



深圳市科源信科技有限公司
Shenzhen KeYuanXin Technology CO., LTD

产 品 规 格 书

SPECIFICATION FOR APPROVAL

深圳市福田区振华路 118 号华丽装饰一栋西座 306A
306A Block West Building 1, Huali Decoration
NO. 118 Zhenhua Road Futian District Shenzhen
电话 TEL: 4008-735-535 传真 FAX: 0755-23616323



Product Name: Crystal

Product Type: OSC 3225

Nominal Freq: 6.0000MHz

ProvideBrand: PARTRON

P/N: CSC5S060000CEVRS09

Customer P/N:

Approved By Customer


Signature: _____ **Date:** _____

1. Revision History

| Rev. | Date | Rev. page | Revision Content and Reason | Remark |
|------|-----------|-----------|-----------------------------|--------|
| V1.0 | '16.05.10 | All Page | First-edition | |
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Preiminary

2. Specification

| Item | | Symbol | Content |
|--|-----------|--------------------------------|------------------------|
| Frequency | | fo | 6.000 MHz |
| Supply voltage | | VDD | 1.6V ~ 3.6V (Typ 2.6V) |
| Temperature range | Storage | T _{STG} | -40 to 85°C |
| | Operating | T _{OPR} | -40 to 85°C |
| Frequency stability(*Note 1)  | | $\Delta f/fo$ | ±30ppm |
| Current consumption | | I _{op} | 10mA max |
| Duty cycle | | tw/t | 50±10% |
| Output voltage | High | V _{OH} | VDD-10%VDD min |
| | Low | V _{OL} | 10%VDD max |
| Rise and fall time | | t _R /t _F | 10 ns max |
| Output load condition | | C _L | 15pF |
| Aging | | f _a | ±3ppm/3year |
| Start up time | | t _{osc} | 10ms max |
| Pin 1 Tri-state | VDD ±0.5V | | Enable (*Note 2) |
| | 0.3V MAX | | Disable |

[REMARK]

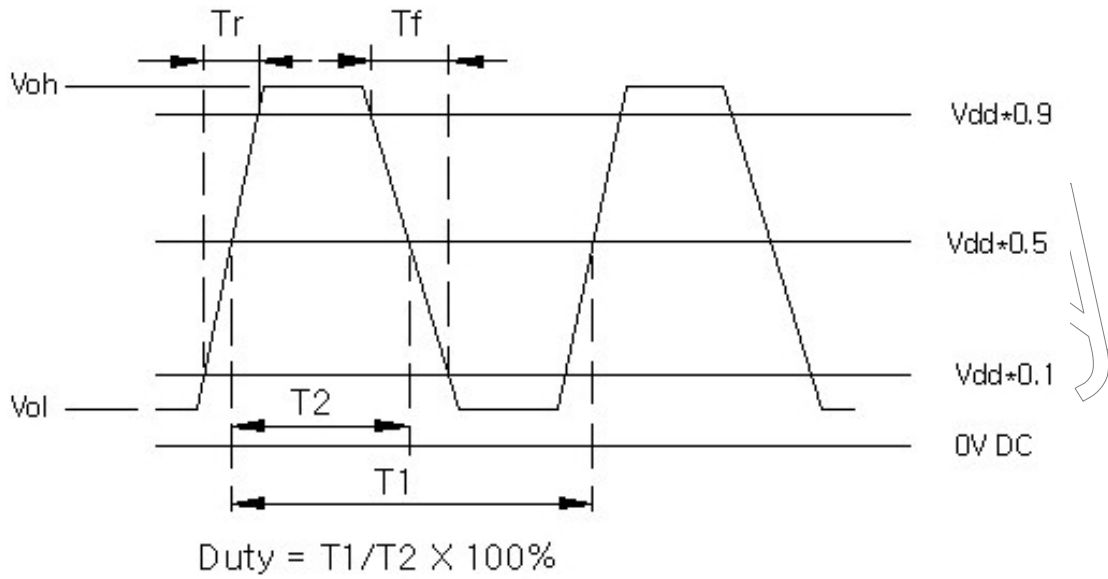
***Note 1**

Frequency stability contains Initial Tolerance(at 25°C), Temperature Drift(-40°C ~ +85°C), and Supply Voltage Variation (1.6V ~ 3.6V).

