



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH3115 / CPH3215 — DC / DC Converter Applications

PNP / NPN Epitaxial Planar Silicon Transistor

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

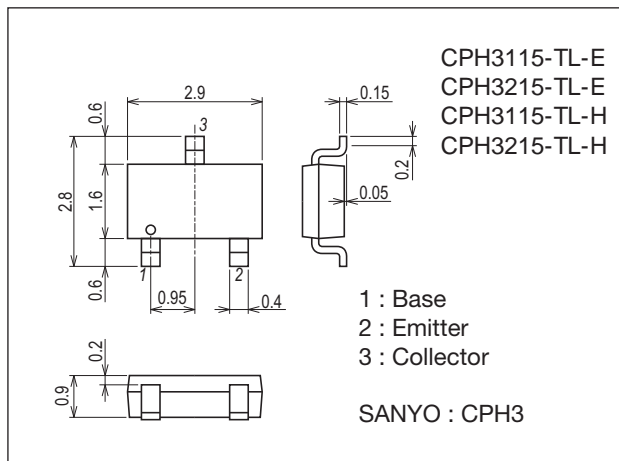
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-30)40	V
Collector-to-Emitter Voltage	VCEO		(-)30	V
Emitter-to-Base Voltage	VEBO		(-)5	V
Collector Current	IC		(-)1.5	A
Collector Current (Pulse)	ICP		(-)3	A
Base Current	IB		(-)300	mA
Collector Dissipation	PC	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.9	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

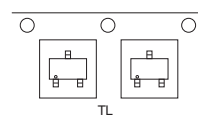
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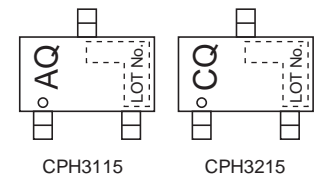
Product & Package Information

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

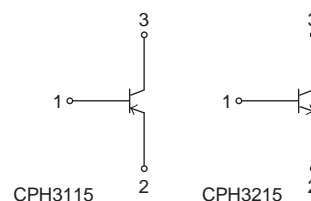
Packing Type: TL



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

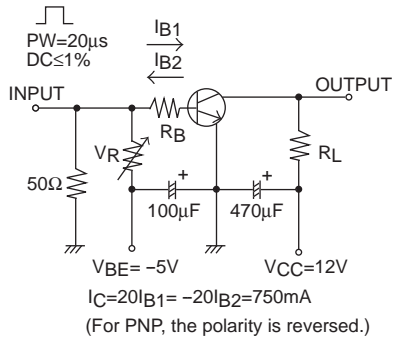
<http://www.sanyosemi.com/en/network/>

CPH3115 / CPH3215

Electrical Characteristics at Ta=25°C

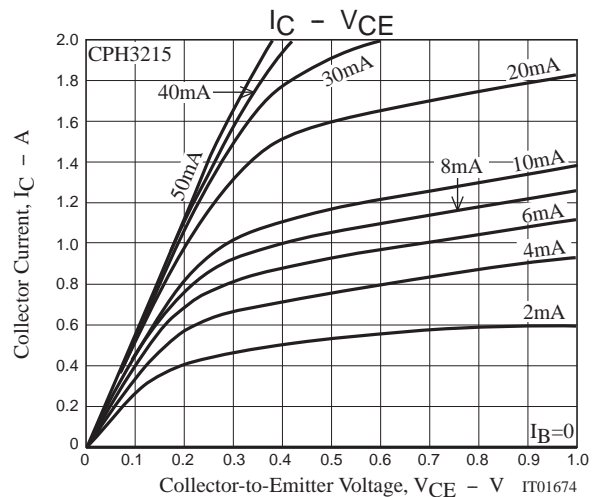
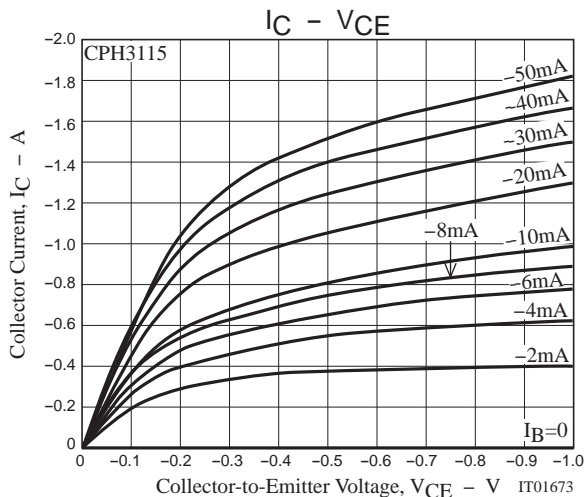
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =(-)30V, I _E =0A			(-)0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =(-)4V, I _C =0A			(-)0.1	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, 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

