



磁立方

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER P/N : _____

DESCRIPTION : SMD Inductor

Supplier P/N : S0440-1R5M

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 | 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



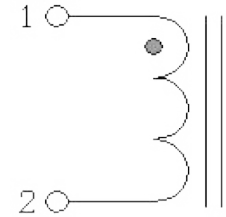
MAIN SPECIFICATION

EXPLANATION OF PART NUMBERS

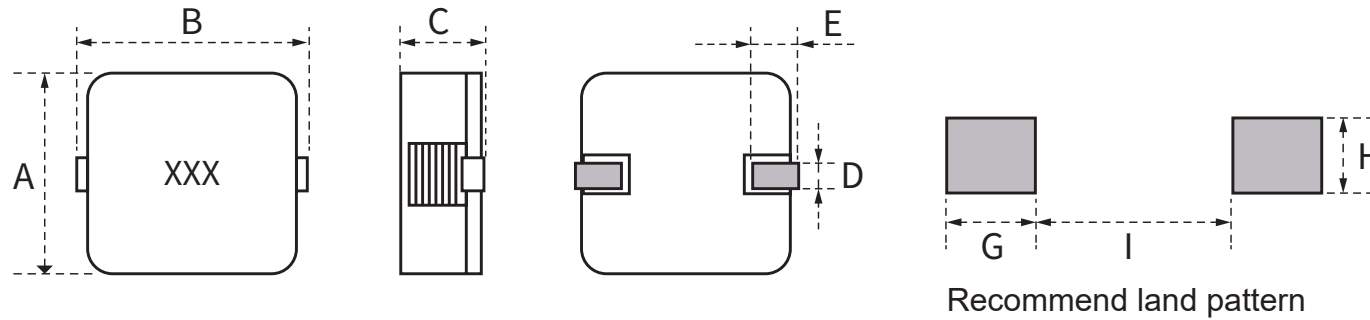


CONNECTIONS:

- ⊙ Inductor Contents ONE (1) Set(s) of Coil.
- ⊙ DC/AC Current Shall Be Introduced By Any One of Two Pads.



PRODUCT DIMENSIONS (mm)



| | Dimensions |
|---|------------|
| A | 10.2±0.5 |
| B | 10.5±0.5 |
| C | 4.2Max |
| D | 2.0±0.5 |
| E | 2.0±0.5 |
| G | 3.5 |
| H | 4 |
| I | 3.8 |

ELECTRICAL CHARACTERISTICS

| ITEM P/N | @25 ± 5 °C Ambient Temperature | | | DCR mΩ @ 25°C Typica | DCR mΩ @ 25°C Max |
|------------|--------------------------------|---|---|----------------------------|-------------------------|
| | INDUCTANCE 100KHz, 0.1V | Typical Heat Rating DC Current (A) (I _{dc}) | Typical Saturation DC Current (A) (I _{sat}) | | |
| | Lo (μH) | | | | |
| S0440-1R5M | 1.5±20% | 14 | 17 | 5.3 | 5.83 |

- ⊙ All test Data is referenced to 25°C ambient.
- ⊙ Typical Heat Rating DC Current would cause an approximately Δ T of 50°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.