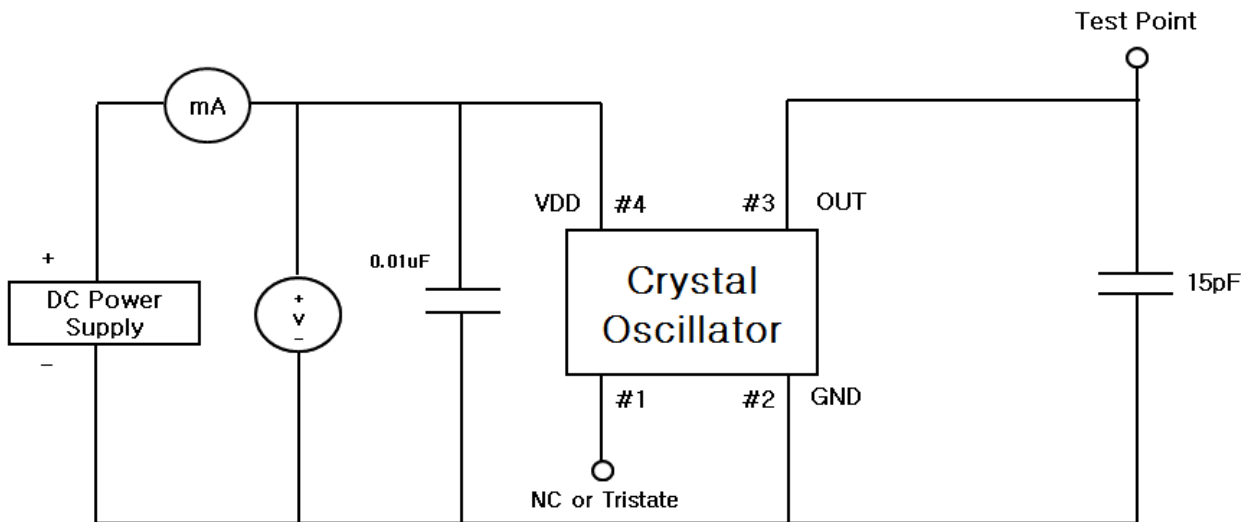
***Note 2**

If tri-state level is higher than VDD +0.5V, no oscillation or abnormal oscillation

Output wave form

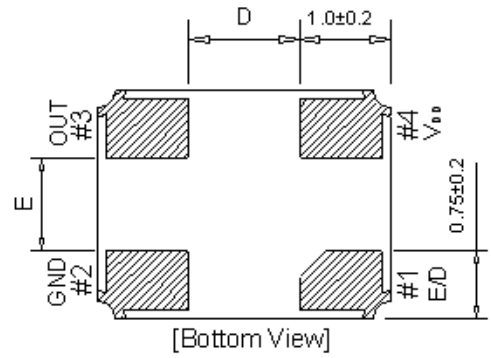
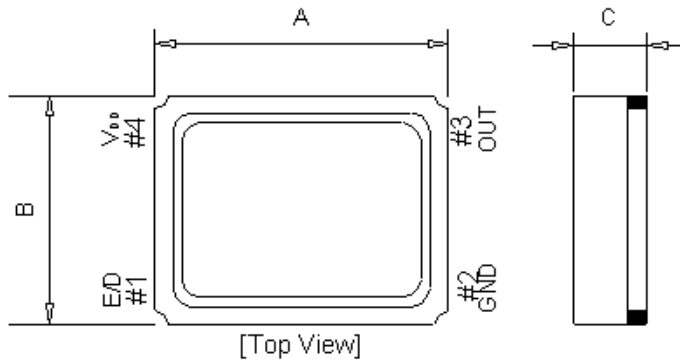


Measurement circuit

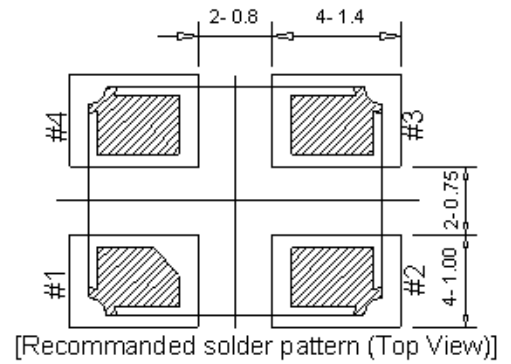


3. Appearance

3.1 Outline Dimensions and PIN CONNECTIONS



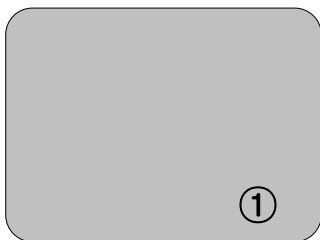
| Size in mm | | | | |
|-----------------|-------------------|--------------|---------------|---------------|
| A | B | C | D | E |
| 3.20 ±0.10 | 2.50 ±0.10 | 1.00 max. | 1.20 ±0.10 | 1.00 ±0.10 |
| Pin connections | | | | |
| #1 | Tri-state or Open | | | |
| #2 | GND | | | |
| #3 | Output | | | |
| #4 | V _{DD} | | | |