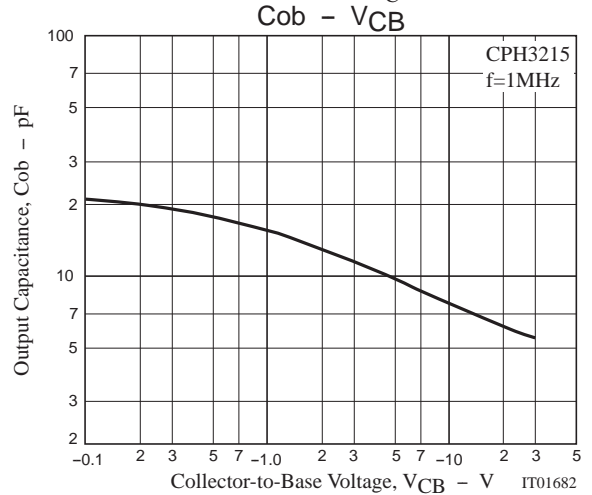
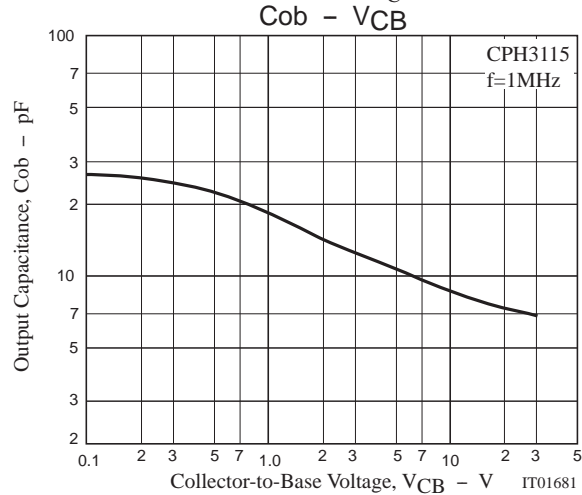
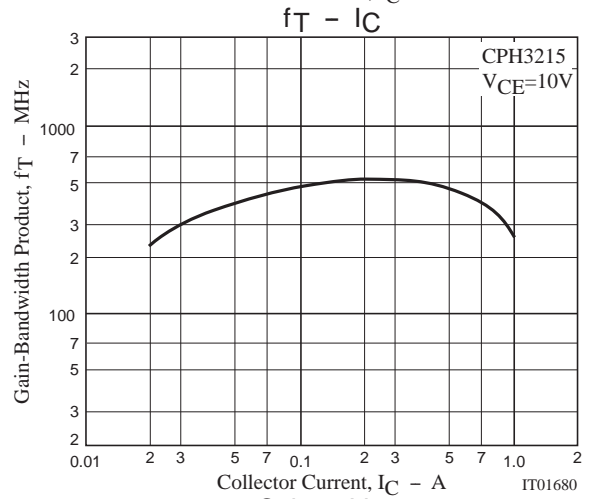
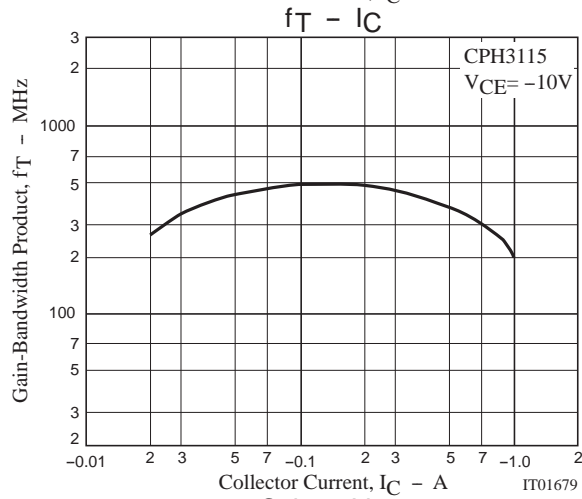
