



磁立方

# SPECIFICATION FOR APPROVAL

**CUSTOMER** : \_\_\_\_\_

**CUSTOMER P/N** : \_\_\_\_\_

**DESCRIPTION** : SMD Inductor

**Supplier P/N** : ST2112M-6R8M

**REVISION NO.** : V1.0

**DATE** : 2021-Jan-14

**NOTES** : STANDARD

| Supplier DOCUMENTED |          |
|---------------------|----------|
| APPROVED            | David    |
| CHECKED             | Zhao yun |
| PREPARED            | You yuan |

| CUSTOMER APPROVAL |  |
|-------------------|--|
|                   |  |

© Company seals

|             |              |              |         |              |
|-------------|--------------|--------------|---------|--------------|
| Version:1.0 | CUSTOMER P/N |              | PRODUCT | SMD Inductor |
|             | ITEM P/N     | ST2112M-6R8M | DATE    | 2021-Jan-14  |



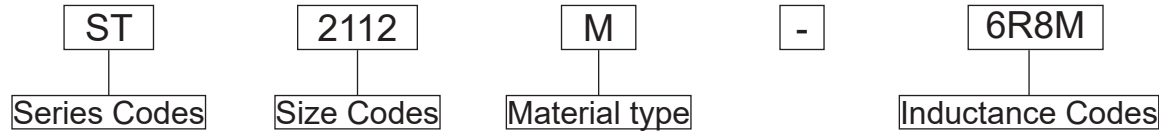
深圳市磁立方科技有限公司  
ShenZhen Magnetic Cube Technology Co., LTD.

TEL:0755-23018051 E-FAX:0755-22140304 E-MAIL:Sales@mct8.com HTTP:www.mct8.com  
ADD:F2, Building C, Furong Road No.8 , Tantou, Songgang, Baoan District, Shenzhen

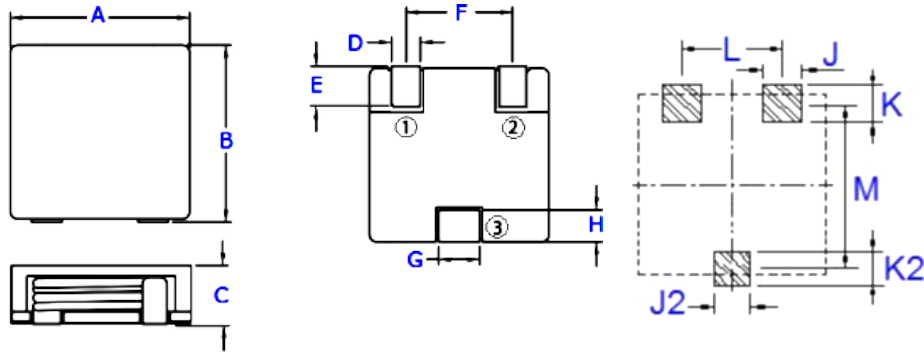


# MAIN SPECIFICATION

## EXPLANATION OF PART NUMBERS



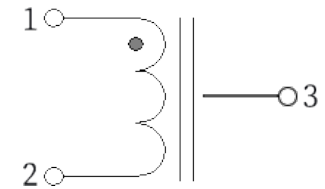
## PRODUCT DIMENSIONS (mm)



|   | Dimensions |
|---|------------|
| A | 21.7Max    |
| B | 21.5Max    |
| C | 12.5Max    |
| D | 3.0±0.3    |
| E | 2.3Min     |
| F | 14.5±0.5   |
| G | 2.5Ref.    |
| H | 2.4Ref.    |

|    | Dimensions |
|----|------------|
| J  | 4.0Ref.    |
| J2 | 4.0Ref.    |
| K  | 5.0Ref.    |
| K2 | 4.0Ref.    |
| L  | 14.5Ref.   |
| M  | 17.5Ref.   |

## Schematic:



## ELECTRICAL CHARACTERISTICS

| ITEM P/N     | Controlled Electrical Specs. |            | Irated(A) | Heating Current Idc (A TYP) | Saturation Current Isat (A TYP)25°C |
|--------------|------------------------------|------------|-----------|-----------------------------|-------------------------------------|
|              | Inductance@0Adc(μH±20%)      | DCR(mΩ)Max |           |                             |                                     |
| ST2112M-6R8M | 6.8±20%                      | 3.8        | 22        | 22                          | 26                                  |

- ◎ All test Data is referenced to 25°C ambient.
- ◎ Typical Heat Rating DC Current would cause an approximately Δ T of 40°C .
- ◎ Typical Saturation DC Current would cause Lo to drop approximately 30%.
- ◎ The Part temperature (ambient + Δ T) should not exceed 125°C under worst case operating conditions.
- ◎ Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all effect the part temperature. Part temperature should be verified in the end application.

