

## Package : VBGAXXXT series

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### 1. Structure and materials

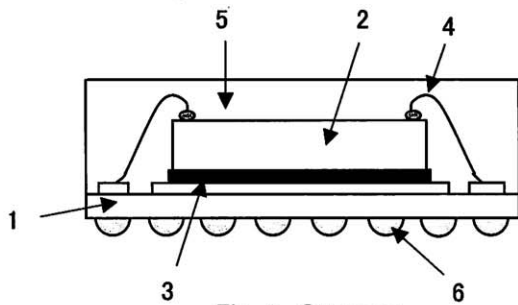


Fig. 1 Structure

No.	Item	Materials
1	Interposer	BT resin
2	Die	Silicon
3	Die Attach	Non-conductive Paste
4	Wire	Au
5	Molding	Epoxy Resin
6	External Lead	Solder Ball (Sn-3.0Ag-0.5Cu)

### 2. Tape and Reel information

#### 2.1. Packing specification

Tape	Embossed carrier tape with dry pack
Quantity	See the table on page 4/4
Direction of feed	E2 (See Fig. 2)

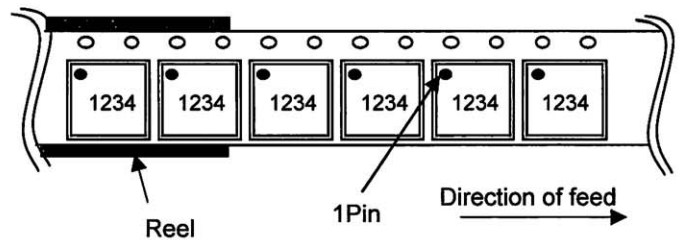


Fig. 2 Typical Tape and Reel configuration

#### 2.2. Tape and Reel specification

##### 2.2.1. Tape and reel dimensions (See the table on page 4/4)

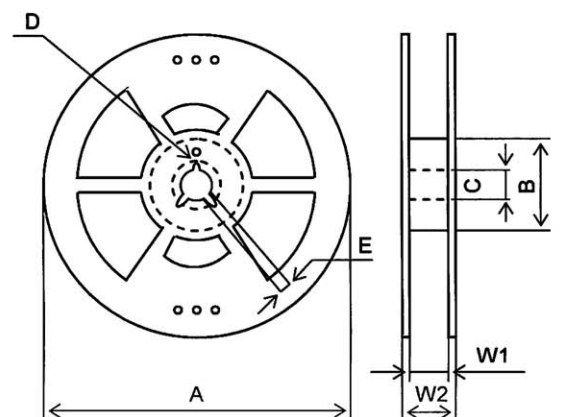
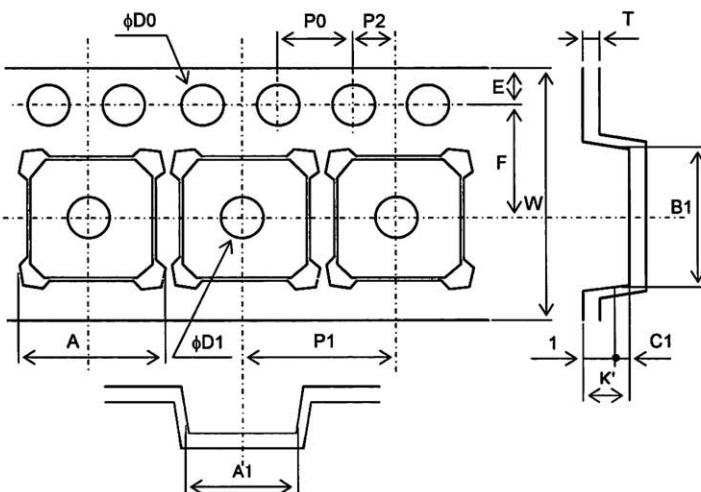


Fig. 4 Reel dimensions

2.3. Leader and Trailer

2.3.1. Leader

No component pockets are 25 pockets or more.

2.3.2. Trailer

No component pockets are 10 pockets or more.

Tape is free from reel.