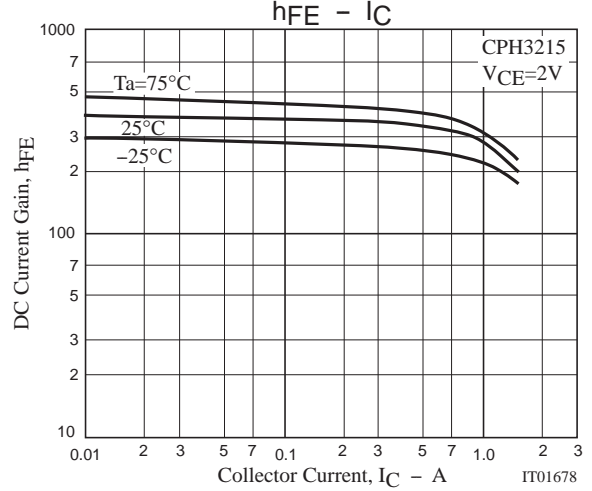
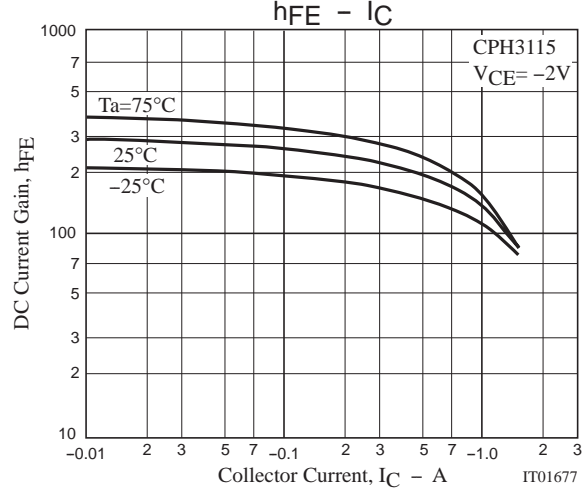
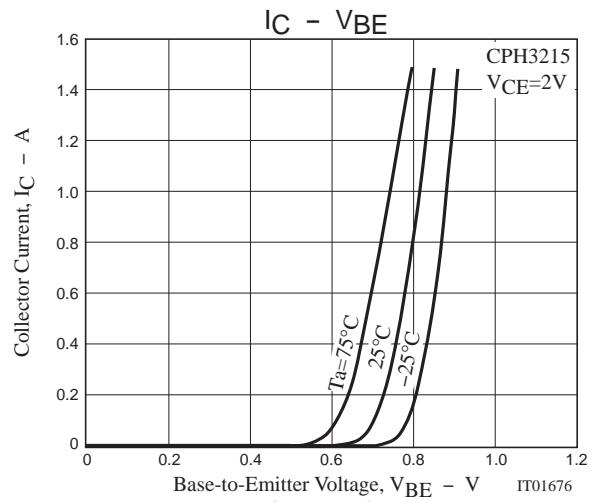
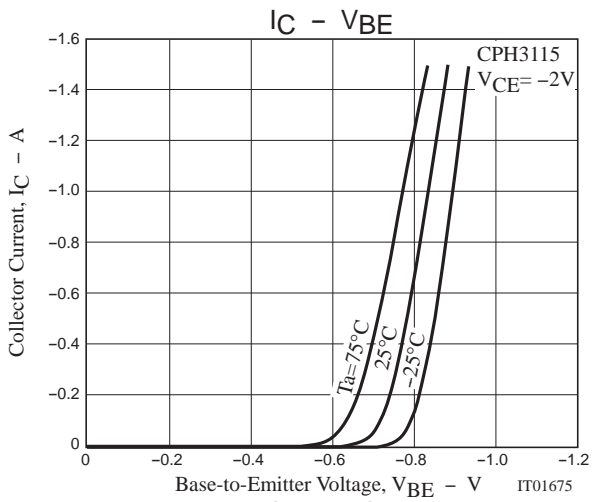


