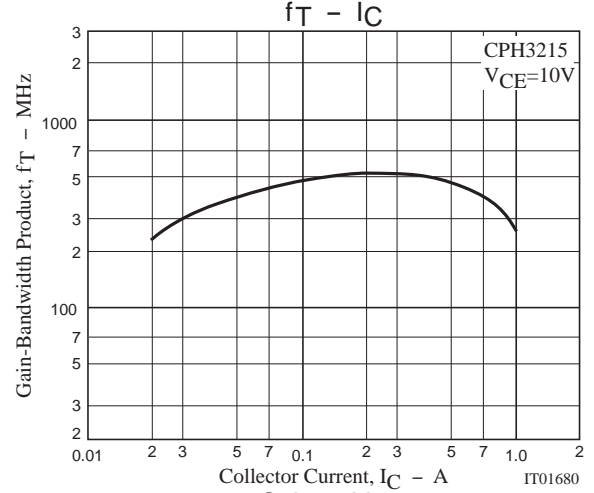
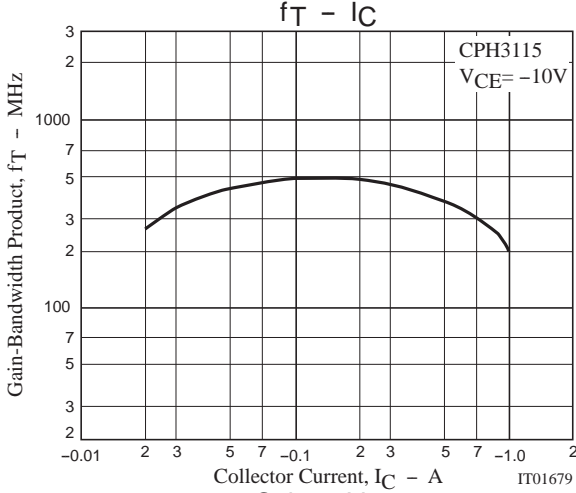
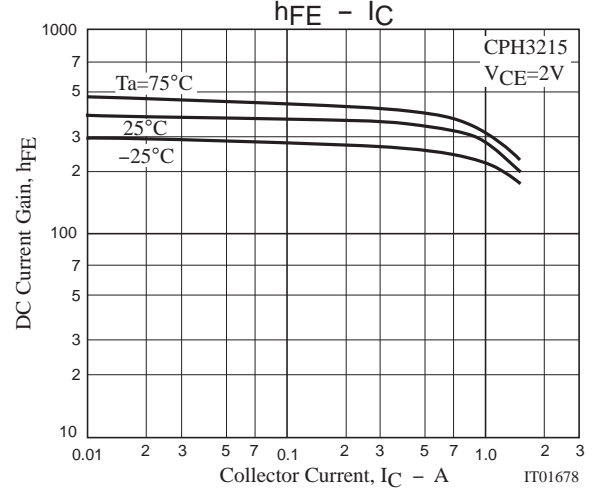
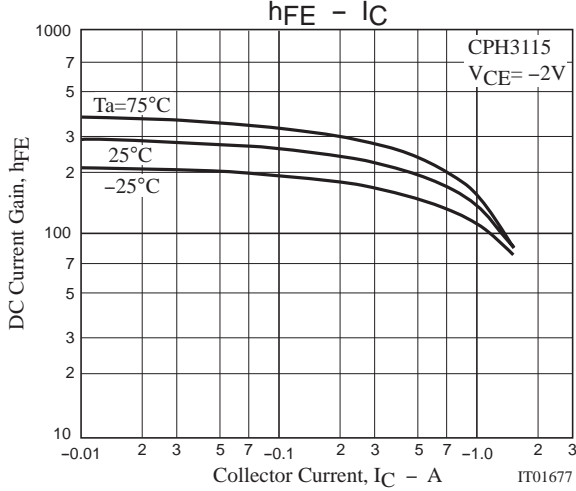
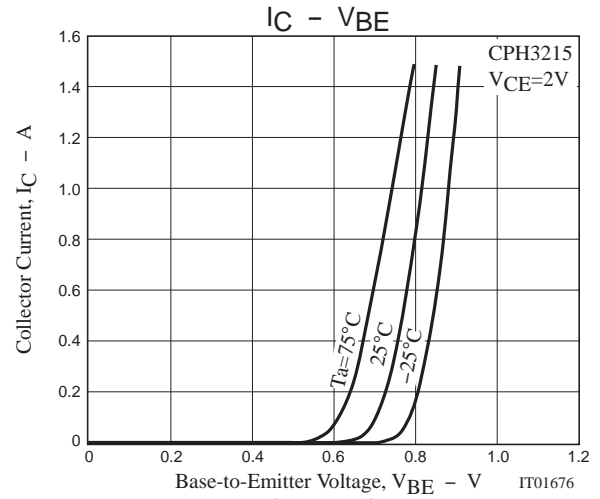
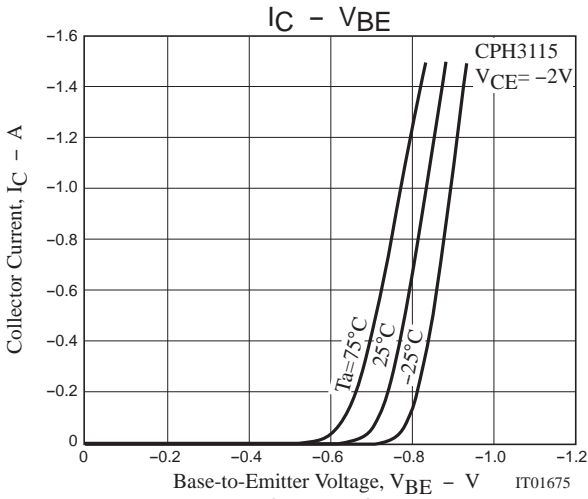


