

BME 1312S B

MAGNETIC BUZZER

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1. SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Operating Voltage	Vo-p		8		18
Rated Voltage	Vo-p			12	
SPL	dB	Applying rated voltage (2400Hz, 1/2 duty, square wave), in 10 cm distance	90		
Rated Current	mA	Applying rated voltage (2400Hz, 1/2 duty, square wave)			40
Resonance Frequency	Hz	Applying rated voltage (2400Hz, 1/2 duty, square wave)		2.400	
Coil Resistance	Ω		130	140	150
Coil Impedance	Ω	Applying 2400Hz, sine wave, measuring current 1 mA		240	
Contact				SMD	
Housing Colour				BLACK	
Packaging				REEL	
Operating Temperature	$^{\circ}\text{C}$		-40		+85
Storage Temperature	$^{\circ}\text{C}$		-40		+105
Weight	g			3	

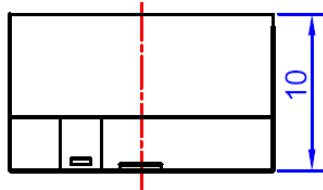
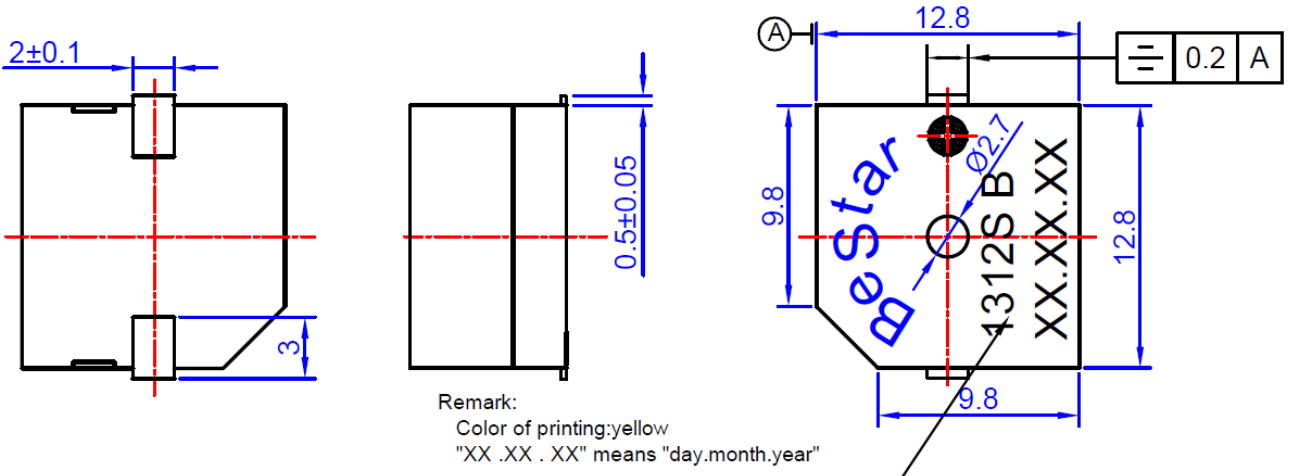
Remark:

SMD; thinner, smaller size
 High S.P.L. and clear sound
 Reflowable; RoHS compliant
 Tape & Reel or magazine supply
 Minimum quantity (one reel): 280 pcs.