Ordering Information

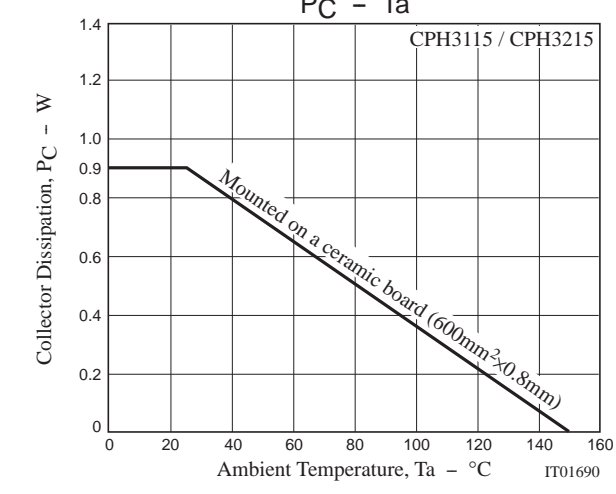
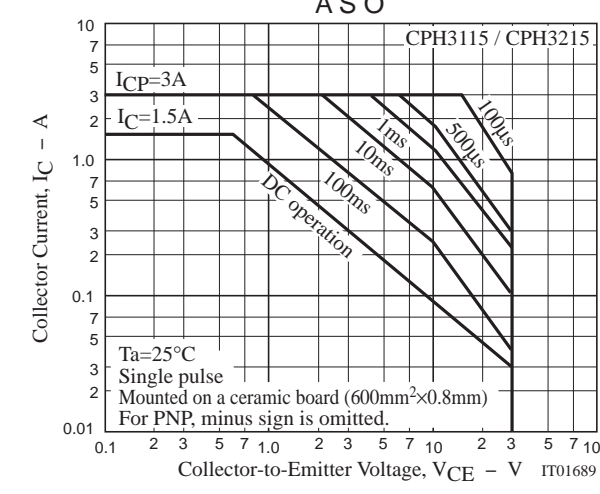
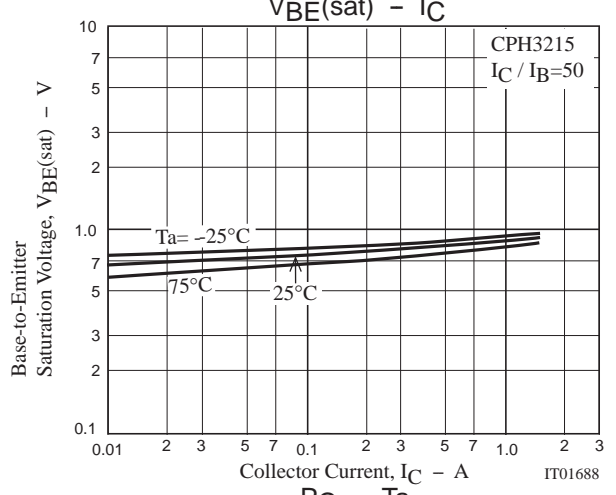
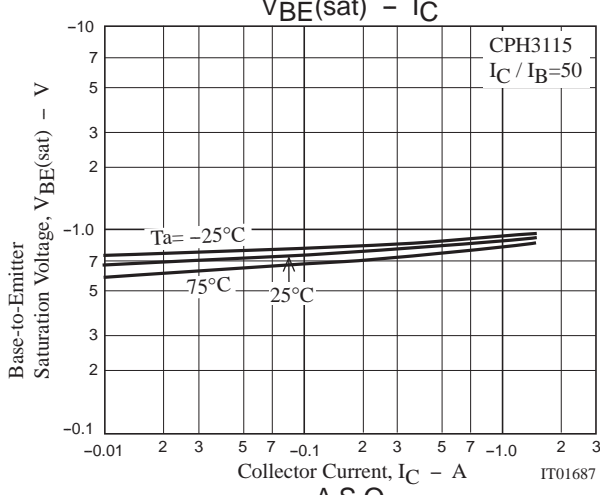
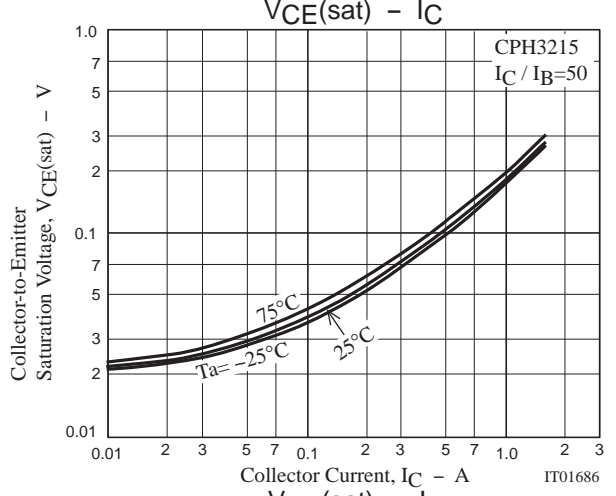
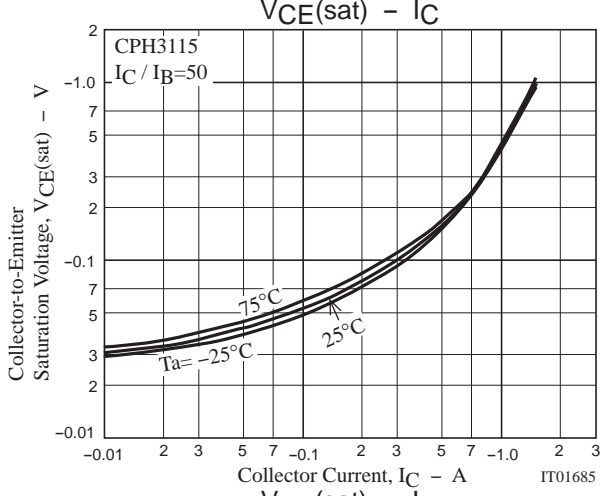
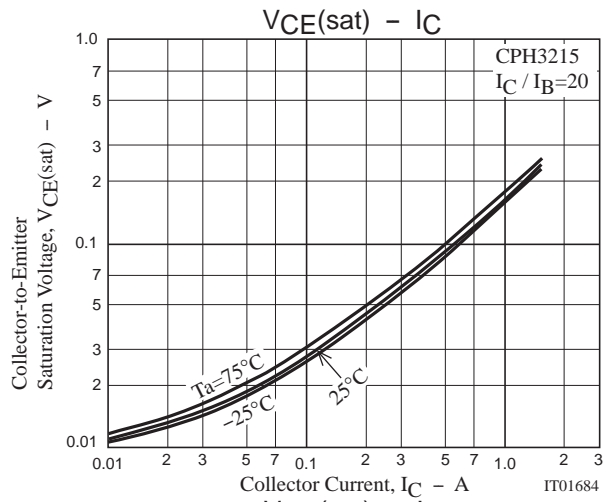