Ordering Information

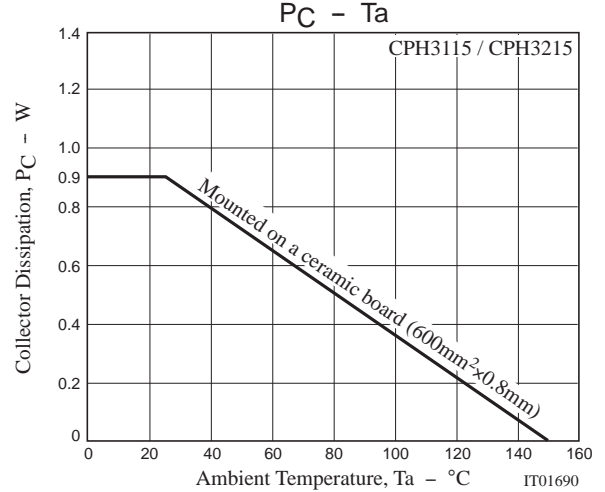
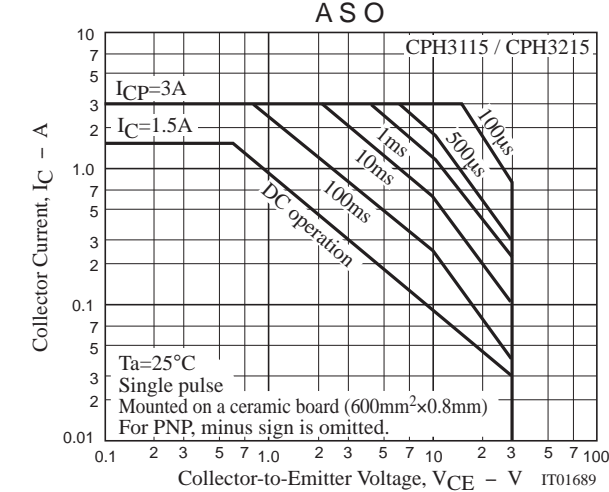
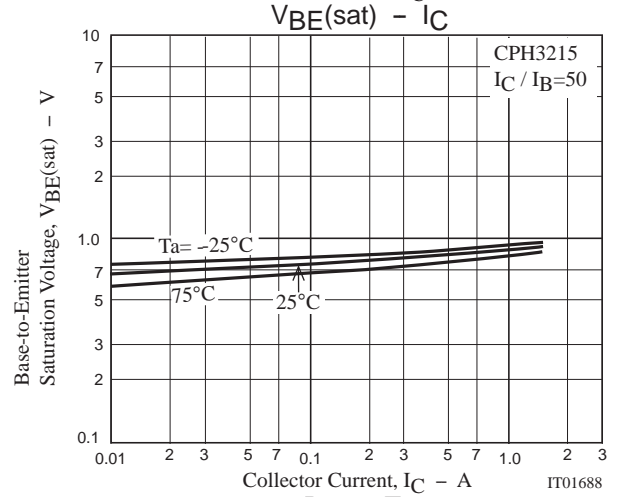
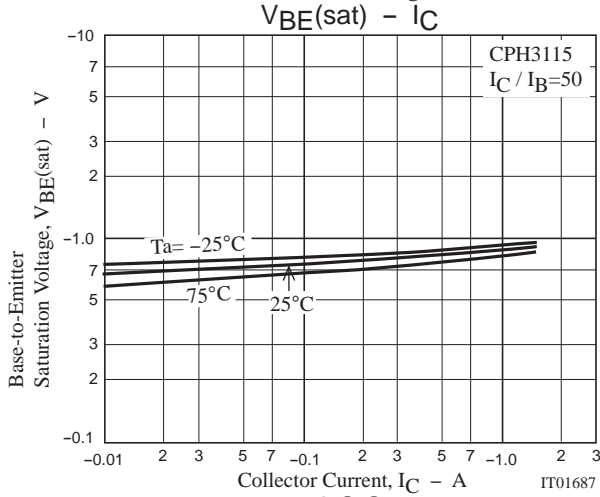
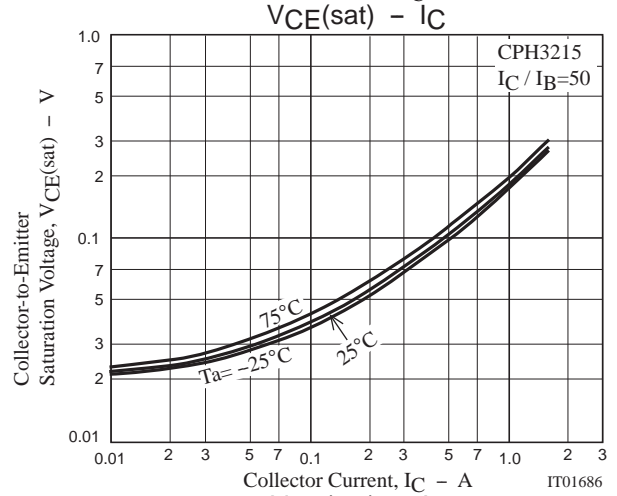
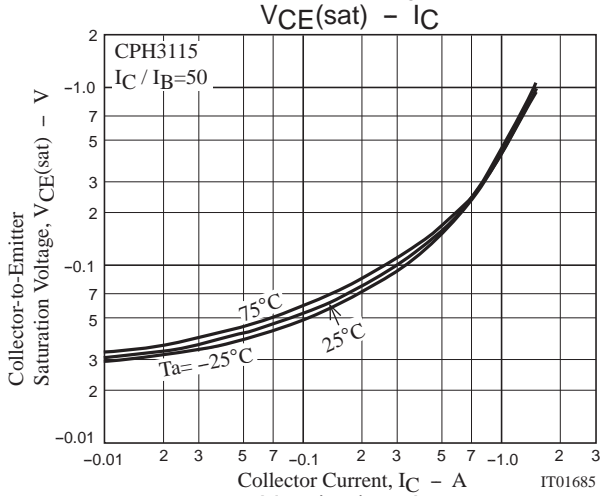
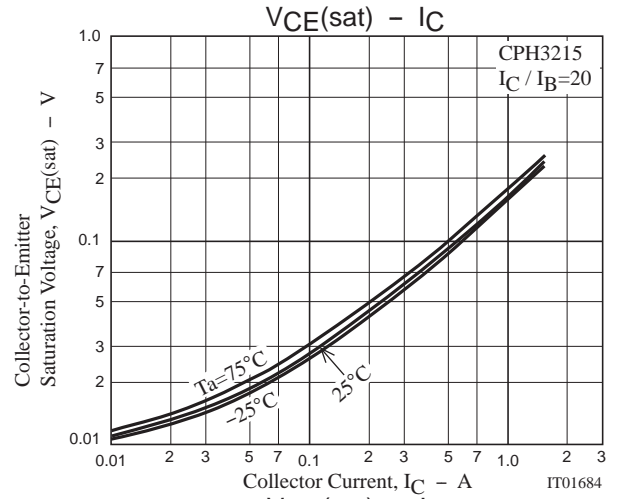