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DRAWING NO.	415654235						

2. DRAWING

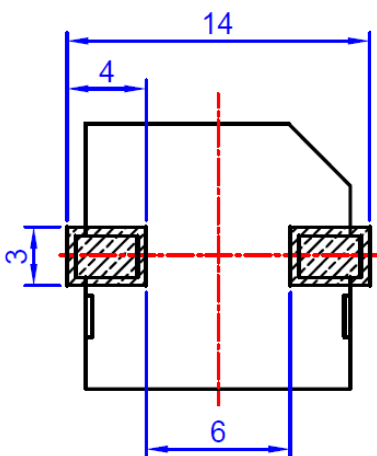
2.1 DIMENSIONS



Unit: mm

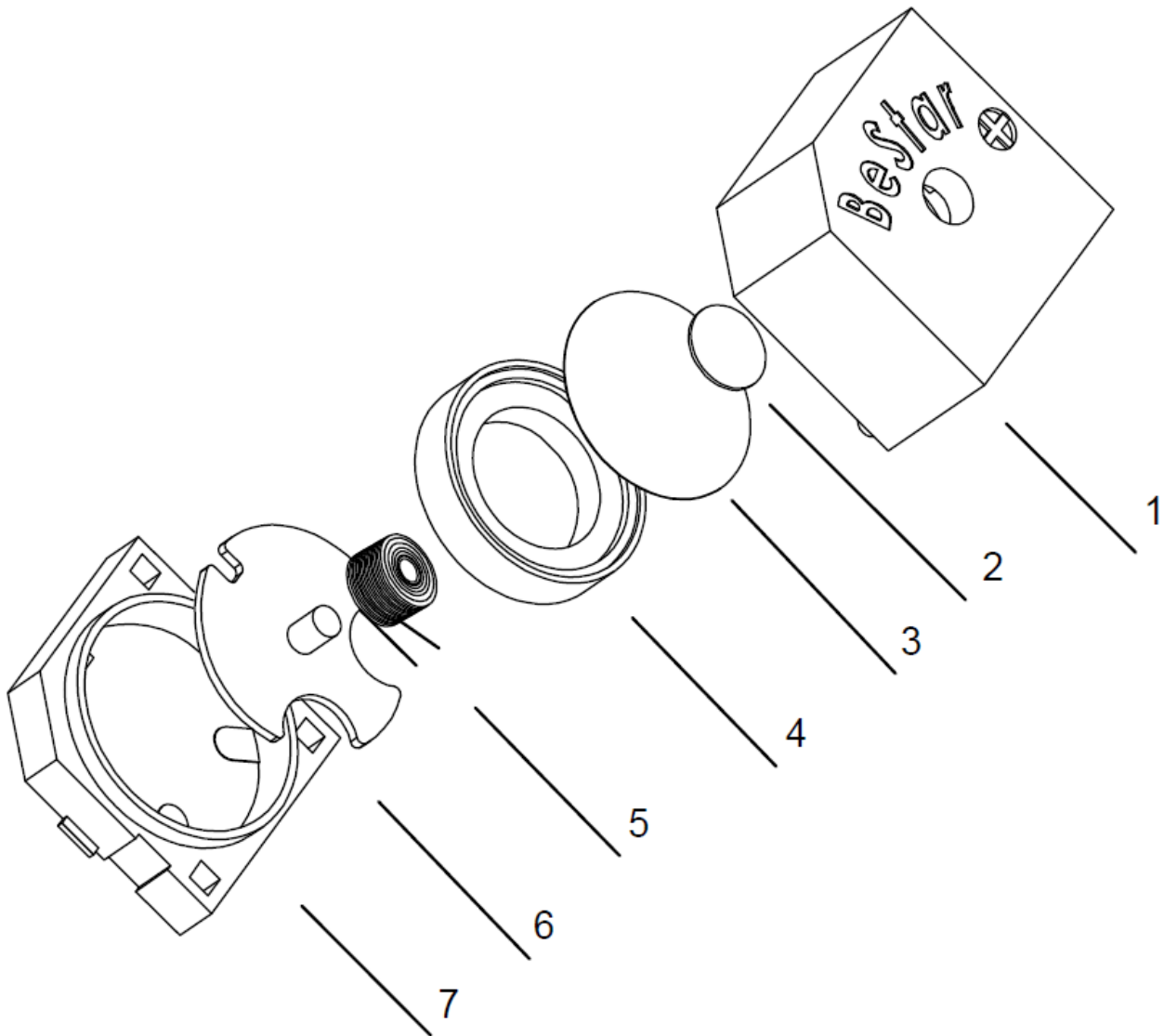
Tolerance: ± 0.3

2.2 RECOMMENDED LAND PATTERN