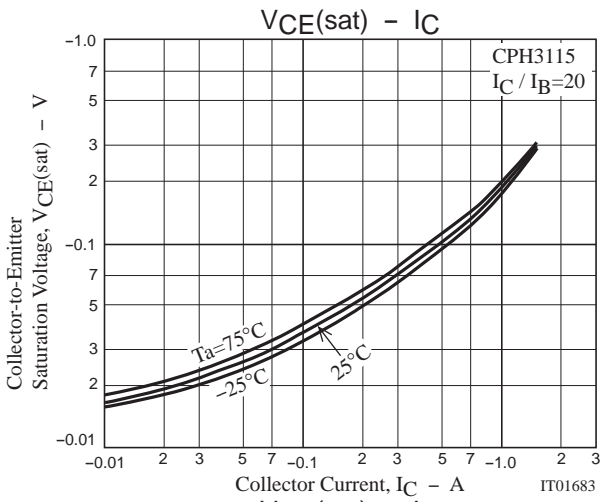
Device	Package	Shipping	memo
CPH3115-TL-E	CPH3	3,000pcs./reel	Pb Free
CPH3215-TL-E	CPH3	3,000pcs./reel	Pb Free
CPH3115-TL-H	CPH3	3,000pcs./reel	Pb Free and Halogen Free
CPH3215-TL-H	CPH3	3,000pcs./reel	Pb Free and Halogen Free



