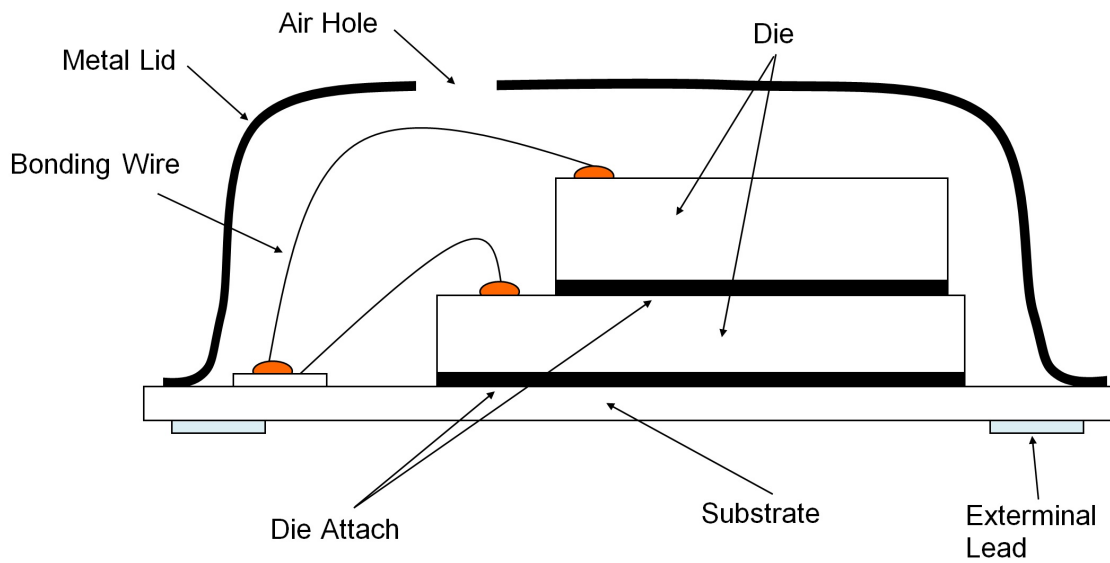


## 1. Package Information

Package Name	CLGA12V025M
Type	LGA
Pin Count	12
Outline Dimension	
Drawing No.	EX001-0007
Package Weight [g]	0.01
Lead Finish	Ni/Au
MSL Level	Level3

## 2. Package Structure



3. Packing Specification

3.1 Packing form, Quantity, PIN1 Orientation

Packing Form		Tape&Reel
Packing Quantity	[pcs]	3,000
PIN 1 Orientation		TR

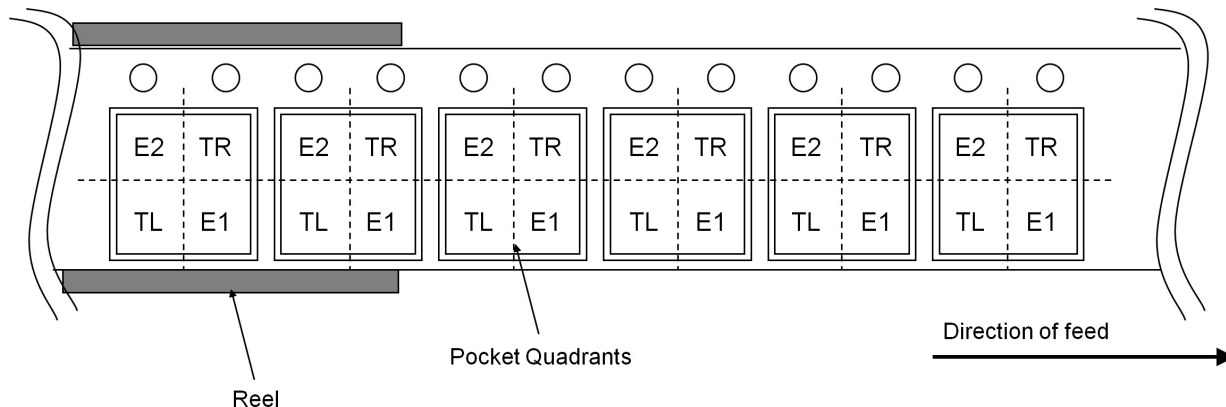


Fig.1 Quadrant Assignments for PIN 1 Orientation in Tape

E2 : PIN1 is placed to the top left corner.

