

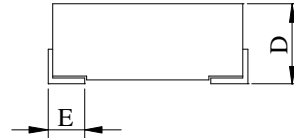
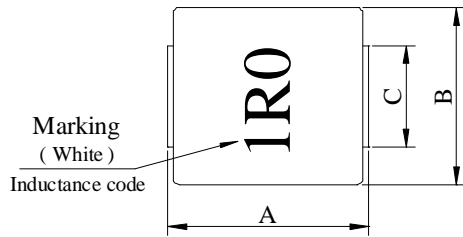
# SPECIFICATION FOR APPROVAL

REF : 20090825-B

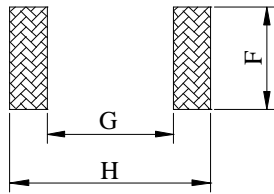
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|       |                |                |                  |
|-------|----------------|----------------|------------------|
| PROD. | SHIELDED SMD   | ABC'S DWG No.  | HP1205□□□□2□-□□□ |
| NAME  | POWER INDUCTOR | ABC'S ITEM No. |                  |

## I . MECHANICAL DIMENSIONS :

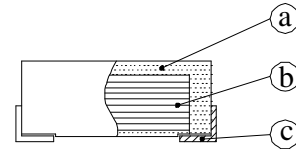
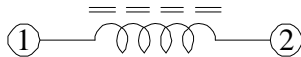


- A : 13.5 ± 0.4 m/m
- B : 12.5 ± 0.3 m/m
- C : 4.00 ± 0.3 m/m
- D : 5.00 max. m/m
- E : 2.00 ± 0.5 m/m
- F : 5.00 typ. m/m
- G : 8.00 typ. m/m
- H : 14.0 typ. m/m



( PCB Pattern )

## II . SCHEMATIC DIAGRAM :



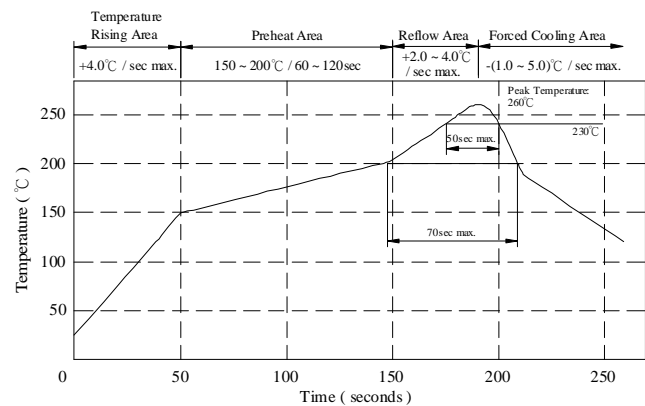
## III . MATERIALS LIST :

- a . Core : Iron powder
- b . Wire : Enamelled copper wire
- c . Cilp : Cu / Ni / Sn
- d . Remark : Products comply with RoHS' requirements

## IV . GENERAL SPECIFICATION :

- a . Storage temp. : -55°C ~ +125°C
- b . Operating temp. : -55°C ~ +125°C  
( Temp. rise included )
- c . Resistance to solder heat : 260°C. 10 secs.

Peak Temp : 260°C max.  
 Max time above 230°C : 50sec max.  
 Max time above 200°C : 70sec max.



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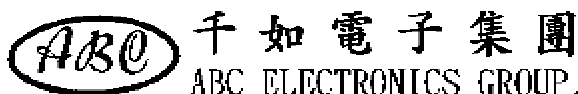
|            |                                |                |                  |
|------------|--------------------------------|----------------|------------------|
| PROD. NAME | SHIELDED SMD<br>POWER INDUCTOR | ABC'S DWG No.  | HP1205□□□□2□-□□□ |
|            |                                | ABC'S ITEM No. |                  |