CPH3115 / CPH3215



CPH3115 / CPH3215



CPH3115 / CPH3215

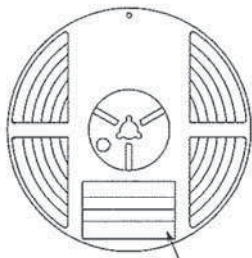
Embossed Taping Specification

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

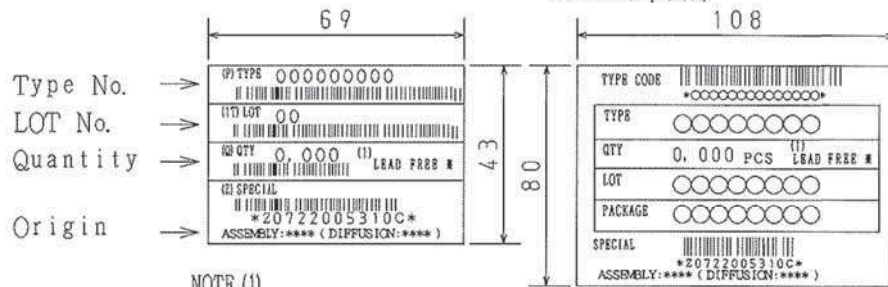


Reel label

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.



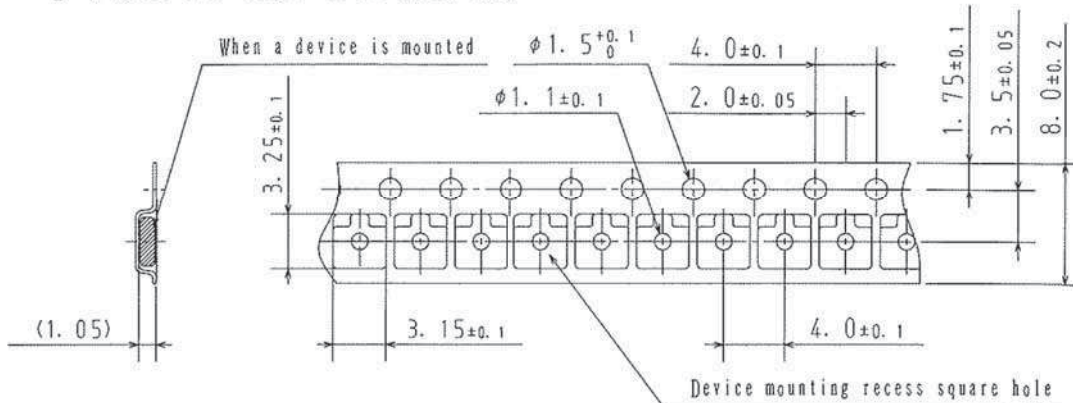
NOTE (1)

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

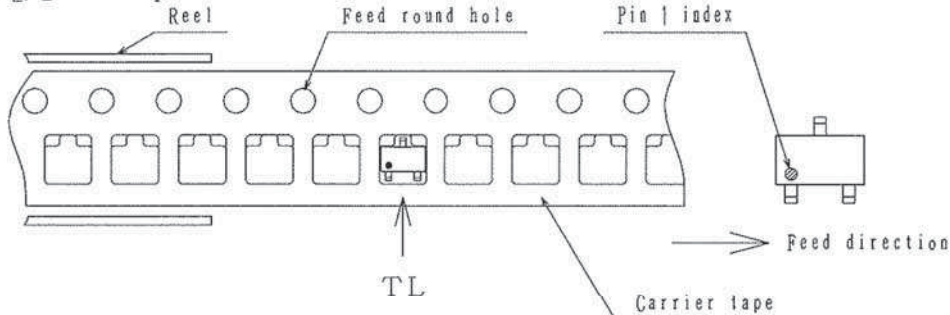
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

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

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