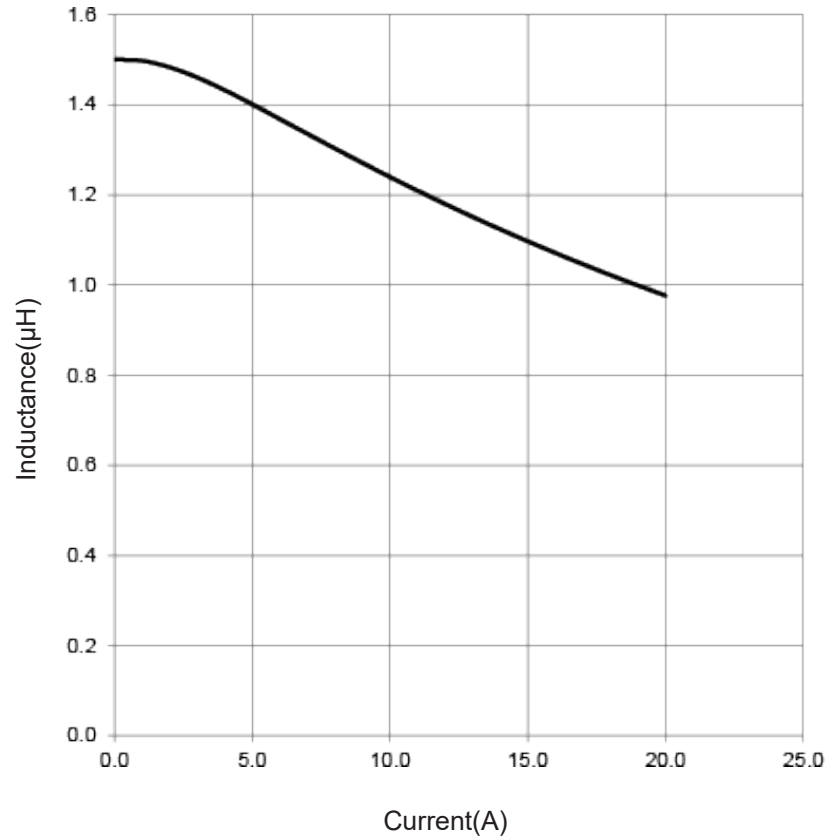
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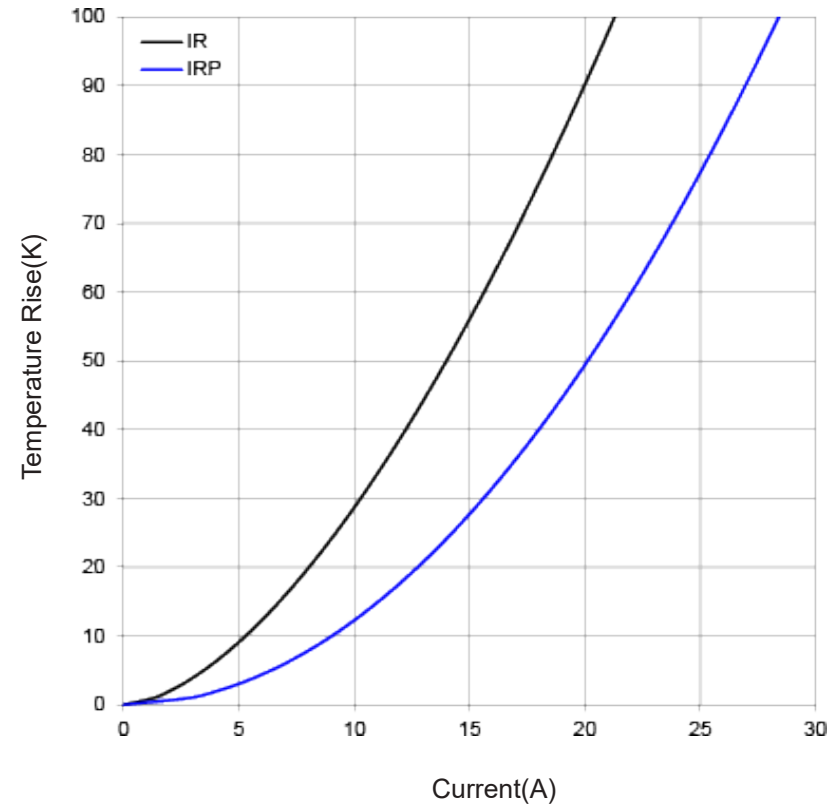


CHARACTERISTICS

IDC Curve:



Typical Temperature Rise VS Current Curve:



| | | | | |
|-------------|--------------|------------|---------|--------------|
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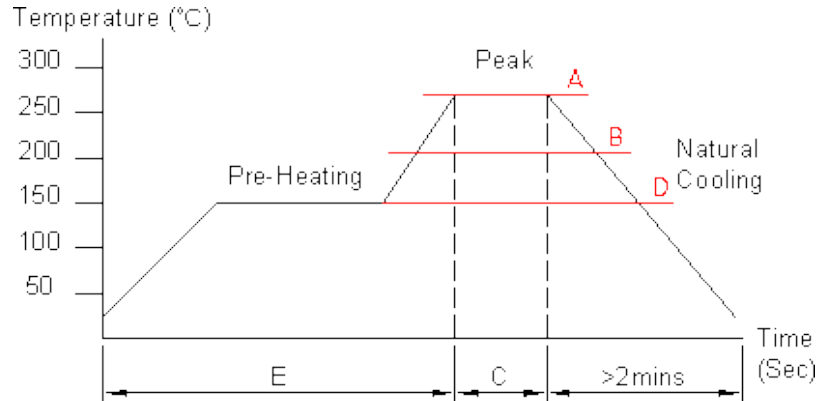
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CHARACTERISTICS