[About Pin #1]

- Open or high level : frequency output
- Low level : Output is high impedance

3.2 Marking and Lot No.



| ITEM | MARKING | REMARK |
|------|---------|------------|
| ① | | No Marking |

4. A Primary test result

- Fill in formal approval sheet.

Preliminary

5. Reliability test

5.1 Environment Test

| Contents | Condition | Remark |
|--|---------------------------|--|
| High temperature Storage | +125°C±5°C, 240 hr | *Testing is complete, leave at room temperature for 24 hours, and Measure.(25°C±5°C) * Be satisfied with contents No 2. Specification |
| Low temperature Storage | -55°C±5°C, 240 hr | |
| High temperature High humidity Storage | +85°C±5°C, RH=85%, 96 hr | |
| PCT | +121°C±5°C, RH=100%, 24hr | |

5.2 Thermal shock , Reflow Test

| Contents | Condition | Remark |
|---------------|---|--|
| Thermal shock | -40°C±5°C,+90°C±5°C, 15 min, 200 cycle | *Testing is complete, leave at room temperature for 24 hours, and Measure.(25°C±5°C) * Be satisfied with contents No 2. Specification |
| REFLOW | Pre Heating 200±5°C , 30~60 sec Peak Heating 260°C±5°C , 30sec Max | |

5.3 Mechanical Test

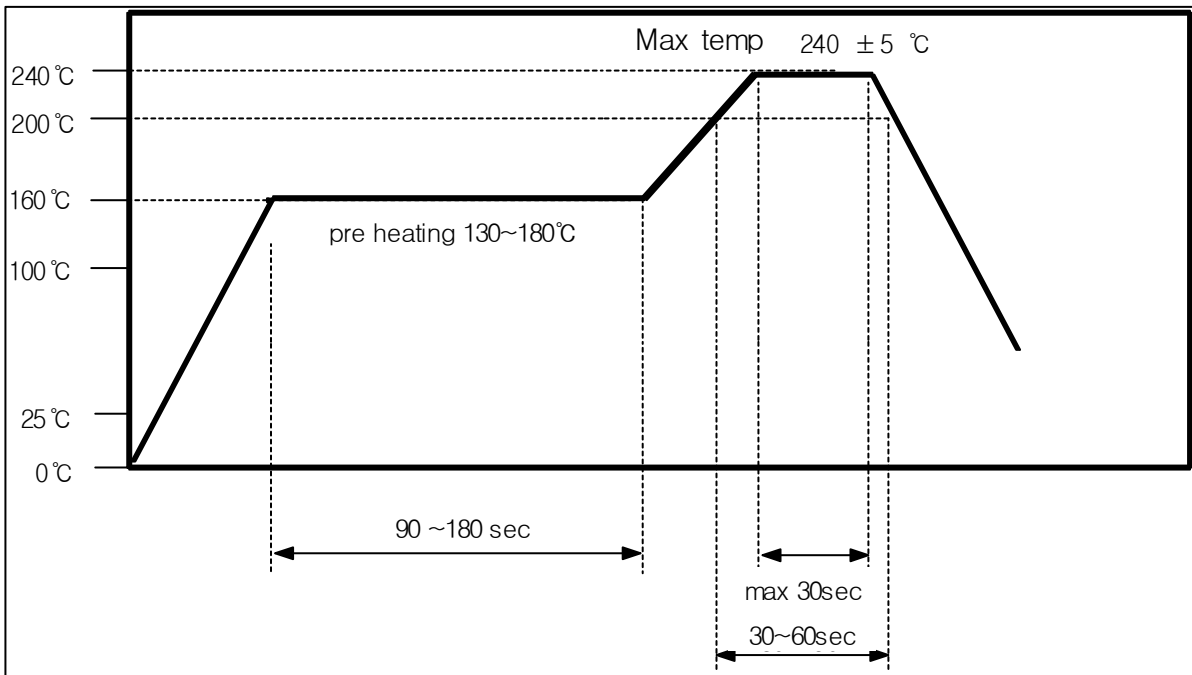
| Contents | Condition | Remark |
|-----------|---|---|
| Vibration | Frequency : 10~500Hz, 10 ×9.8m/s ² (G) Sweep time 15min ,X.Y.Z each 5 times | *Testing is complete, leave at room temperature for 1 hours, and Measure.(25°C±5°C) * Be satisfied with contents No 2. Specification |
| Drop test | 12 times falling at a 160cm height (falling with jig) | |