TR : PIN1 is placed to the top right corner.

TL : PIN1 is placed to the lower left.

E1 : PIN1 is placed to the lower right.

3.2 Use material

Item	Material
Embossed carrier tape	PS
Cover tape	PET+PE
Reel	PS
Desiccant	Silicagel
Envelope	Aluminum-laminated
Unit box	Cardboard
Shipping box	Cardboard

3.3 Leader specification

No component pockets are 160 mm or more.

3.4 Trailer specification

No component pockets are 40 mm or more. Tape is free from reel.

3.5 Peelback strength

Cover tape peelback strength is 0.2 N to 0.7 N.

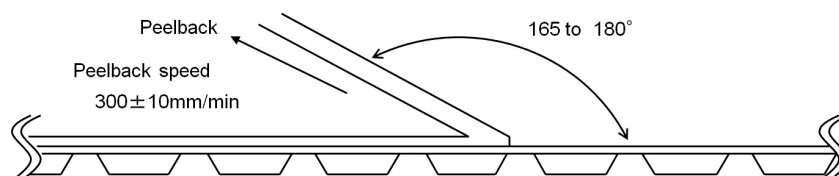


Fig. 2 Test method

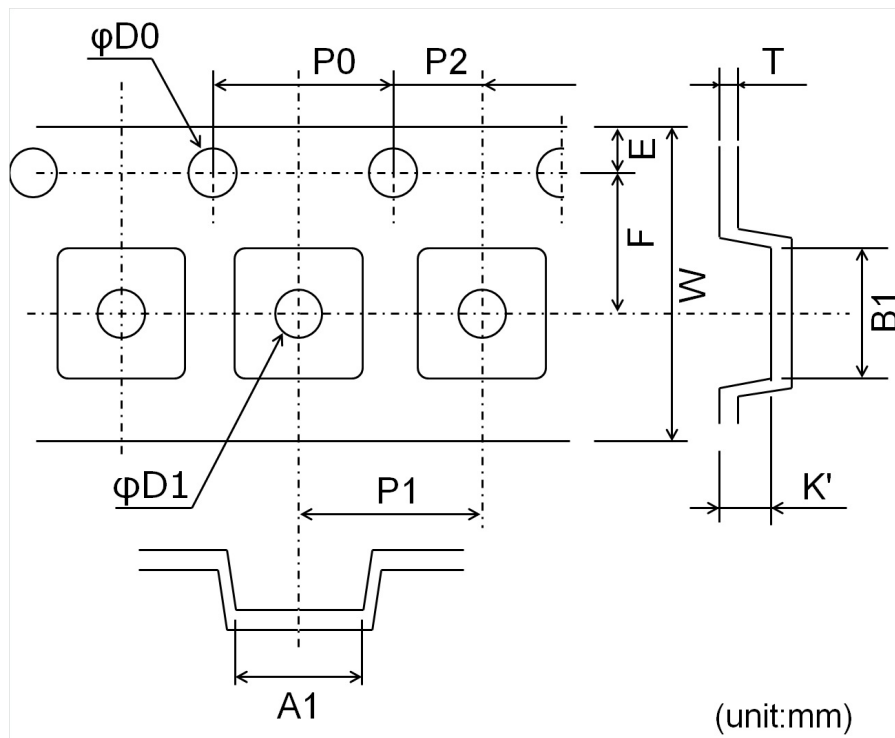
3.6 Missing lcs

(1) No consecutive dropouts.

(2) A maximum 0.1 % of specified number of products in each packing may be missing.