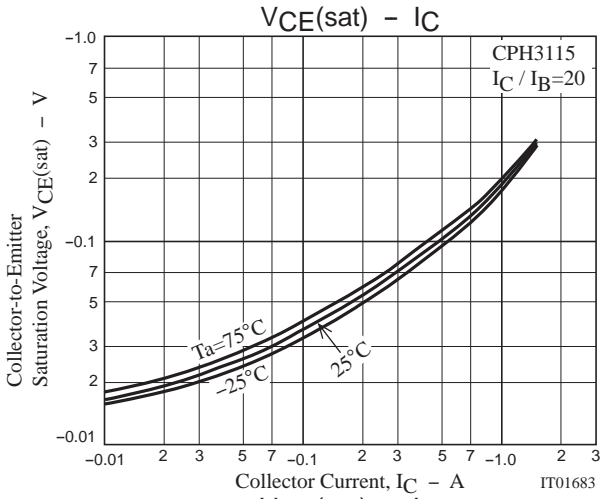
Device	Package	Shipping	memo
CPH3115-TL-E	CPH3	3,000pcs./reel	Pb Free
CPH3215-TL-E	CPH3	3,000pcs./reel	Pb Free
CPH3115-TL-H	CPH3	3,000pcs./reel	Pb Free and Halogen Free
CPH3215-TL-H	CPH3	3,000pcs./reel	Pb Free and Halogen Free