5.4 Table

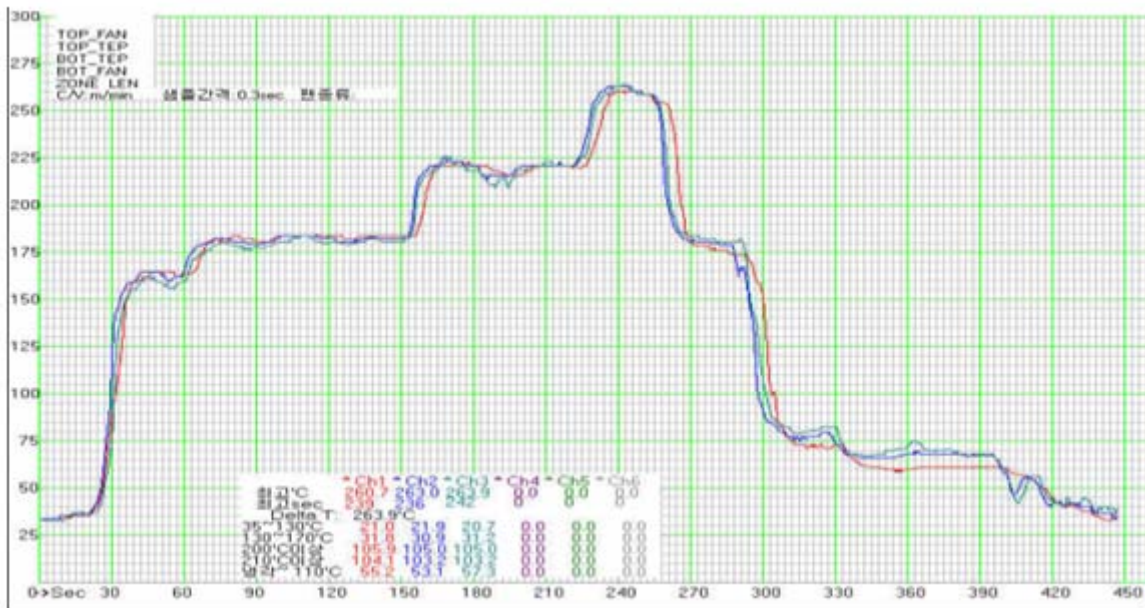
| | |
|----------------------------|------------|
| Frequency change permitted | ±5ppm Max. |
|----------------------------|------------|