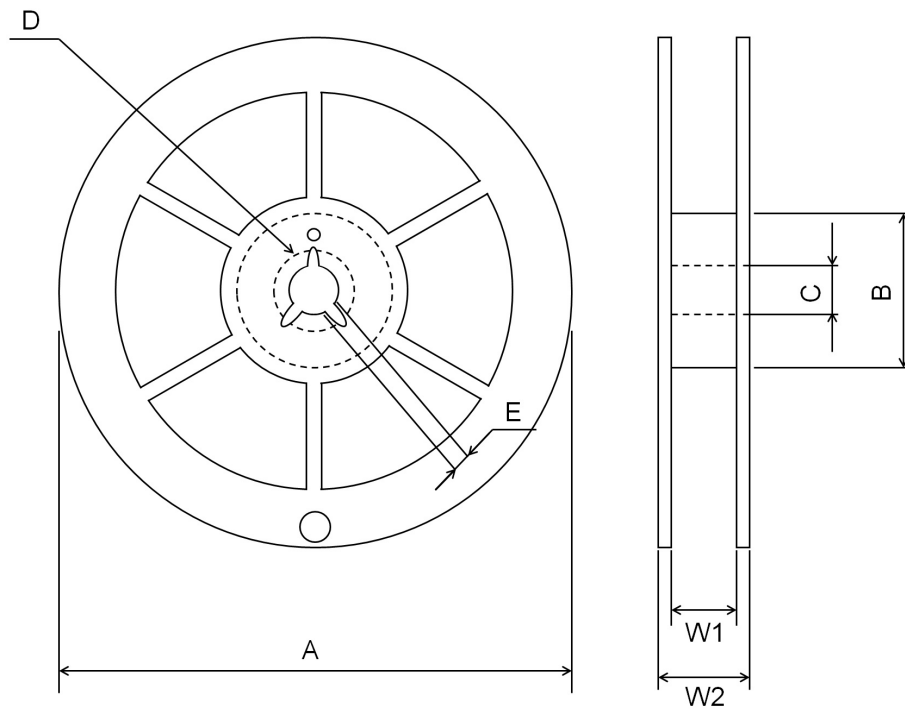
3.7 Tape and Reel Specification

3.7.1 Tape Dimension



	Tape Dimension	Tape Tolerance
A1	2.84	±0.05
B1	2.84	±0.05
D0	φ1.5	+0.1/-0
D1	φ1.0	±0.1
E	1.75	±0.1
F	3.50	±0.05
K'	1.10	±0.1
P0	4.00	±0.1
P1	4.00	±0.1
P2	2.00	±0.05
T	0.30	±0.05
W	8.0	±0.2

3.7.2 Reel Dimension

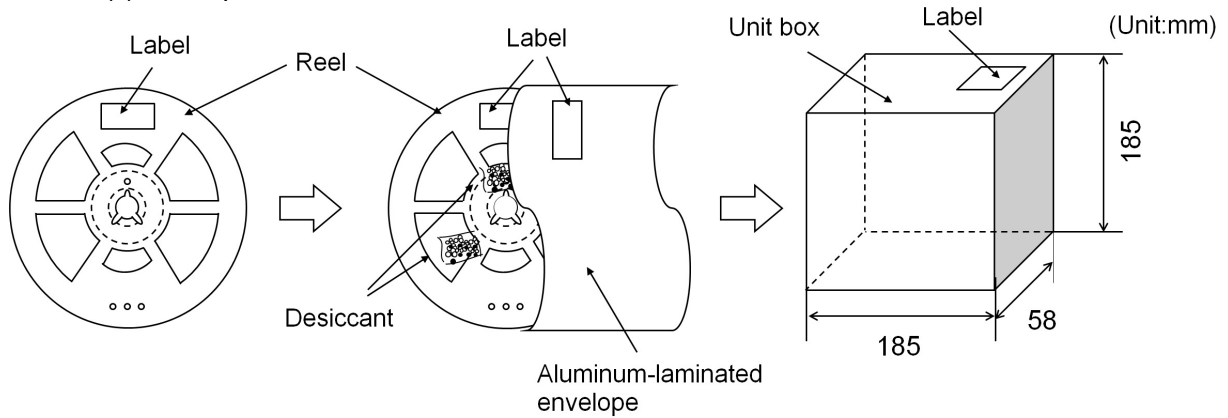


(unit:mm)