2.4. Label for Reel and Box

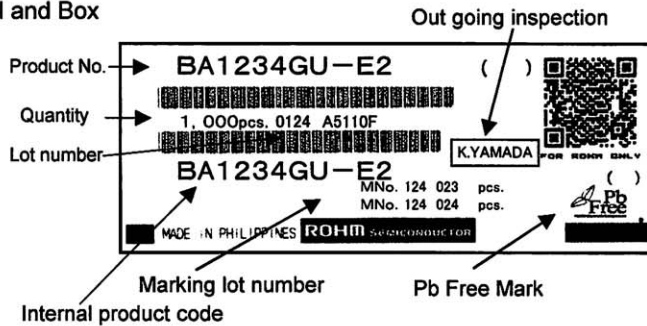


Fig. 5 Label example

2.5. Packing style

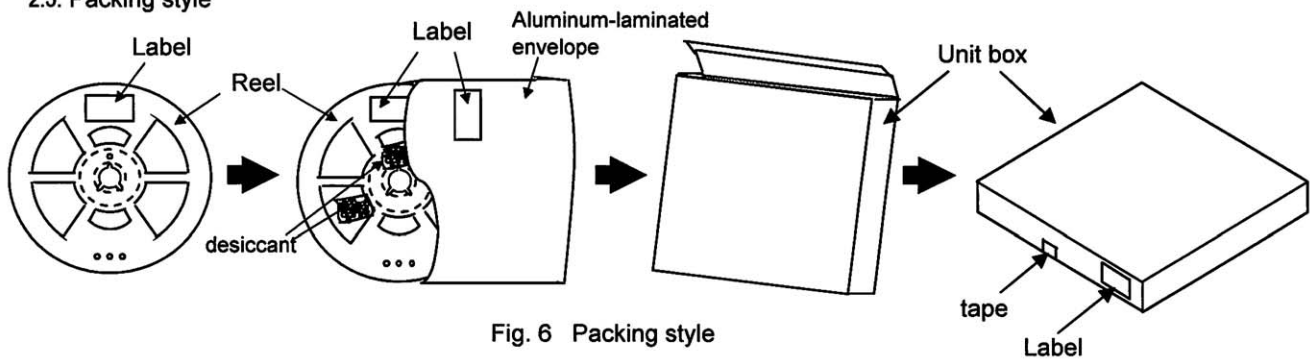
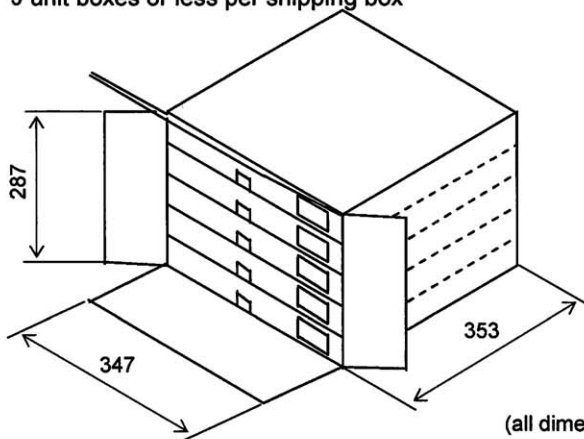


Fig. 6 Packing style

2.6. Shipping style

5 unit boxes or less per shipping box



(all dimensions in mm)

Fig. 7 Shipping box dimensions and Shipping style

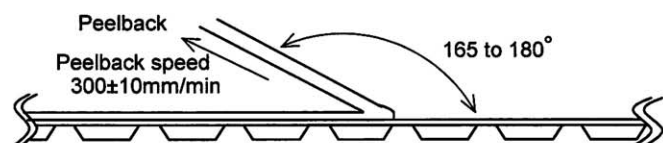
2.7. Packing materials

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

2.8. Others

Cover tape peelback strength is 0.2 to 0.7N.

Fig. 8 Test method



2.8.2. Missing ICs

- (1) No consecutive dropouts.
- (2) A maximum 0.1% of specified number of products in each packing may be missing.

3. Storage conditions

3.1. Storage environment

Recommended storage conditions are as follows :

- Temperature : 5 to 30°C
- Humidity : 40 to 70% RH

3.2. Storage period

-Specified storage period : 1 year

3.3. Specified storage period until soldering (except VBGA015T030)

Dry process before mounting is necessary in the following two cases.

1. After the package is opened, the product is left unused over 168 hours.
2. Before the package is opened, the product is left in the package unused over 1 year.