6. Soldering Condition

6.1 Standard Reflow soldering condition



6.2 The maximum temperature guarantees to the 260°C(10sec Max)

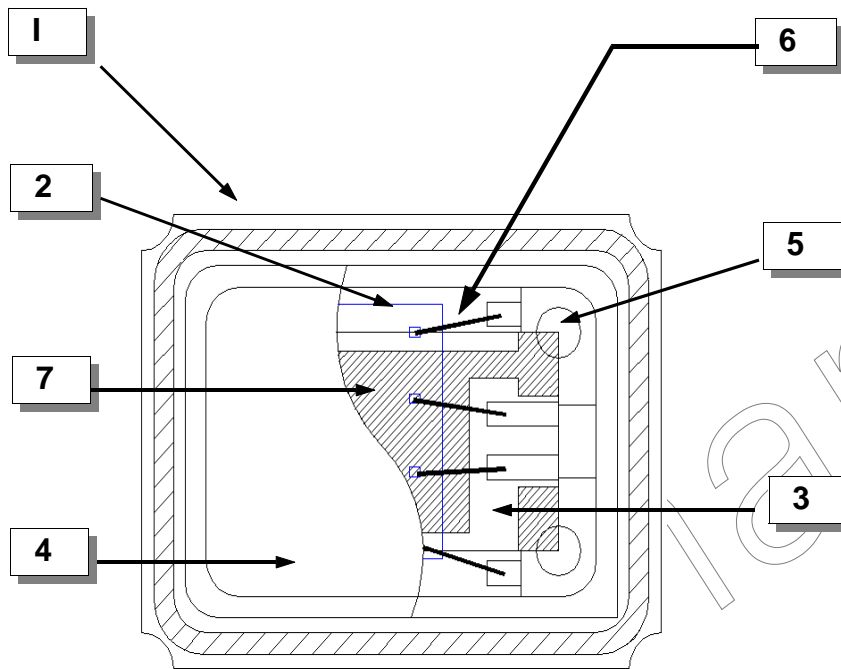


6.3 Soldering Iron Method

- Pre heating : 120°C (30 ~ 300 sec)
- Max temp : 410°C Max
- Time : Max 4 sec

7. Construction and Materials

7.1 Constructions



7.2 Product Materials

| No | item | main material |
|----|------------------|---|
| 1 | Ceramic Package | Al ₂ O ₃ + gold-plating |
| 2 | IC | SiO ₂ |
| 3 | Blank | SiO ₂ (Quartz) |
| 4 | Lid(Cover) | kovar |
| 5 | Conductive Epoxy | Silver |
| 6 | Gold wire | Au(99.99%) |
| 7 | Electrode | Ag(99.99%) |

8. Notices

8.1 ESD Level : Class2(2000V ~ 4000V)

| TEST ITEM | TEST METHOD | |
|--------------------------------|-----------------------------|-------------------------|
| | REFERENCE STANDARD | CONDITION |
| Electrostatic Discharges (ESD) | JEITA EIAJ ED-4701/304 (MM) | C=200pF, R=0Ω,5times |
| | MIL-STD-883D 3015.7 (HBM) | C=100pF, R=1.5KΩ,3times |

※ Be satisfied ESD condition on the table.

※ This product with a built-in C-MOS IC. Do not exposure excess ESD.

8.2 MSL LEVEL 1 (JEDEC J-STD-020C)

| No | Floor Life | | Soak Requirements | |
|----|------------|----------------|-------------------|----------------|
| | Time | Conditions | Time | Conditions |
| 1 | Unlimited | = < 30°C/85%RH | 168hr | = < 85°C/85%RH |

→ Be satisfied "MSL 1" test condition on the table.

8.3 NOISE

For stable operating against ripple voltage variation, attach 0.01uF~0.1uF capacitor between VDD and GND

※ available value of ripple voltage: 200mV P-P MAX

8.4 SHOCK

Oscillator has a CRYSTAL RESONATOR.

Do not drop in a reel or single product. It can be damaged

9. Packing

9.1 Reel, carrier tape material and surface resistance

| item | Material |
|--------------|---|
| Cover Tape | PE (polyester film) |
| Carrier Tape | PC (Poly Carbonate +Carbon) or CPC (Clear Poly Carbonate) |
| Reel | PS (Poly Styrene) |