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2.3 PART LIST



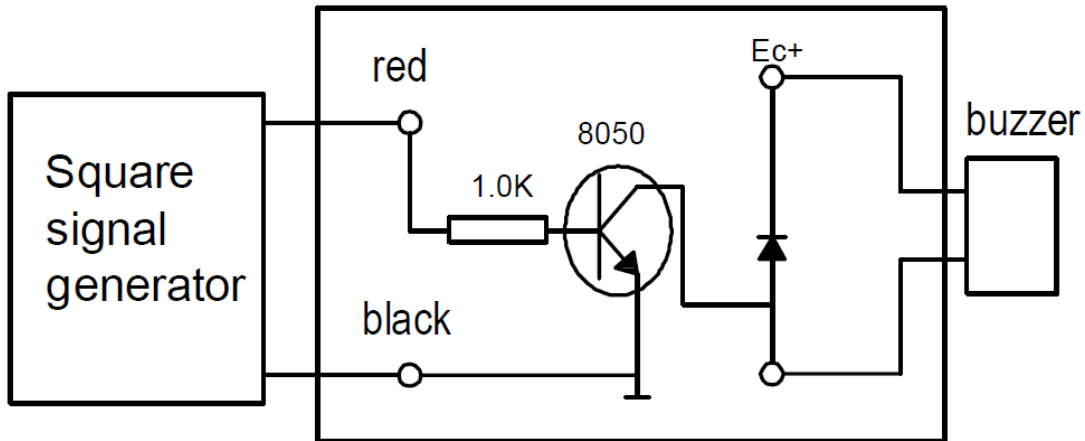
No.	Part Name	Material
1	Cover	PPS
2	Magnet Piece	SPCC
3	Membrane	NiFe52
4	Magnet Ring	HM-1618
5	Voice Coil	Cu
6	T-Yoke	DT4E+SPCC
7	Housing	LCP+Cu