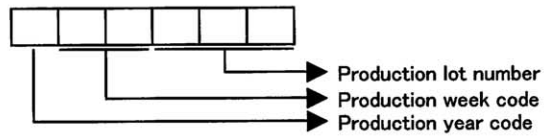
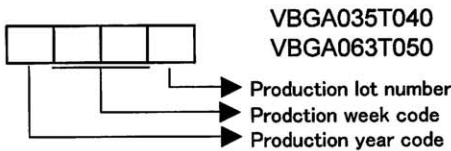
Please execute dry processing in a reel state with 60°C for 48 hours.

At this time, peelback strength of cover tape becomes 0.2N - 0.9N.

Case of transferring to heatproof container such as trays, execute dry processing with 125°C for 24 hours.

In addition, the dry processing should be max. 2 times due to influence on the product's solderability.

4. Marking lot number

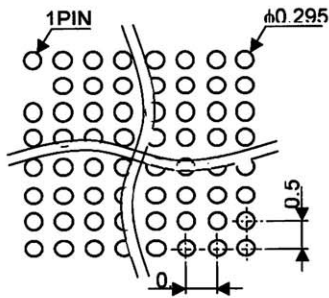


VBGA099T060  
 VBGA120T060  
 VBGA131T070  
 VBGA143T070  
 VBGA195T080  
 VBGA255T090  
 VBGA323T100

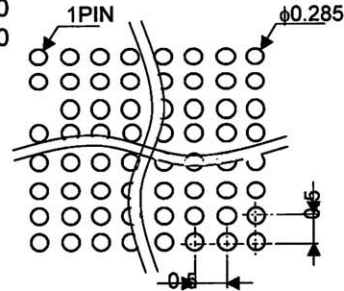
5. Footprint dimensions (Optimize footprint dimensions to the board design and soldering condition)

(all dimensions in mm)

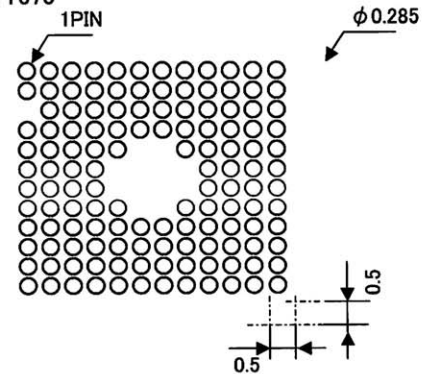
VBGA035T040  
 VBGA063T050



VBGA099T060  
 VBGA120T060  
 VBGA143T070  
 VBGA195T080  
 VBGA255T090  
 VBGA323T100

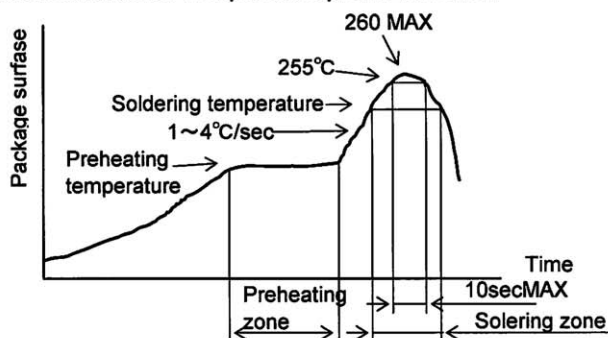


VBGA131T070



### 6.Soldering conditions

#### 6.1.Recommended temperature profile for reflow



Preheating temperature ; 130°C ~ 190°C  
 Preheating zone ; 120sec MAX  
 Soldering temperature ; 220°C ~ 230°C  
 Soldering zone ; 60sec

(Notice)  
 Maximum 2-times soldering

#### 6.2.About mounting with Sn-Pb solder paste.

Mounting with Sn-Pb solder paste is not recommended because it has a possibility of reducing reliability to connect with Sn-3.0Ag-0.5Cu solder balls.