	Reel Dimension	Reel Tolerance
A	180	-
B	60	+1.0/-0
C	13	±0.2
D	21	±0.8
E	2	±0.5
W1	9	+1.0/-0
W2	11.4	±1.0

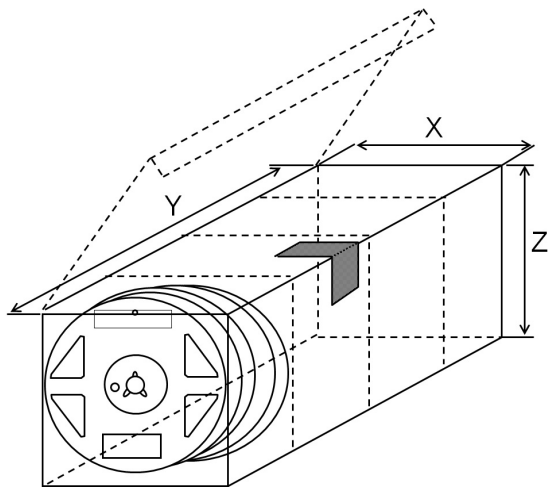
3.8 Packing Method

2 reel(s) or less per unit box



3.9 Packing Style

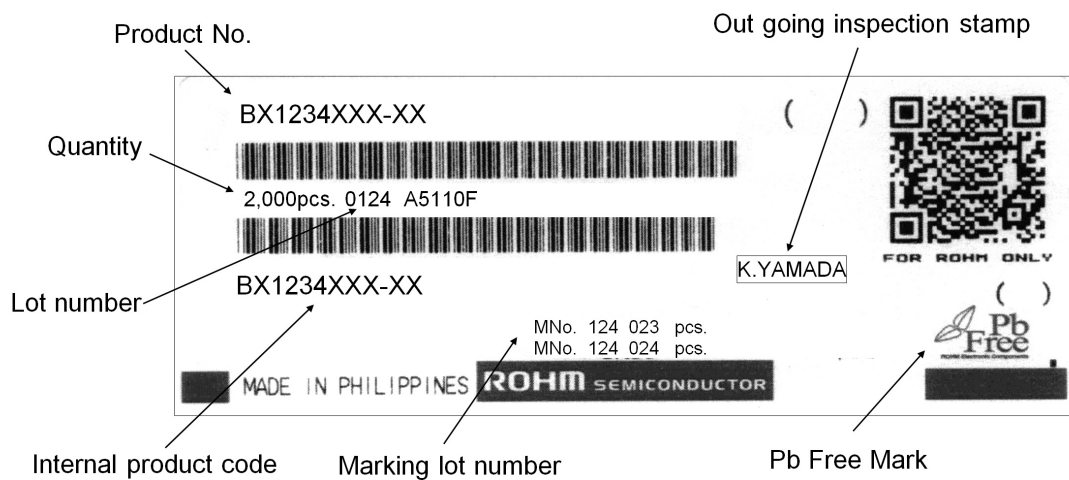
4 unit boxes or less per shipping box