## V . ELECTRICAL CHARACTERISTICS :

| DWG No.          | Inductance<br>L ( $\mu$ H ) | Isat(A)<br>typ. | Irms(A)<br>typ. | RDC<br>( $m\Omega$ ) |       |
|------------------|-----------------------------|-----------------|-----------------|----------------------|-------|
|                  |                             |                 |                 | max.                 | typ.  |
| HP1205R10M2□-□□□ | 0.10 $\pm$ 20 %             | 118.0           | 55.0            | 0.6                  | 0.55  |
| HP1205R22M2□-□□□ | 0.22 $\pm$ 20 %             | 110.0           | 51.0            | 0.8                  | 0.65  |
| HP1205R33M2□-□□□ | 0.33 $\pm$ 20 %             | 80.0            | 42.0            | 1.1                  | 0.90  |
| HP1205R47M2□-□□□ | 0.47 $\pm$ 20 %             | 65.0            | 38.0            | 1.3                  | 1.10  |
| HP1205R56M2□-□□□ | 0.56 $\pm$ 20 %             | 55.0            | 36.0            | 1.5                  | 1.30  |
| HP1205R68M2□-□□□ | 0.68 $\pm$ 20 %             | 54.0            | 34.0            | 1.7                  | 1.50  |
| HP1205R82M2□-□□□ | 0.82 $\pm$ 20 %             | 53.0            | 31.0            | 2.3                  | 2.00  |
| HP12051R0M2□-□□□ | 1.00 $\pm$ 20 %             | 50.0            | 29.0            | 2.5                  | 2.30  |
| HP12051R5M2□-□□□ | 1.50 $\pm$ 20 %             | 48.0            | 23.0            | 4.0                  | 3.50  |
| HP12051R8M2□-□□□ | 1.80 $\pm$ 20 %             | 40.0            | 19.0            | 5.0                  | 4.50  |
| HP12052R2M2□-□□□ | 2.20 $\pm$ 20 %             | 32.0            | 17.0            | 5.5                  | 5.00  |
| HP12053R3M2□-□□□ | 3.30 $\pm$ 20 %             | 32.0            | 15.0            | 9.0                  | 8.00  |
| HP12054R7M2□-□□□ | 4.70 $\pm$ 20 %             | 27.0            | 12.0            | 15.0                 | 13.00 |
| HP12055R6M2□-□□□ | 5.60 $\pm$ 20 %             | 22.0            | 11.5            | 16.5                 | 14.00 |
| HP12056R8M2□-□□□ | 6.80 $\pm$ 20 %             | 21.0            | 11.0            | 18.5                 | 15.50 |
| HP12057R8M2□-□□□ | 7.80 $\pm$ 20 %             | 18.0            | 10.0            | 20.5                 | 17.50 |
| HP12058R2M2□-□□□ | 8.20 $\pm$ 20 %             | 18.0            | 9.5             | 22.5                 | 19.00 |
| HP1205100M2□-□□□ | 10.0 $\pm$ 20 %             | 16.0            | 9.0             | 25.5                 | 21.50 |

- 1). □ : Packaging information ... A : Bulk    B : Taping Reel
- 2). "- □□□":Reference code
- 3). Measured frequency of inductance is 100 KHz / 0.25V
- 4). Isat base on inductance drop 20% typ. of L value at 20°C
- 5). Irms base on temp. rise 40°C typ.

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# SPECIFICATION FOR APPROVAL