#### 6.3.The wave soldering method is not supported.

#### 6.4.Underfill

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

(Tape dimensions)

Package	Quantity (pcs)	Tape dimensions (all dimensions in mm)													
		A1	B1	C	C1	D0	D1	E	F	K'	P0	P1	P2	T	W
VBGA015T030	4000	3.2	3.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	5.5	1.8	4.0	8.0	2.0	0.3	12.0
VBGA035T040	2500	4.2	4.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	5.5	1.8	4.0	8.0	2.0	0.3	12.0
VBGA063T050	2500	5.2	5.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	5.5	1.8	4.0	8.0	2.0	0.3	12.0
VBGA099T060	2000	6.2	6.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	5.5	1.8	4.0	8.0	2.0	0.3	12.0
VBGA120T060	2000	6.45	6.45	-	-	φ 1.5	φ 1.5	1.75	5.5	1.2	4.0	8.0	2.0	0.3	12.0
Toleranc		±0.05	±0.05	-	-	+0.1 -0	±0.1	±0.1	±0.05	±0.1	±0.1	±0.1	±0.05	±0.05	±0.2

Package	Quantity (pcs)	Tape dimensions (all dimensions in mm)													
		A1	B1	C	C1	D0	D1	E	F	K'	P0	P1	P2	T	W
VBGA131T070	1500	7.2	7.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	7.5	1.8	4.0	12.0	2.0	0.3	16.0
VBGA143T070	1500	7.2	7.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	7.5	1.8	4.0	12.0	2.0	0.3	16.0
VBGA195T080	1000	8.2	8.2	(1.15)	(0.65)	φ 1.5	φ 1.5	1.75	7.5	1.8	4.0	12.0	2.0	0.3	16.0
VBGA255T090	1000	9.2	9.2	(1.15)	(0.70)	φ 1.5	φ 1.5	1.75	7.5	1.85	4.0	12.0	2.0	0.3	16.0
VBGA323T100	1000	10.2	10.2	(1.15)	(0.70)	φ 1.5	φ 1.5	1.75	7.5	1.85	4.0	12.0	2.0	0.3	16.0
Toleranc		±0.05	±0.05	-	-	+0.1 -0	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.3

(Reel dimensions)

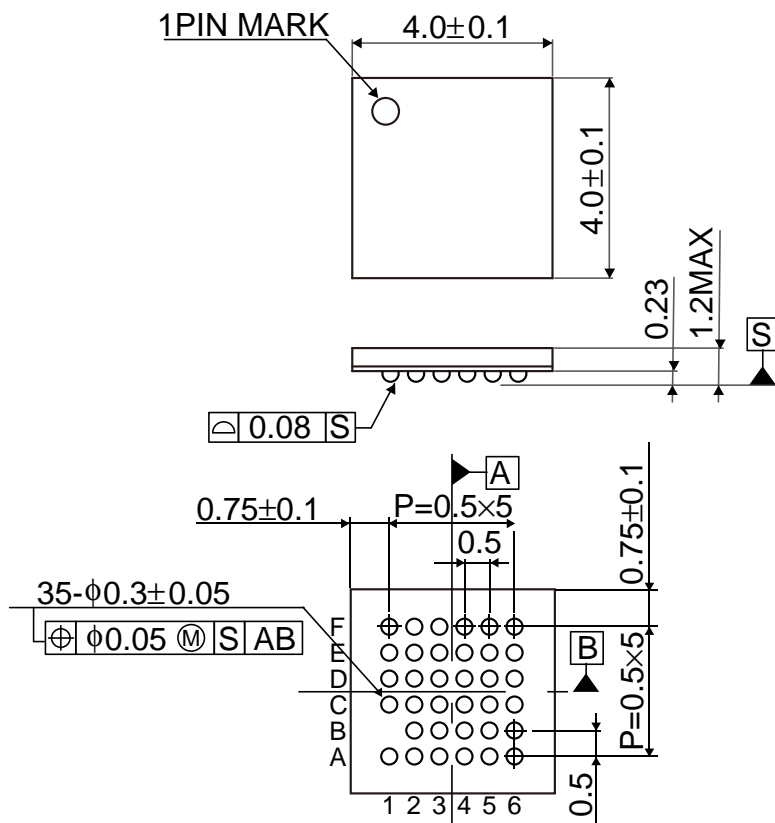
(Dehydrated weight)