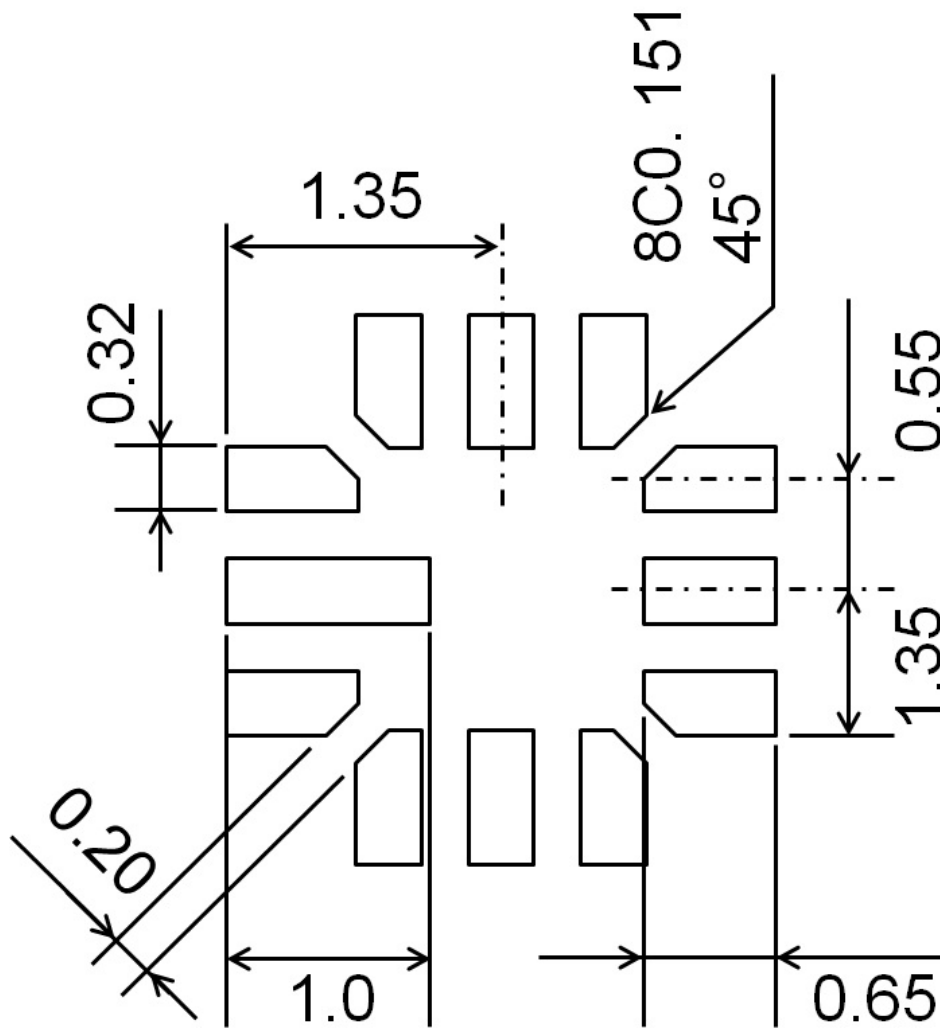
(unit:mm)

Shipping Box Dimension	
X	190
Y	255
Z	193

3.10 Label Specification



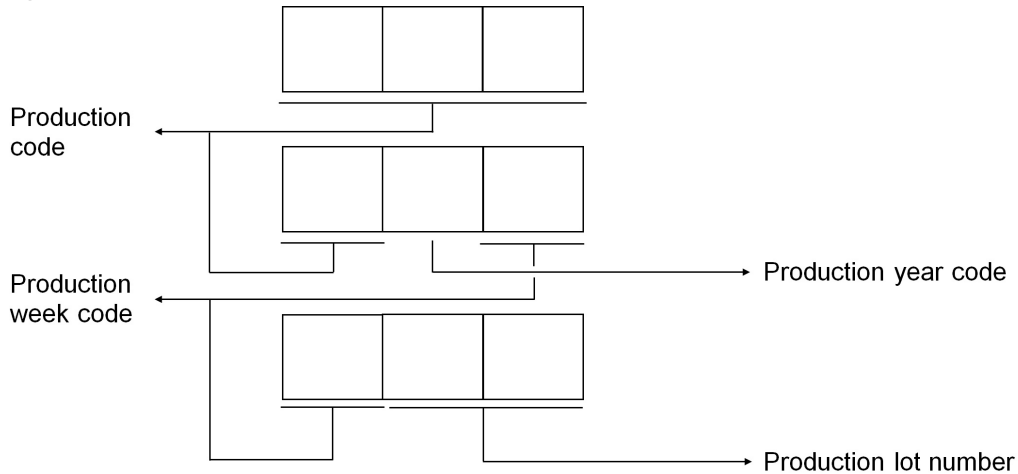
4. Footprint dimensions



(unit:mm)

In actual design, please optimize in accordance with the situation of your board design and soldering condition.