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3. TEST METHOD

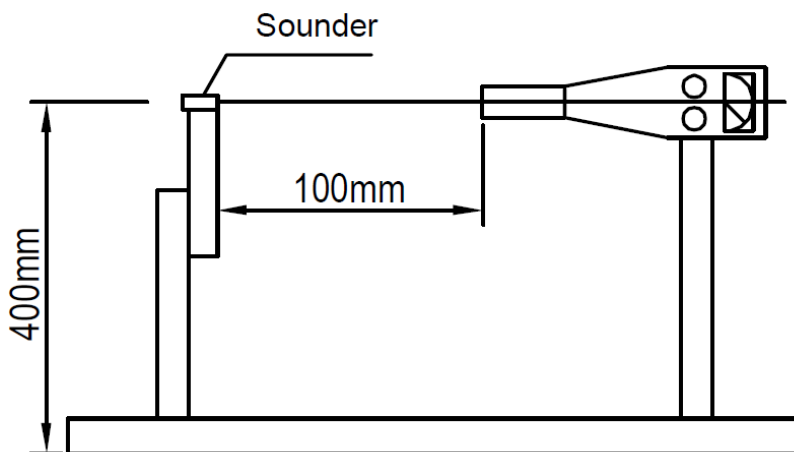
3.1 RECOMMENDED CIRCUIT

The following are examples of externally driven circuits



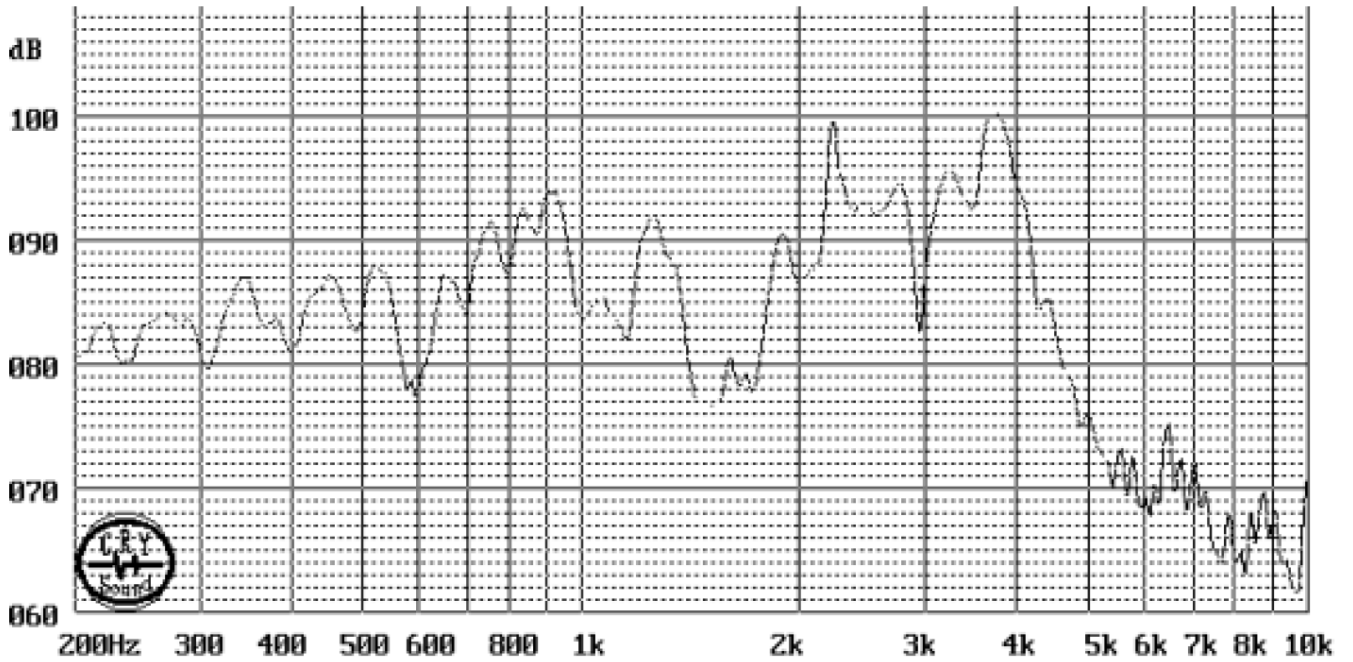
3.2 STANDARD TEST FIXTURE

No reaction in space with in 400mm in all direction



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3.3 FREQUENCY RESPONSE CURVE (Square wave, 12Vo-p, 10cm)



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4. RELIABILITY TEST

4.1 High Temperature Storage Test

Temperature +90°C
Duration 96 hours

4.2 Low Temperature Storage Test

Temperature -40°C
Duration 96 hours

4.3 Life Test in normal Temperature

Power supply Rated voltage
Duration 1.000 hours

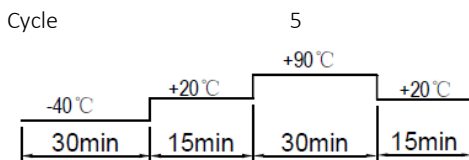
4.4 Life Test in High Temperature

Temperature +85°C
Power 16VDC
Duration 500 hours

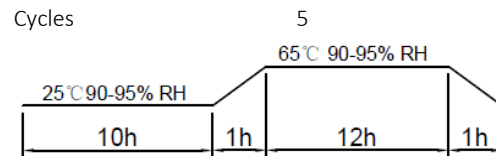
4.5 Life Test in Low Temperature

Temperature -40°C
Power 8VDC
Duration 500 hours

4.6 Temperature Cycle Test



4.7 Humidity Cycle Test



All these tests above should be measured after leaving normal temperature for 2 hours.