Package	Reel dimensions (all dimensions in mm)							Dehydrated weight dimensions in g
	A	B	C	D	E	W1	W2	
VBGA015T030	φ 330	50	13.0	20.2	1.5	13.4	17.4	0.02
VBGA035T040	φ 330	50	13.0	20.2	1.5	13.4	17.4	0.03
VBGA063T050	φ 330	50	13.0	20.2	1.5	13.4	17.4	0.05
VBGA099T060	φ 330	50	13.0	20.2	1.5	13.4	17.4	0.08
VBGA120T060	φ 330	50	13.0	20.2	1.5	13.4	17.4	0.08
VBGA131T070	φ 330	50	13.0	20.2	1.5	17.4	21.4	0.10
VBGA143T070	φ 330	50	13.0	20.2	1.5	17.4	21.4	0.10
VBGA195T080	φ 330	50	13.0	20.2	1.5	17.4	21.4	0.14
VBGA255T090	φ 330	50	13.0	20.2	1.5	17.4	21.4	0.18
VBGA323T100	φ 330	50	13.0	20.2	1.5	17.4	21.4	0.22
Tolerance	-	MIN	±0.2	MIN	MIN	±1.0	±1.0	



# Package Dimensions

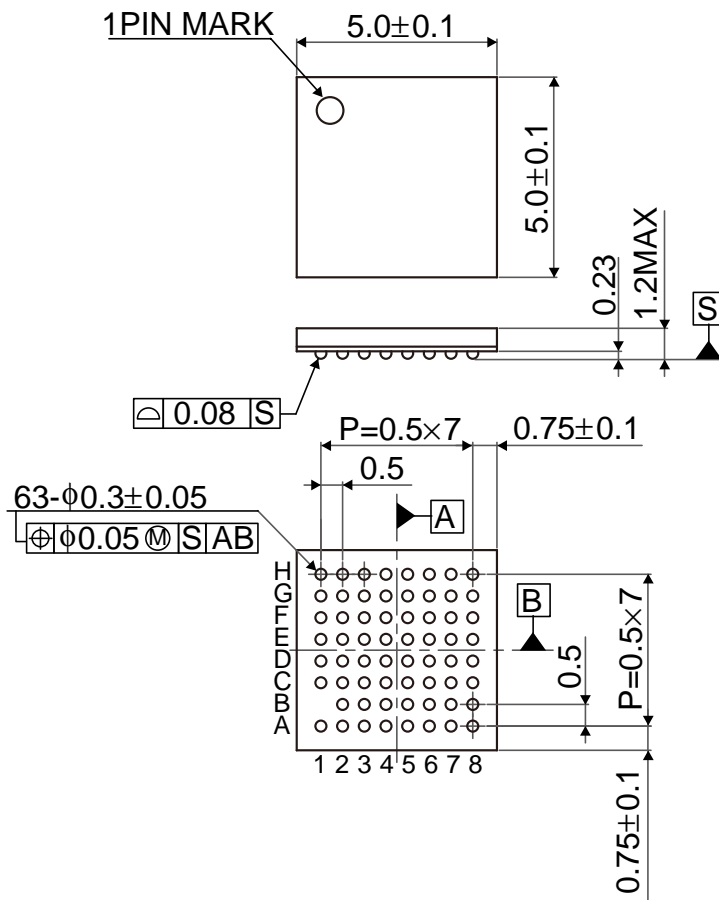
VBGA035T040



(Unit : mm)