CPH3115 / CPH3215



CPH3115 / CPH3215



CPH3115 / CPH3215

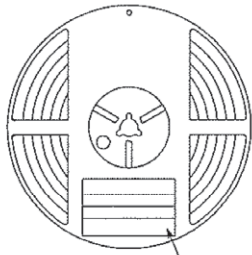
Embossed Taping Specification

CPH3115-TL-E, CPH3215-TL-E, CPH3115-TL-H, CPH3215-TL-H

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

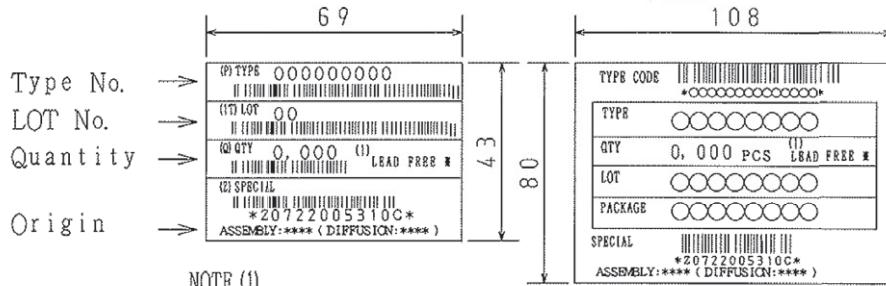


Reel label

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.



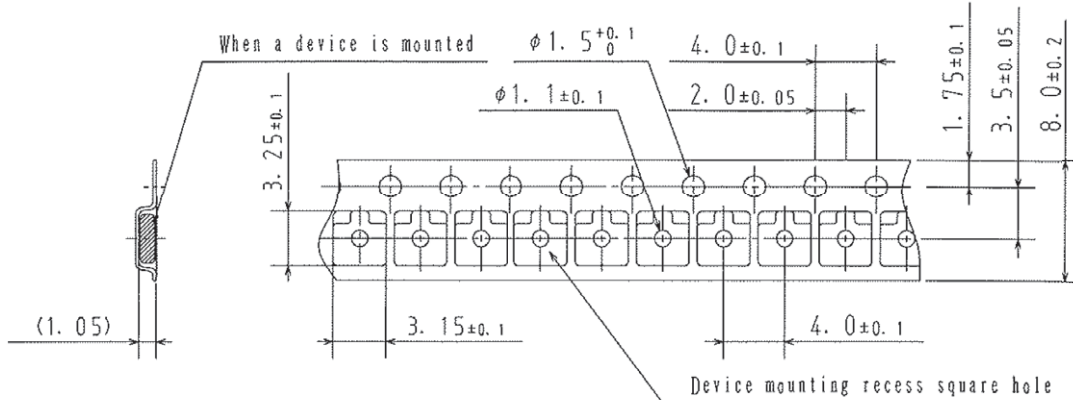
NOTE (1)