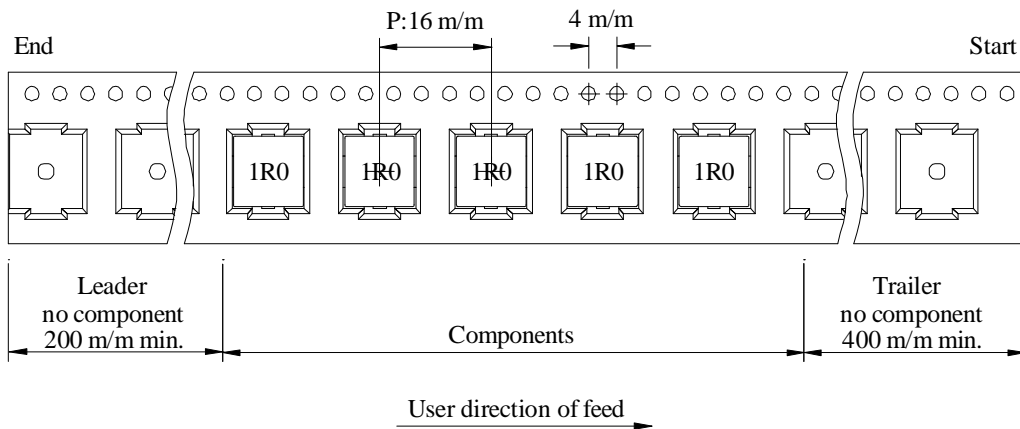
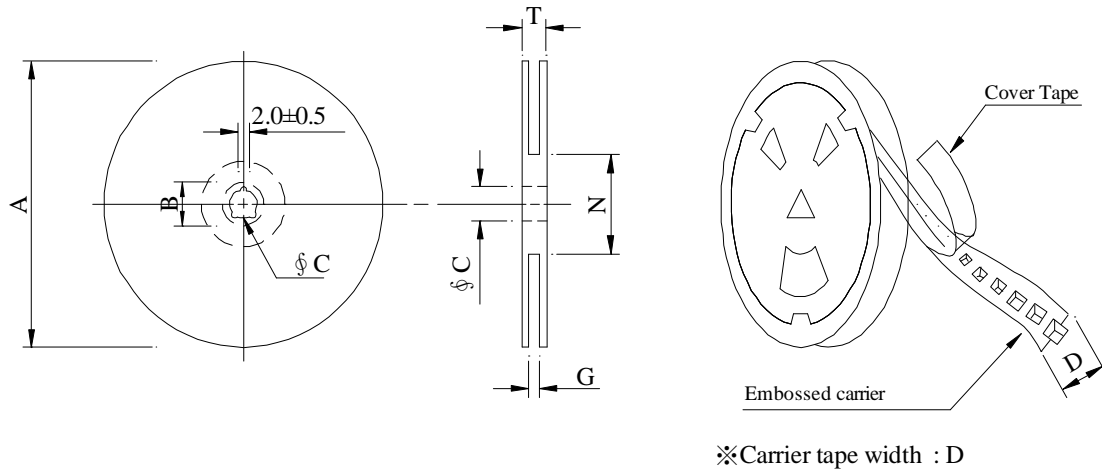
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|------------|--------------------------------|----------------|------------------|
| PROD. NAME | SHIELDED SMD<br>POWER INDUCTOR | ABC'S DWG No.  | HP1205□□□□2□-□□□ |
|            |                                | ABC'S ITEM No. |                  |

## VI . PACKAGING INFORMATION :

### ( 1 ) Configuration



### ( 2 ) Dimensions

Unit:m/m

| Style   | A   | B      | C      | D  | G                | N                | T    |
|---------|-----|--------|--------|----|------------------|------------------|------|
| 13 - 24 | 330 | 21±0.8 | 13±0.5 | 24 | 26 <sup>+0</sup> | 50 <sup>-0</sup> | 30.4 |

### ( 3 ) QTY & G.W. Per package

| Series | Inner : Reel |           |         | Outer : Carton |           |              |
|--------|--------------|-----------|---------|----------------|-----------|--------------|
|        | QTY (pcs)    | G.W. (gw) | Style   | QTY (pcs)      | G.W. (Kg) | Size (cm)    |
| HP1205 | 700          | 3,400     | 13 - 24 | 2,800          | 15.0      | 40 x 40 x 24 |

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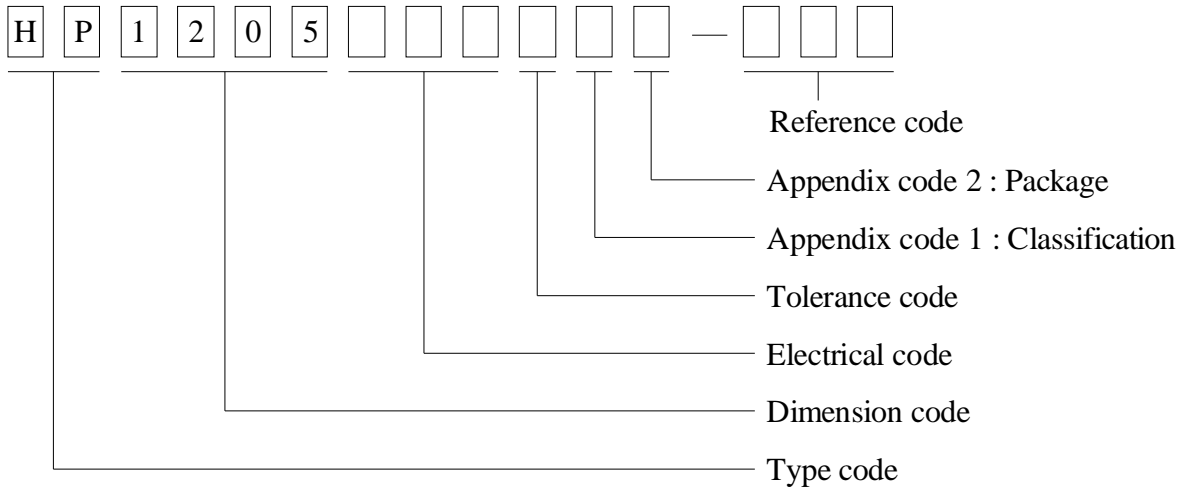
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|               |                                    |                |                  |
|---------------|------------------------------------|----------------|------------------|
| PROD.<br>NAME | SHIELDED SMD<br><br>POWER INDUCTOR | ABC'S DWG No.  | HP1205□□□□2□-□□□ |
|               |                                    | ABC'S ITEM No. |                  |