# Package Dimensions

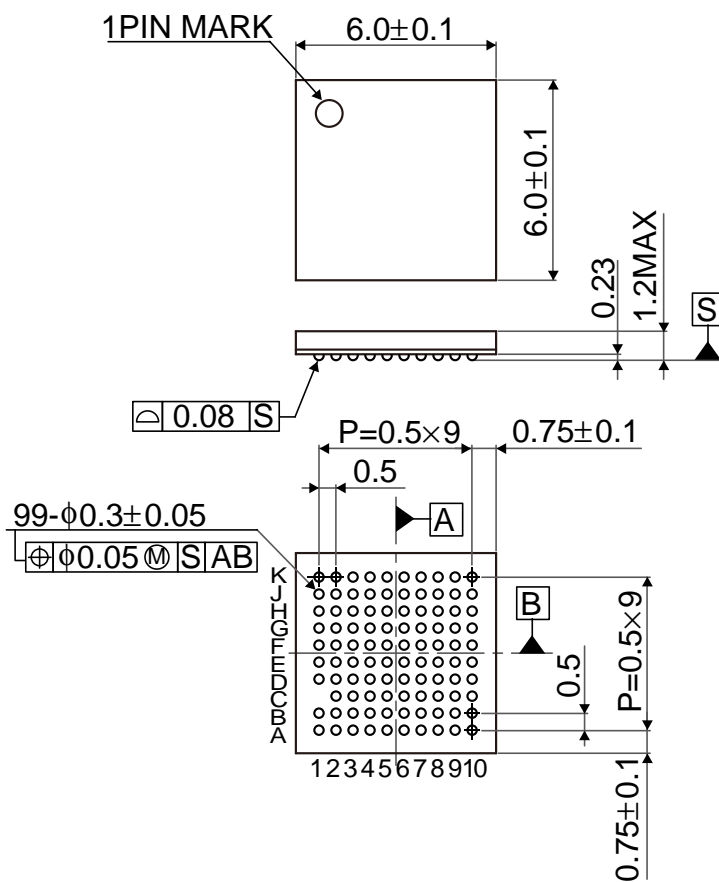
VBGA063T050



(Unit : mm)

# Package Dimensions

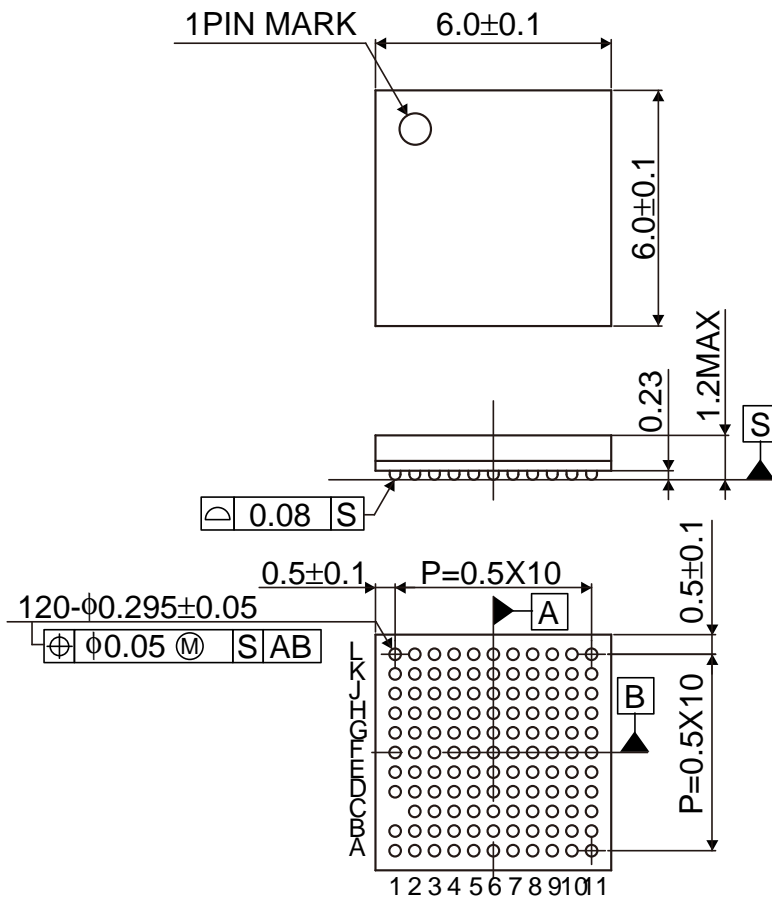
VBGA099T060



(Unit : mm)