4.8 Vibration Test

Vibration Frequency 10~55 Hz
Amplitude 1.53mm
Direction 3 (x, y, z)
Duration 2 hours each direction (total 6 hours)

4.9 Drop Test

Height 70cm (to 10mm thick wooden board)
Direction 3 (x, y, z)

4.10 Solderability Test

Soldering temperature 255 ± 5°C
Heat applying time 3 ± 0.5 seconds

Notice: All specification must be satisfied in this condition except SPL.
SPL shall be 88dB or more.

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5. SURFACE MOUNTING CONDITION

In automated mounting of The SMD Sound Transducers on printed circuit boards, any bending, expanding and pulling forces or shocks against the SMD Sound Transducers shall be kept minimum to prevent them from electrical failures and mechanical damages of the devices.

Soldering (Reflow)

- 1) Solderings of The SMD Sound Transducers shall conform to the soldering conditions in the individual specifications.
- 2) The SMD Sound Transducers are designed for "Reflow Solderings"
- 3) In the reflow solderings, too high soldering temperatures and too large temperature gradient such as rapid heating or cooling may cause electrical failures and mechanical damages of the devices.

Following soldering conditions are recommend; Refer to Fig.1

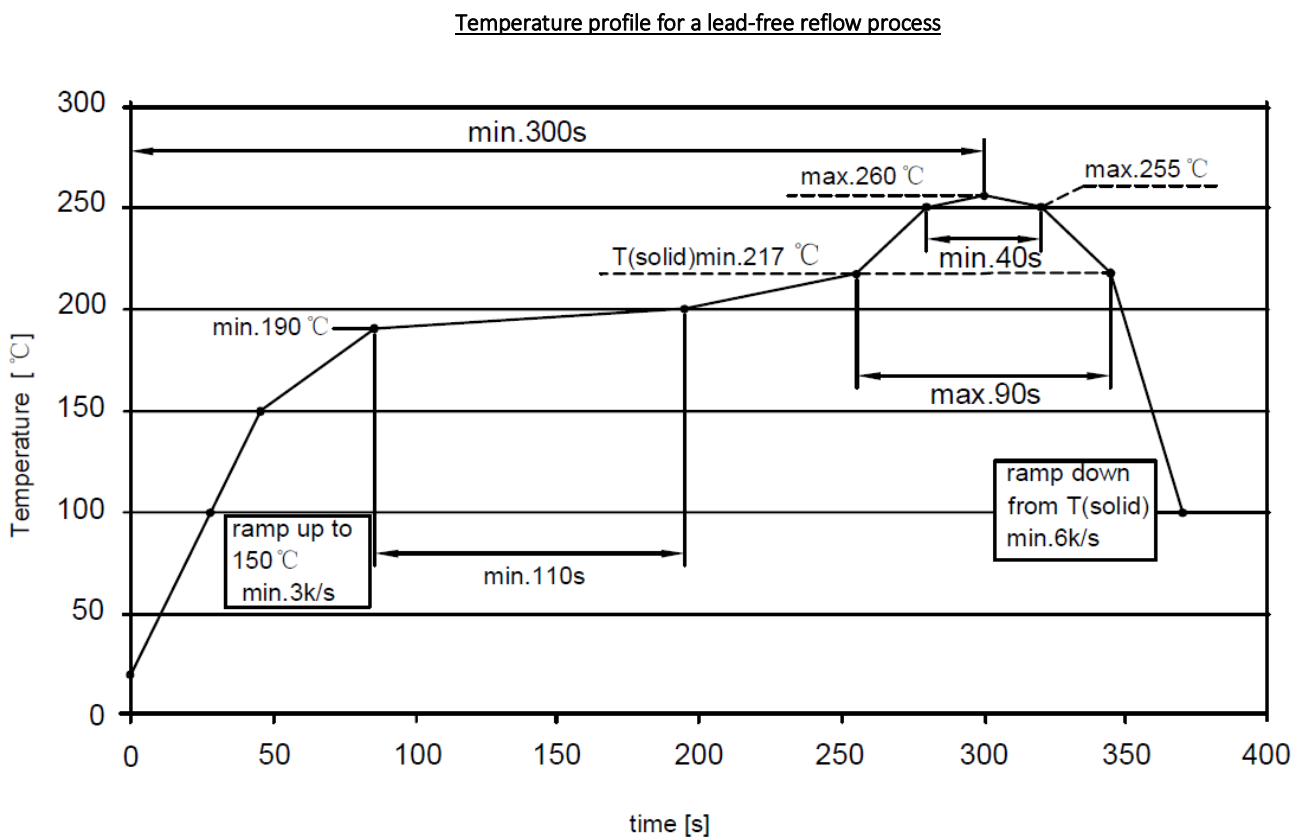
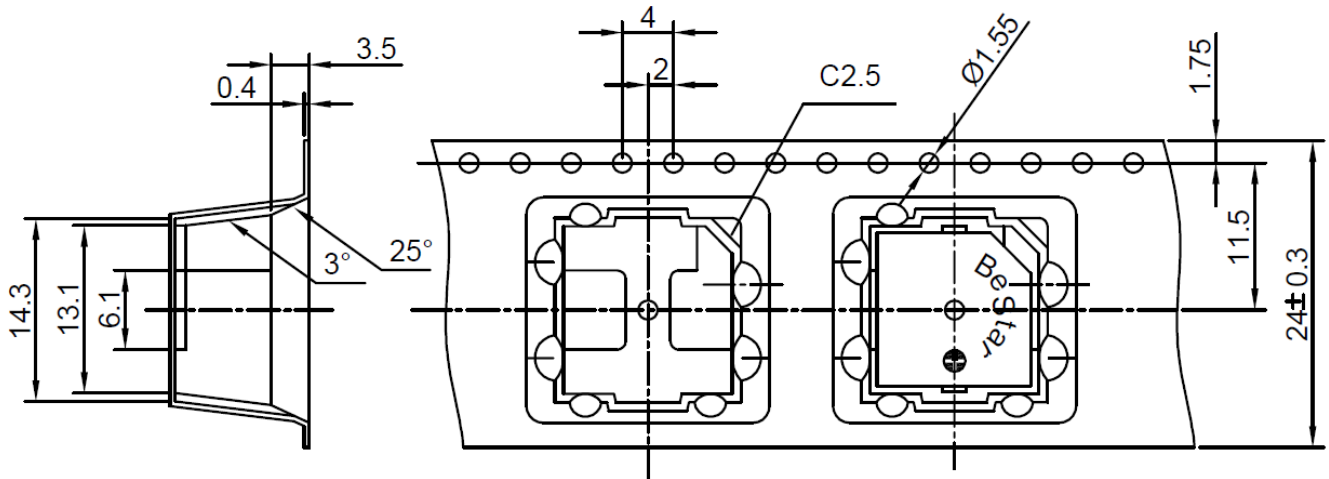


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

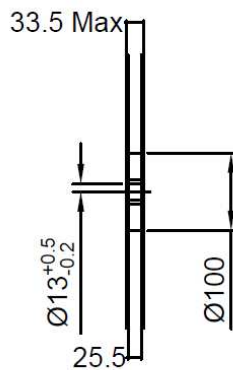
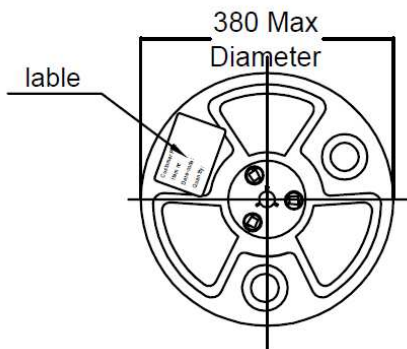
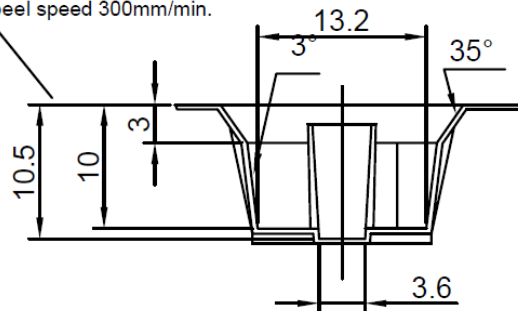
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6. PACKING

