

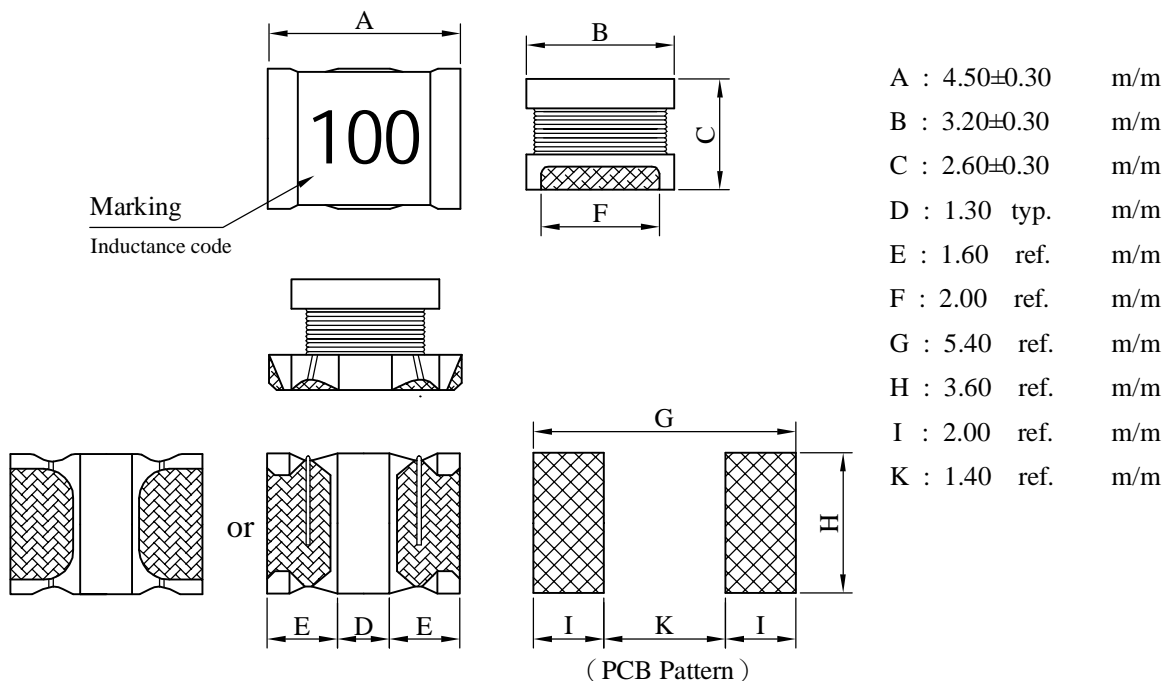
# SPECIFICATION FOR APPROVAL

REF :20100604-A

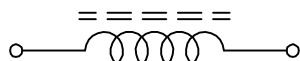
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|               |                    |                                 |                  |
|---------------|--------------------|---------------------------------|------------------|
| PROD.<br>NAME | SMD POWER INDUCTOR | ABC'S DWG NO.<br>ABC'S ITEM NO. | SQ4532□□□□L□-□□□ |
|---------------|--------------------|---------------------------------|------------------|

## I . MECHANICAL DIMENSIONS :

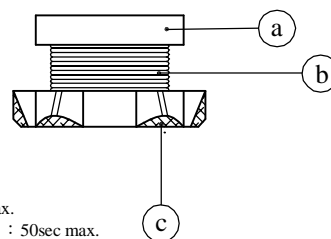


## II . SCHEMATIC DIAGRAM :



## III . MATERIALS LIST :

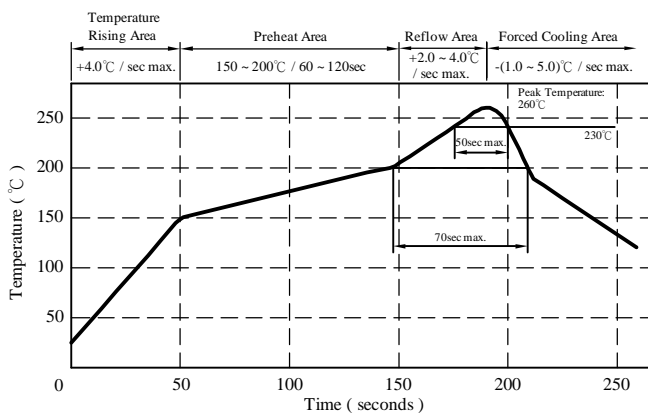
- a . Core : Ferrite core
- b . Wire : Enamelled copper wire (class H)
- c . Terminal : Ag/Ni/Sn
- d . Remark : Products comply with RoHS' requirements



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

## IV . GENERAL SPECIFICATION :

- a . Temp. rese : 20°C max.
- b . Storage temp. : -40°C ----+125°C
- c . Operating temp. : -25°C ----+105°C
- d . Rated current (Irms) :  
 Current cause inductance drop within 10%
- e . Resistance to solder heat : 260°C .10 secs.