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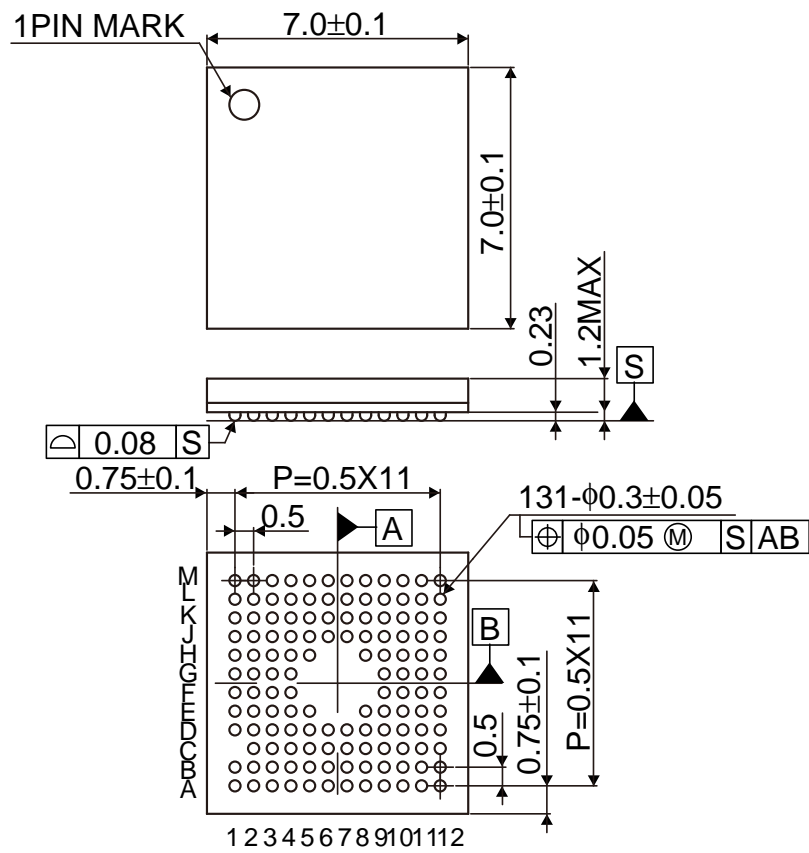
VBGA120T060



(Unit : mm)

# Package Dimensions

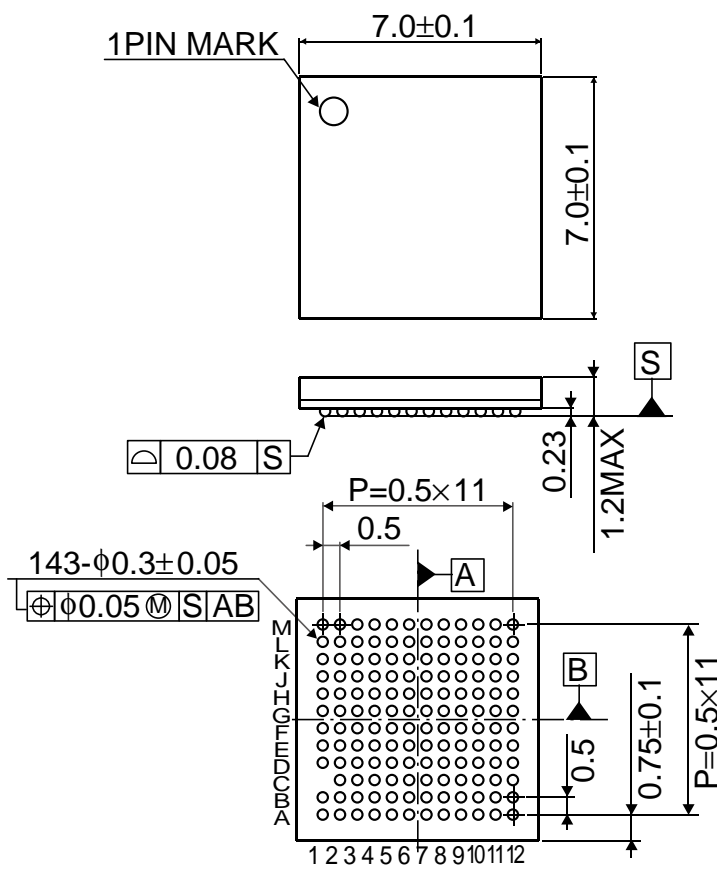
VBGA131T070



(Unit : mm)