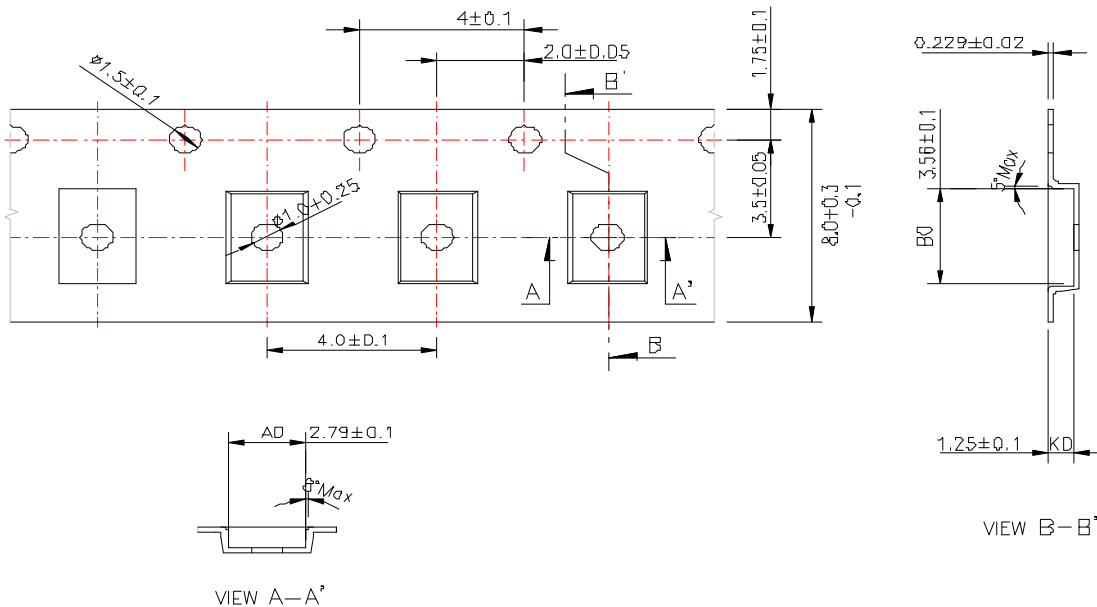
9.2 inner Box

| Reel size | Quantity |
|-----------|--|
| 13" | Max 20,000 pcs (Reel (10,000pcs) x 2ea) |

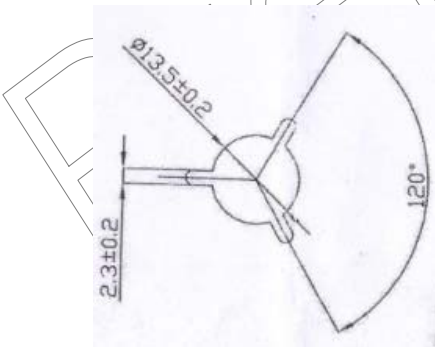
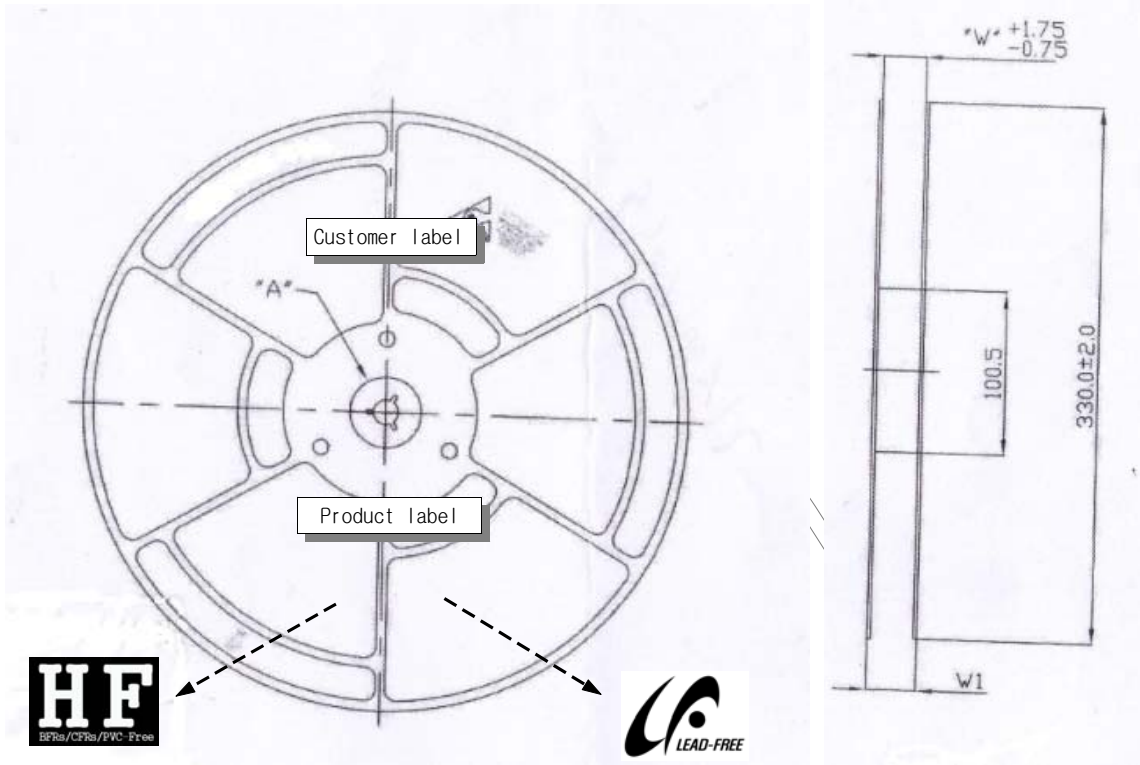
9.3 Outer Box

| Inner Box | Quantity |
|--------------|-----------------|
| 3ea (Type 1) | Max 60,000 pcs |
| 5ea (Type 2) | Max 100,000 pcs |