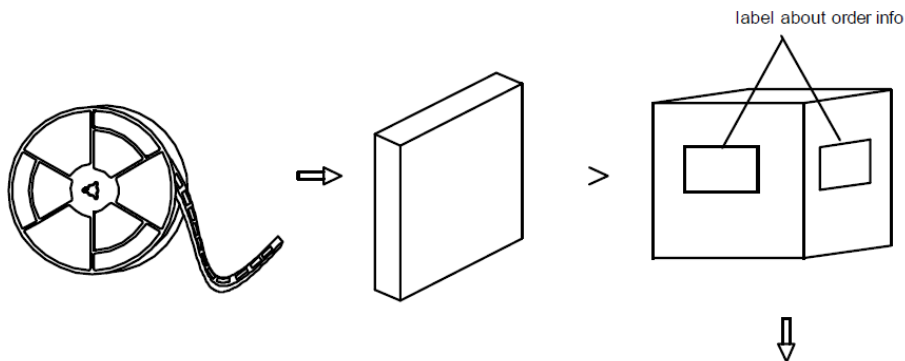
6.1 TAPE ON REEL PACKING



The cover film peel strength force 0.1-0.7N
The cover film peel speed 300mm/min.

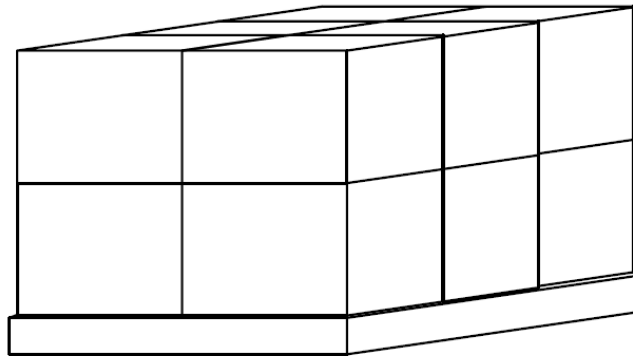


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6.2 PACKING QUANTITY

280pcs per reel
 6 reels per carton
 1.680 pcs per carton in total
 Carton size 41x41x34cm



7. NOTICE

7.1 The products mustn't be washed

7.2 Storage Condition

The products should be stored in a room, where the temperature/humidity is stable. And avoid such places where there are large temperature changes. Please store the products at the following conditions:

Temperature: -10 to + 40 C Humidity: 15 to 85% R.H.

7.3 Expire Date on Storage

Expire date (Shelf life) of the products is six months after delivery under the conditions of a sealed and an unopened package. Please use the products within six months after delivery.

If you store the products for a long time (more than six months), use them carefully, because the products may be degraded in the solderability and/or rusty. Please confirm solderability and characteristics for the products regularly.

7.4 Notice on Product Storage

(1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organic gas, Sulfides and so on), because the characteristics may be reduced in quality, and/or be degraded in the solderability due to the storage in a chemical atmosphere.

(2) Please use the products immediately after the package is opened, because the characteristics may be reduced in quality, and/or be degraded in the solderability due to storage under the poor condition.

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8. HISTORY CHANGE RECORD

REV	CHANGE ITEMS		DATE
	BEFORE CHANGE	AFTER CHANGE	
1	Old structure	Old structure changed to split structure	2013.10.11
2	Printed on the side, GREWUS printing	Printed on the side of the pronunciation hole, no GREWUS printing	2018.09.11
3	Old Layout	New Layout	2019.09.20

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