|             |              |              |         |              |
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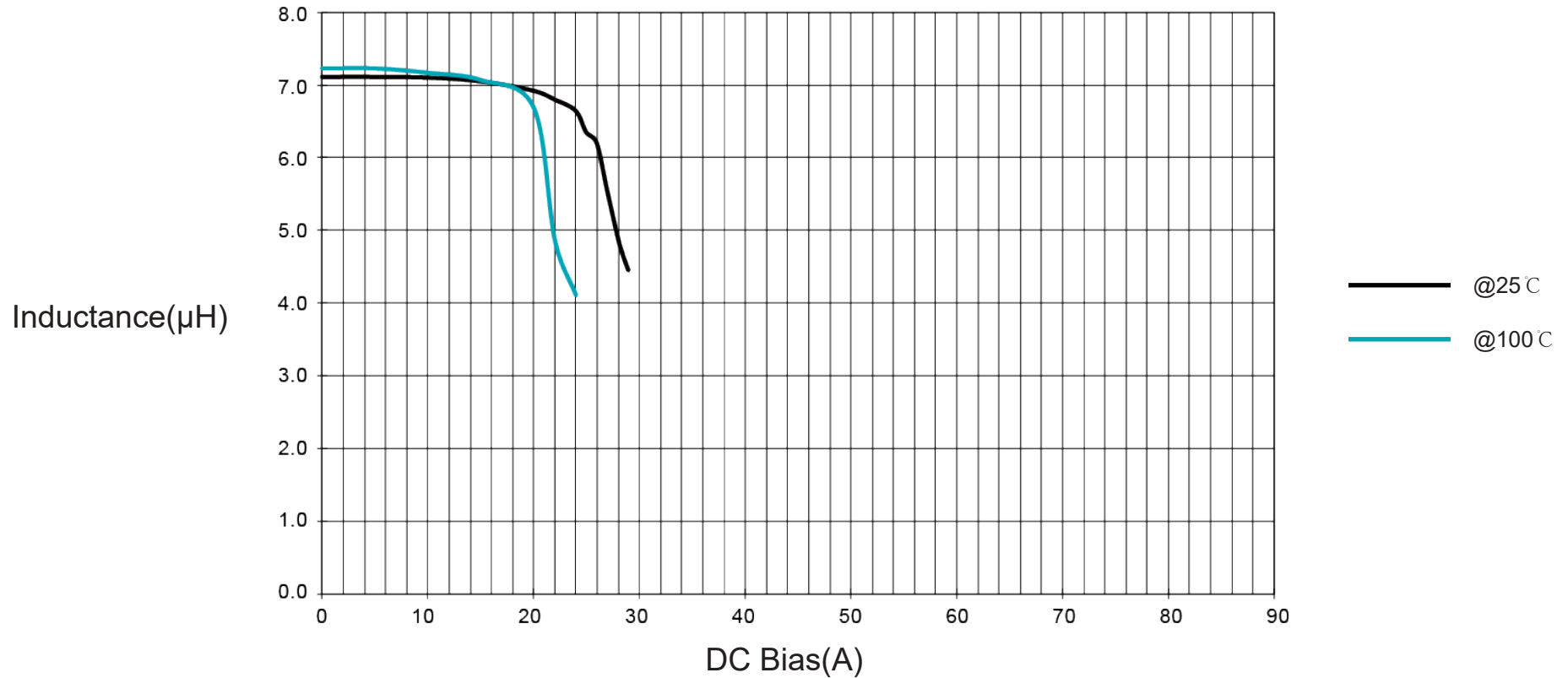
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# CHARACTERISTICS

## PERFORMANCE CURVES

Typical Inductance VS DC Bias



|             |              |              |         |              |
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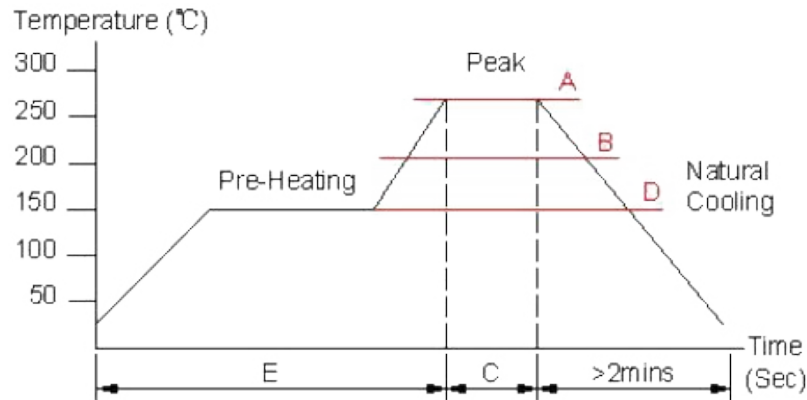
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# CHARACTERISTICS

## RECOMMENDED SOLDERING TEMP. GRAPH



| A     | B     | C     | D     | E         |
|-------|-------|-------|-------|-----------|
| 260°C | 230°C | 10Sec | 150°C | 60~240Sec |