**VII . DWGING NUMBER EXPRESSION :**



**Appendix code 1 : Product Classification**

- L : Lead Free Standard products comply with RoHS' requirements
- 1 ~ 9 : Lead Free Special products comply with RoHS' requirements

**Appendix code 2 : Package Information**

| Code | Inner package          | Inner package QTY | Remark |
|------|------------------------|-------------------|--------|
| A    | T.B.D.                 | T.B.D             |        |
| B    | T / R ( Reel package ) | 700    pcs        |        |

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|               |                                    |                                     |                  |
|---------------|------------------------------------|-------------------------------------|------------------|
| PROD.<br>NAME | SHIELDED SMD<br><br>POWER INDUCTOR | ABC'S DWG No.<br><br>ABC'S ITEM No. | HP1205□□□□2□-□□□ |
|---------------|------------------------------------|-------------------------------------|------------------|

**VIII . RELIABILITY TEST :**

| Test item                             | Specification   | Test condition  |                          |   |                      |                          |   |                       |
|---------------------------------------|---|---|--------------------------|---|----------------------|--------------------------|---|-----------------------|
| Solderability                         | More than 95% of the terminal electrode shall be covered With fresh solder. | Preconditioning: 150°C/16Hrs±30min Dry Bake<br>Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent<br>Solder temp. :245±5°C<br>Flux : Rosin<br>Dip time: 5±0.5sec   |                          |   |                      |                          |   |                       |
| Thermal shock test<br>( Temp. cycle ) | Electrical oharacteristics shall not change more than ±20%                  | <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Room temp.<br/>15 minutes</td> <td style="text-align: center;">→</td> <td style="text-align: center;">-55 °C<br/>30 minutes</td> </tr> <tr> <td style="text-align: center;">Room temp.<br/>15 minutes</td> <td style="text-align: center;">→</td> <td style="text-align: center;">+125 °C<br/>30 minutes</td> </tr> </table> <p>Total : 50 cycles</p> | Room temp.<br>15 minutes | → | -55 °C<br>30 minutes | Room temp.<br>15 minutes | → | +125 °C<br>30 minutes |
| Room temp.<br>15 minutes              | →   | -55 °C<br>30 minutes  |                          |   |                      |                          |   |                       |
| Room temp.<br>15 minutes              | →   | +125 °C<br>30 minutes   |                          |   |                      |                          |   |                       |
| Humidity Test                         |   | Temperature : 40±2°C<br>Humidity : 90±5%<br>Time : 1000 hours   |                          |   |                      |                          |   |                       |
| High temp.<br>Resistance test         |   | Temperature : 125±5°C<br>Applied current : Per spec.<br>Time : 96 hours   |                          |   |                      |                          |   |                       |

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|              |                       |                       |                         |
|--------------|-----------------------|-----------------------|-------------------------|
| <b>PROD.</b> | <b>SHIELDED SMD</b>   | <b>ABC'S DWG No.</b>  | <b>HP1205□□□□2□-□□□</b> |
| <b>NAME</b>  | <b>POWER INDUCTOR</b> | <b>ABC'S ITEM No.</b> |                         |