# Package Dimensions

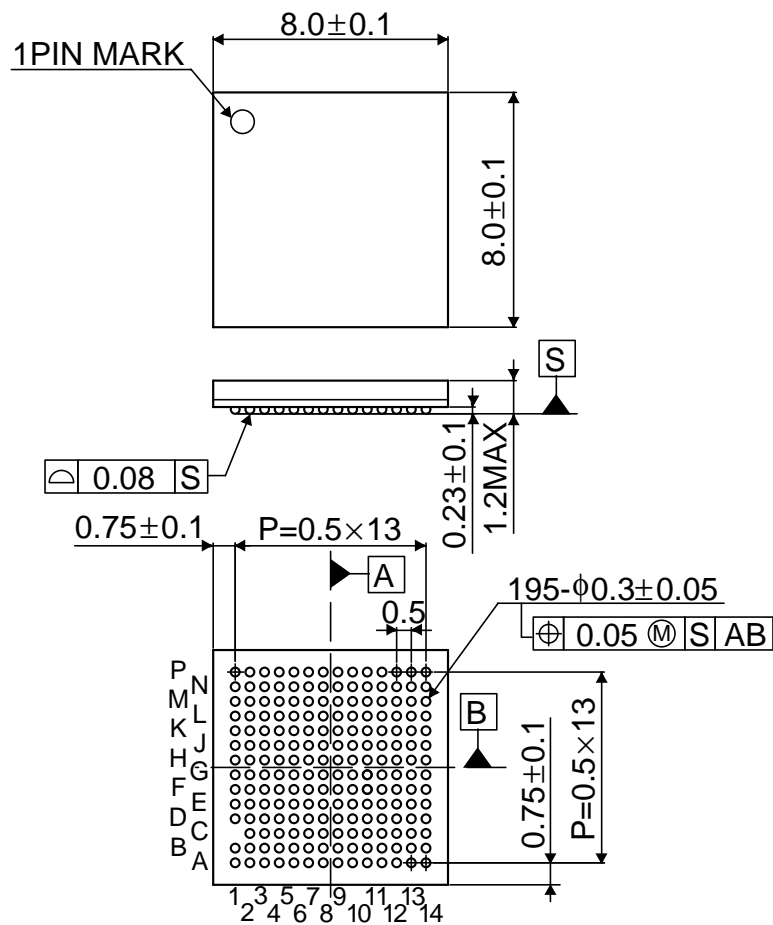
VBGA143T070



(Unit : mm)

# Package Dimensions

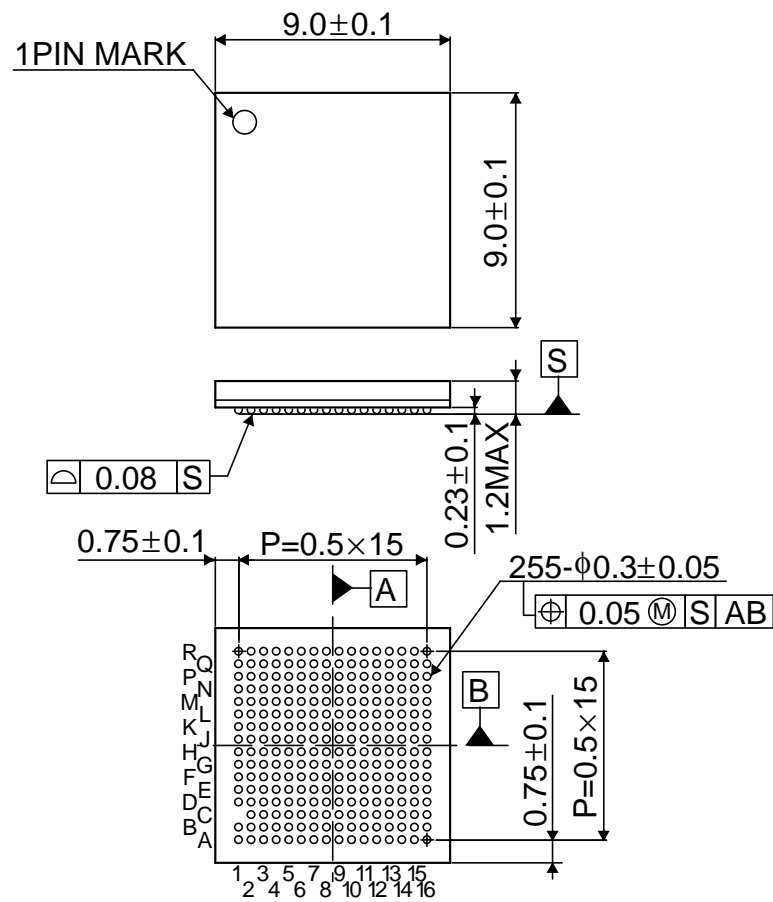
VBGA195T080



(Unit : mm)

# Package Dimensions

VBGA255T090



(Unit : mm)



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