## MECHANICAL RELIABILITY

| TEST          | Specification & Requirement  | Method Used  |
|---------------|--|--|
| Solderability | The surface of terminal/pin tested shall be covered with new solder by 95% | Solder heat proof.   |
|               |  | Preheating:180 ±10°C 90 seconds                                      |
|               |  | Soldering:255 ±5°C for 3 ±1 sec                                      |
| Shock         | Inductance change within ± 5% Without mechanical damage                    | Drop down with 981m/s2 (100G) shock                                  |
|               |  | Attitude upon a rubber block method shock testing machinem, 3 tests. |
| Vibration     | Inductance change within ± 5% Without mechanical damage                    | Vibration frequency:10Hz to 55Hz to 10Hz, 60 seconds cycle.          |
|               |  | Vibration time: 2 hours  |

## ENDURANCE RELIABILITY

| TEST                | Specification & Requirement                             | Method Used  |
|---------------------|---|--|
| Thermal Shock       | Inductance change within ± 5% Without mechanical damage | -25°C ,(30 mins) -> room temp. (5 mins) ->125°C , (30 mins) -> room temp. (5 mins)100 cycles |
| Heat Resistance     | Inductance change within ± 5% Without mechanical damage | Apply IDC current @ 85°C ambient Duration: 1000 hrs  |
| Humidity Resistance | Inductance change within ± 5% Without mechanical damage | Apply IDC current @ 60°C ambient Humidity: 90~95% Duration: 1000 hrs                         |
| Low Temp. Storing   | Inductance change within ± 5% Without mechanical damage | Storing Temp -25 ±2 °C for total 1,000 +4/-0 hours   |
| High Temp. Storing  | Inductance change within ± 5% Without mechanical damage | Storing Temp 125±2 °C for total 1,000 +4/-0 hours  |

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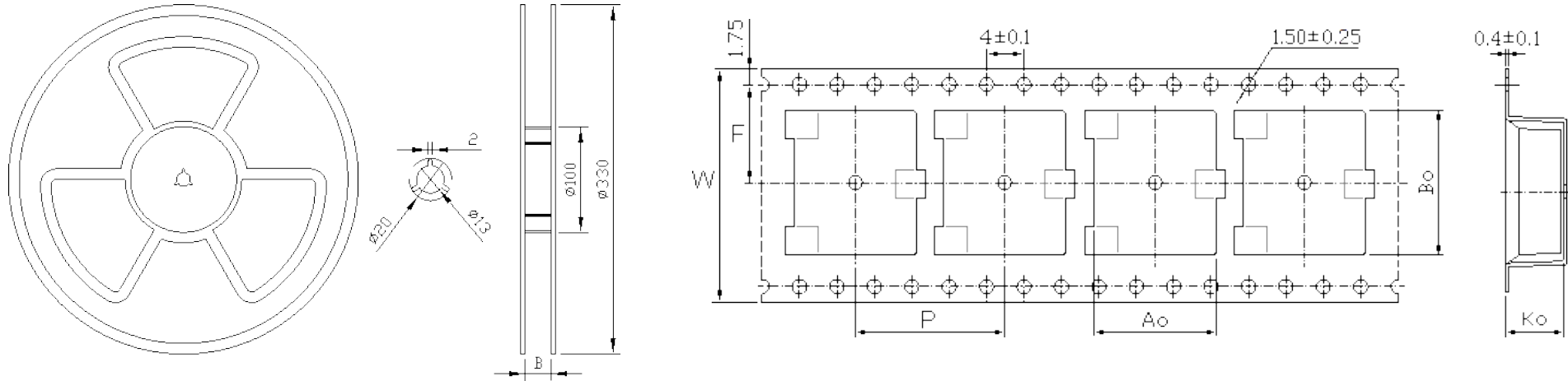
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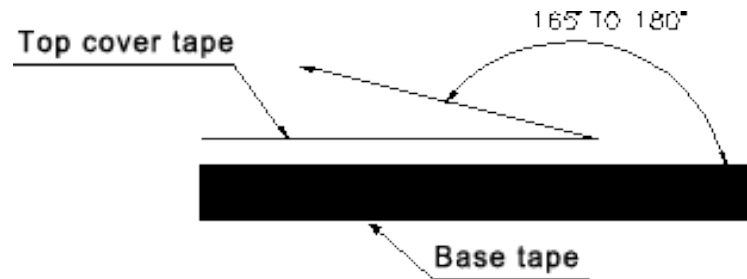
# PACKING INFORMATION

PACKING INFORMATION:(Unit:mm)



| Series  | A             | B           | Ao       | Bo       | Ko       | W  | P  |
|---------|---------------|-------------|----------|----------|----------|----|----|
| ST2112M | 120(Pcs/Reel) | 44.5+0.5/-0 | 20.8±0.2 | 21.8±0.2 | 12.7±0.2 | 44 | 32 |

Typical Pulling Force: 30~130grams:



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