**IX . UL CARD :**

|  |  |                   |                |
|--|--|-------------------|----------------|
| <b>OBMW2</b>                                     |  | September 8, 2000 |                |
| <b>Magnet Wire-Component</b>                     |  |                   |                |
| <b>JUNG SHING WIRE CO LTD</b>                    |  |                   | <b>E174837</b> |
| 231 CHUNG CHENG RD, SEC 3 JEN-TEH HSIANG, TAINAN |  |                   |                |
| HSIEN TAIWAN                                     |  |                   |                |

| Mtl<br>Dsg  | Mark<br>Dsg | BC                    | Coat Typ              | OC  | ANSI<br>Type | Temp<br>Class |
|-------------|-------------|-----------------------|-----------------------|-----|--------------|---------------|
| AIW         | ---         | Polyamideimide        | ---                   | --- | MW81-C       | 220           |
| CFUEWB      | ---         | Polyurethane          | ---                   | --- | MW75C        | 130           |
| EIAIW       | ---         | Polyesterimide        | Polyamideimide        | --- | MW35C        | 200           |
| EILOCKY     | ---         | Polyesterimide        | Polyamide             | --- | ---          | 180           |
| EILOCKW     | ---         | Polyesterimide        | Modified<br>Epoxy     | --- | ---          | 200           |
| EIW         | ---         | Polyesterimide        | ---                   | --- | ---          | 220           |
| EIW-2       | ---         | Polyesterimide        | ---                   | --- | MW74-C       | 200           |
| FL.EILOCKY  | ---         | Modified Polyester    | Polyamide             | --- | ---          | 155           |
| LSFFW       | ---         | Polyurethane          | ---                   | --- | MW79-C       | 155           |
| LSUEW       | ---         | Polyurethane          | ---                   | --- | ---          | 130           |
| PEW         | ---         | Polyester             | ---                   | --- | ---          | 155           |
| PEY         | ---         | Polyester             | Nylon                 | --- | MW24-C       | 155           |
| SF.FLW      | ---         | Modified Polyester    | ---                   | --- | MW26C        | 155           |
| SF.EIW      | ---         | Polyesterimide        | ---                   | --- | MW77C        | 180           |
| SF.BY@      | ---         | Modified Polyester    | Nylon                 | --- | MW27-C       | 155           |
| SF.FLY@     | ---         | Modified Polyester    | Nylon                 | --- | MW27-C       | 155           |
| SF.BLOCKBS  | ---         | Modified<br>Polyester | Modified<br>Polyamide | --- | ---          | 155           |
| SF.EILOCKY# | ---         | Polyesterimide        | Polyamide             | --- | ---          | 180           |
| SF.EILOCKBS | ---         | Polyesterimide        | Modified<br>Polyamide | --- | ---          | 180           |
| SF.BW@      | ---         | Modified Polyester    | ---                   | --- | MW26C        | 155           |
| SFFW        | ---         | Polyurethane          | ---                   | --- | MW79         | 155           |

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committed to quality service

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| Mtl<br>Dsg | Mark<br>Dsg | BC           | Coat Typ  | OC  | ANSI<br>Type | Temp<br>Class |
|------------|-------------|--------------|-----------|-----|--------------|---------------|
| SFFY       | ---         | Polyurethane | Polyamide | --- | MW80C        | 155           |
| UEW-1      | ---         | Polyurethane | ---       | --- | MW2-C        | 105           |
| UEW-2      | ---         | Polyurethane | ---       | --- | ---          | 130           |
| UEW-4      | ---         | Polyurethane | ---       | --- | MW75C        | 130           |
| UEY        | ---         | Polyurethane | Nylon     | --- | MW28-C       | 130           |
| UEY-2      | ---         | Polyurethane | Polyamide | --- | MW28-C       | 130           |

@-May be suffixed by LZ; # - May be suffixed by LZ, EL or LZL.  
 LZ- Signifies magnd wires twisted together; EL - signifies base coated magnet wire laid parallel with top coat applied overall; LZL - signi-  
 fies base coated magnet wire twisted together and covered with top coat overall.  
 Marking: Company name or trademarks **(JSW)** or 千如電氣, material designation or marked designation on packaed or reel, and  
 Recognized Component Mark.

See General Information Preceding These Recognitions  
 For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

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**OBMW2/E174837**  
September 8, 2000