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

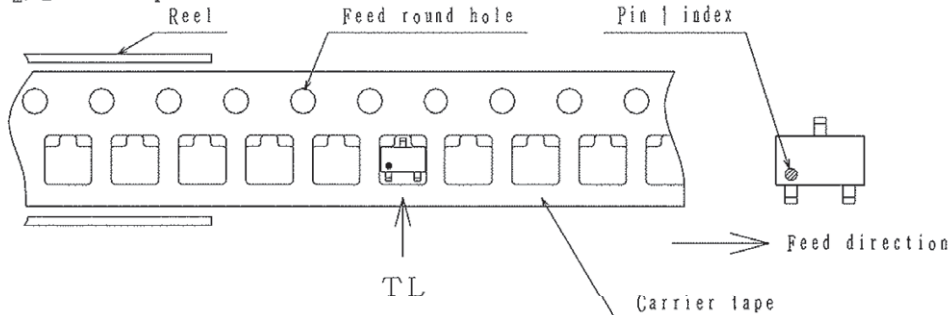
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction



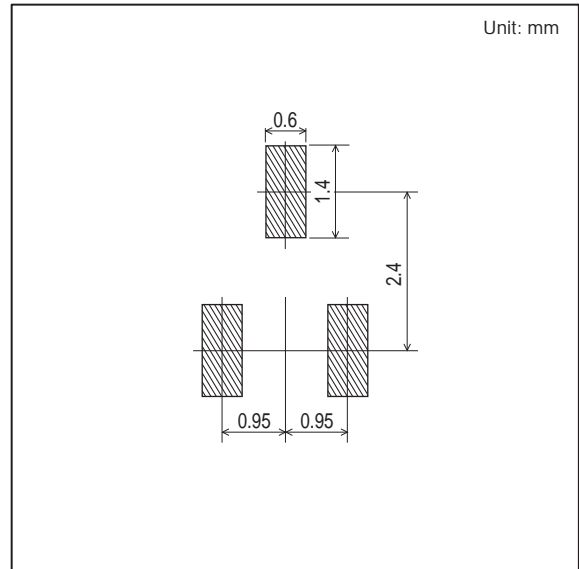
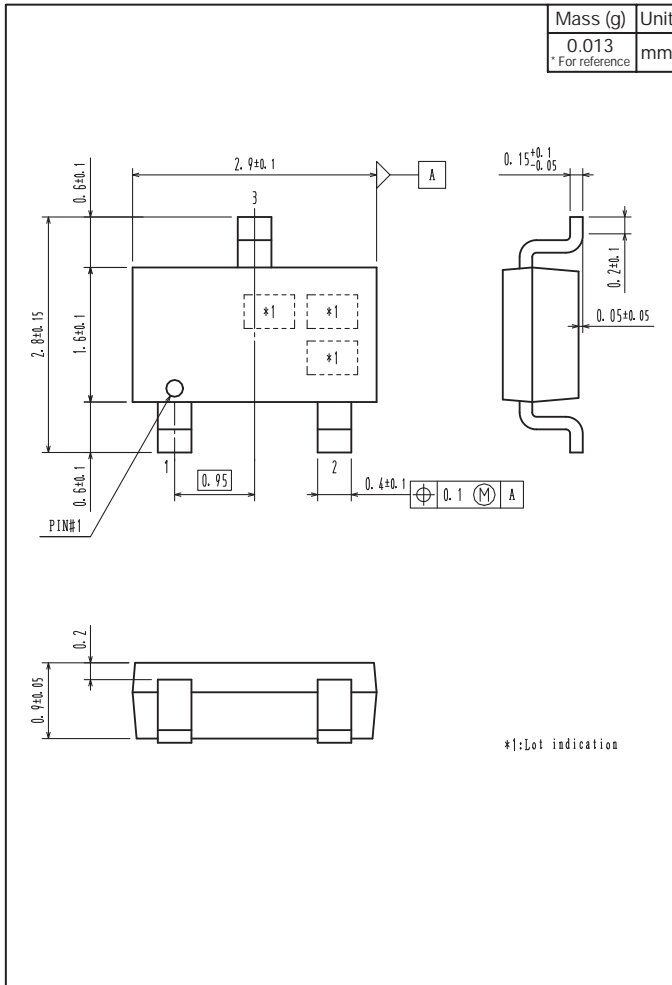
Those with one electrode terminal on the feed hole side.....TL

CPH3115 / CPH3215

Outline Drawing

Land Pattern Example

CPH3115-TL-E, CPH3215-TL-E, CPH3115-TL-H, CPH3215-TL-H



CPH3115 / CPH3215

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