5. Marking Specification



6. Storage conditions

6.1 Storage environment

Recommended storage conditions

	Min.	Max.	Unit
Temperature	5	30	°C
Humidity	40	70	% RH

6.2 Storage period

	Min.	Max.	Unit
Storage period	-	1	year

6.3 Specified storage period until soldering

	Min.	Max.	Unit
Acceptable time	-	168	hour

The above value is a time from opening the moisture-proof packaging until the soldering.

Cases where it is necessary to perform the drying process is the following.

Case 1 : in excess of the above-mentioned "Acceptable time"

Case 2 : it has passed more than a year not open

Recommended the dry process conditions

	Temperature [°C]	Time [hour]
Reel (Note1)	60	48
Other Heat-proof container	125	24

(Note1) When carrying out the dry process in a "Reel" state, the peelback strength will change.

Please refer to the following values:

	Min.	Max.	Unit
Peelback strength	0.2	0.9	N

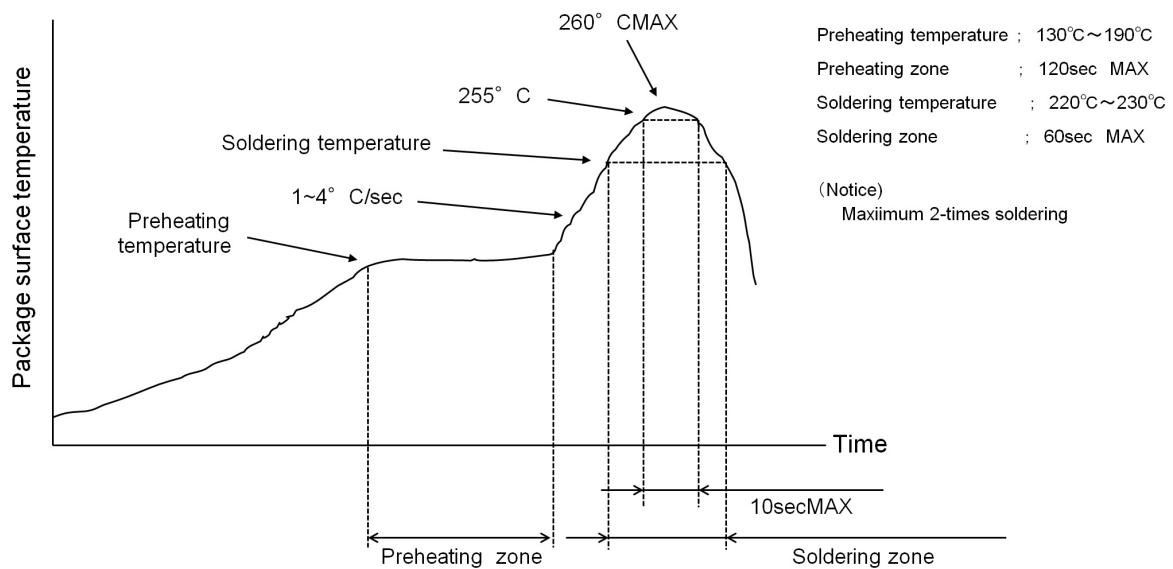
The drying process is the impact on the solderability because the oxidation of the terminal portion will occur. Therefore, specify the maximum times of the dry processing as follows:

Recommended execution count of the dry process

	Min.	Max.	Unit
Execution count	-	2	times

## 7. Soldering conditions

### 7.1 Recommended temperature profile for reflow



### 7.2 For wave soldering

The wave soldering method is not supported.

## 8. Underfill

To apply underfill is recommended because it has a possibility of reducing reliability to connect by drop impact or bent stress of board.

## 9. Caution of operation

There is the air hole on the surface of the package.

Please prevent a liquid invasion in the package by washing etc.

The corrosion of the wire joint part influences it by the influence of the halogen element.

We do not recommend the material for the substrate and the solder flux etc. of the halogen content.



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- 3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.  
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