RECOMMENDED SOLDERING TEMP. GRAPH



| A | B | C | D | E |
|-------|-------|---------|-------|-----------|
| 260°C | 230°C | 8-10Sec | 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/s ² (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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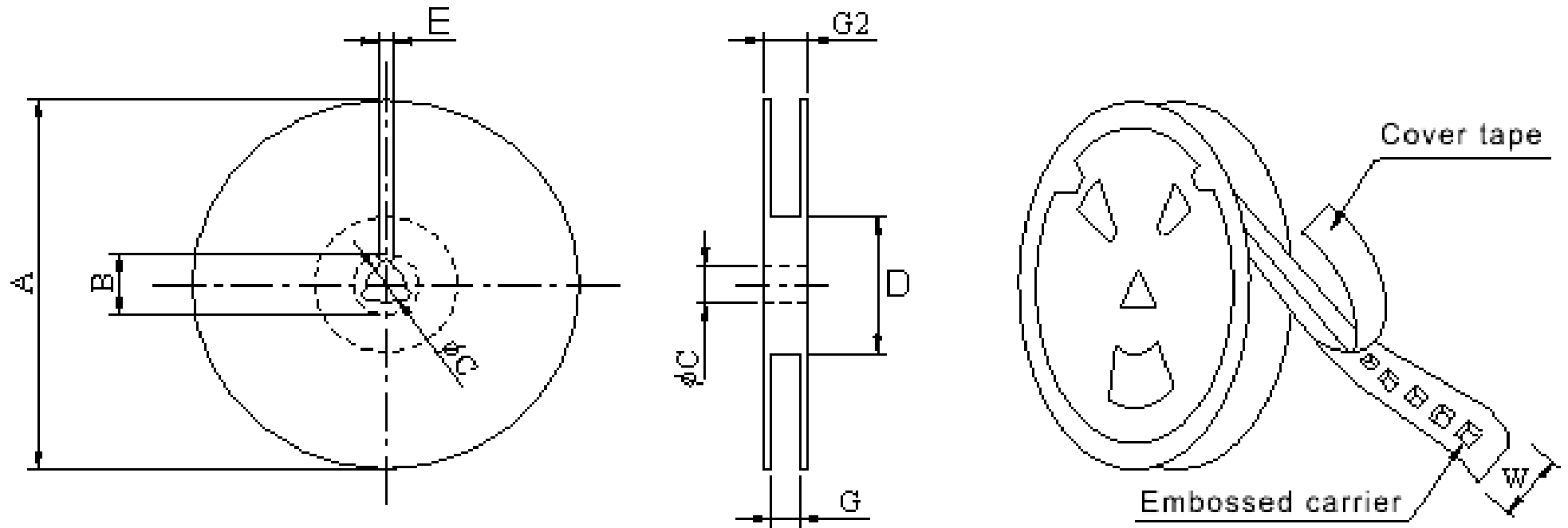
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PACKING INFORMATION

CARRIER TAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)



| TYPE | A | B | C | D | E | G | G2 |
|----------|-------|--------|--------|-------|---------|----------|----------|
| 13"*24mm | 330±1 | 20±0.8 | 13±0.5 | 100±1 | 2.0±0.5 | 24.5±0.5 | 28.5±0.5 |

| | | | | |
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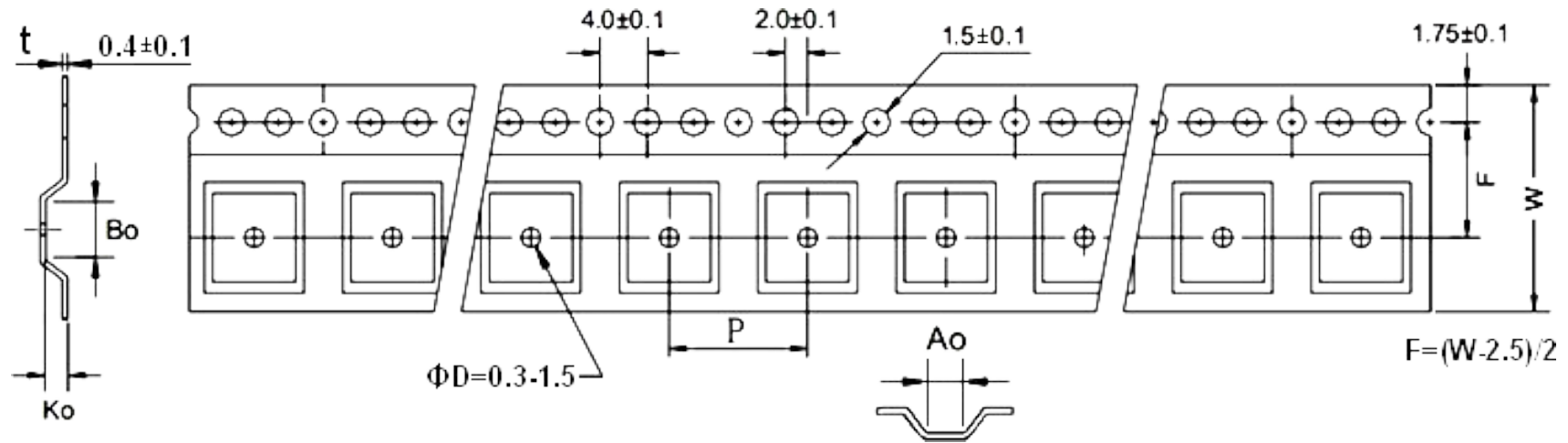
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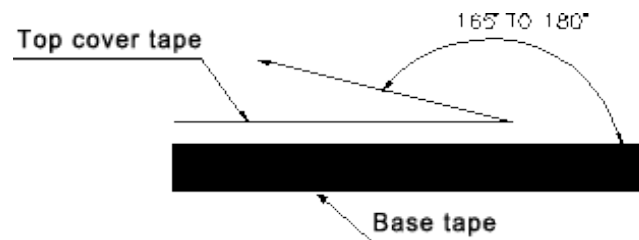
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CARRIER TAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)



| QTY (Pcs/Reel) | Ao | Bo | Ko | W | P |
|----------------|------|------|-----|----|----|
| 1000 | 10.8 | 11.3 | 4.2 | 24 | 16 |

Typical Pulling Force: 10~130grams:



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