9.4 Reel and Carrier tape dimensions(unit : mm)

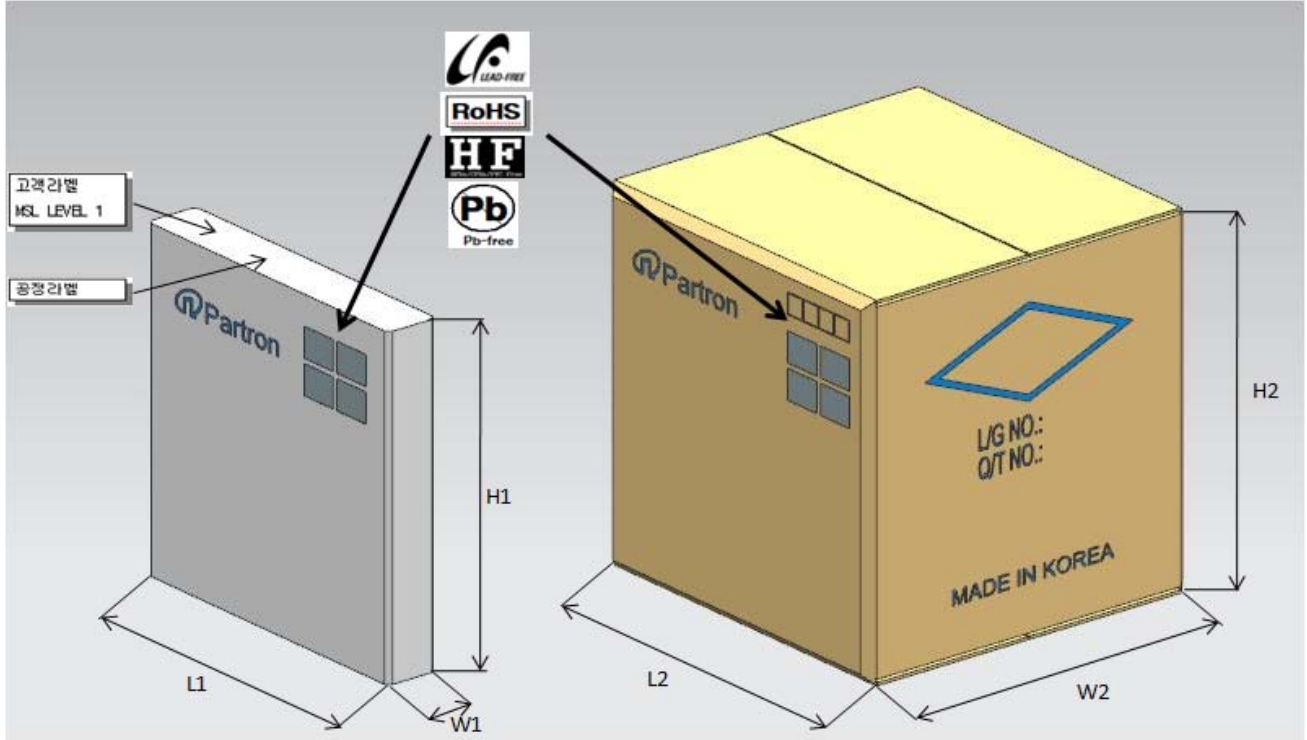


9.5 Reel Dimensions (unit : mm)



| | W | W1 |
|------|-------|--------|
| Size | 9.5mm | 11.5mm |

9.7 Inner, outer box Dimensions (unit : mm)



| Item | Inner Box | | Outer Box | | |
|----------|------------------------|-----------|----------------------|-----------------------------|------------------------------|
| | Mark | Dimension | Mark | Dimension (Type #1) | Dimension (Type #2) |
| Size | L1 | 330mm | L2 | 355mm | 355mm |
| | W1 | 54mm | W2 | 200mm | 355mm |
| | H1 | 330mm | H2 | 355mm | 355mm |
| Material | Corrugated Cardboard | | Corrugated Cardboard | | |
| Quantity | 20,000 EA (Reel * 2ea) | | | 60,000 EA (Inner Box * 3ea) | 100,000 EA (Inner Box * 5ea) |



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