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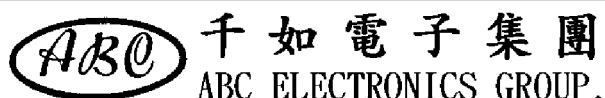
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|            |                    | ABC'S ITEM NO. |                  |

## V . ELECTRICAL CHARACTERISTICS :

| DWG No.          | Inductance<br>( $\mu$ H) | Q<br>ref. | Test Freq<br>(Hz) |      | SRF<br>(MHz)<br>nom. | RDC<br>( $\Omega$ )<br>max. | Irms 1<br>(mA)max.<br>$\Delta$ T=20 $^{\circ}$ C | Irms 2<br>(mA)max.<br>$\Delta$ T=40 $^{\circ}$ C |
|------------------|--------------------------|-----------|-------------------|------|----------------------|-----------------------------|--|--|
|                  |                          |           | L                 | Q    |                      |                             |  |  |
| SQ45321R0ML□-□□□ | 1.00 $\pm$ 20%           | 40        | 1M                | 1M   | 165.0                | 0.080                       | 1400   | 1800   |
| SQ45321R5ML□-□□□ | 1.50 $\pm$ 20%           | 42        | 1M                | 1M   | 130.0                | 0.090                       | 1350   | 1750   |
| SQ45321R8ML□-□□□ | 1.80 $\pm$ 20%           | 45        | 1M                | 1M   | 100.0                | 0.100                       | 1300   | 1700   |
| SQ45322R2ML□-□□□ | 2.20 $\pm$ 20%           | 40        | 1M                | 1M   | 80.0                 | 0.110                       | 1250   | 1600   |
| SQ45322R7ML□-□□□ | 2.70 $\pm$ 20%           | 40        | 1M                | 1M   | 63.0                 | 0.120                       | 1200   | 1500   |
| SQ45323R3ML□-□□□ | 3.30 $\pm$ 20%           | 45        | 1M                | 1M   | 58.0                 | 0.130                       | 1000   | 1400   |
| SQ45323R9ML□-□□□ | 3.90 $\pm$ 20%           | 40        | 1M                | 1M   | 54.0                 | 0.140                       | 960  | 1320   |
| SQ45324R7ML□-□□□ | 4.70 $\pm$ 20%           | 36        | 1M                | 1M   | 45.0                 | 0.150                       | 940  | 1240   |
| SQ45325R6ML□-□□□ | 5.60 $\pm$ 20%           | 36        | 1M                | 1M   | 41.0                 | 0.180                       | 920  | 1180   |
| SQ45326R8ML□-□□□ | 6.80 $\pm$ 20%           | 36        | 1M                | 1M   | 37.0                 | 0.200                       | 860  | 1100   |
| SQ45328R2ML□-□□□ | 8.20 $\pm$ 20%           | 36        | 1M                | 1M   | 34.0                 | 0.250                       | 780  | 1000   |
| SQ4532100ML□-□□□ | 10.00 $\pm$ 20%          | 48        | 1M                | 1M   | 30.0                 | 0.300                       | 750  | 950  |
| SQ4532120ML□-□□□ | 12.00 $\pm$ 20%          | 48        | 1M                | 1M   | 28.0                 | 0.420                       | 700  | 800  |
| SQ4532150ML□-□□□ | 15.00 $\pm$ 20%          | 45        | 1M                | 1M   | 26.0                 | 0.500                       | 650  | 730  |
| SQ4532180ML□-□□□ | 18.00 $\pm$ 20%          | 42        | 1M                | 1M   | 22.0                 | 0.600                       | 570  | 680  |
| SQ4532220KL□-□□□ | 22.00 $\pm$ 10%          | 50        | 1M                | 1M   | 20.0                 | 0.700                       | 460  | 630  |
| SQ4532270KL□-□□□ | 27.00 $\pm$ 10%          | 50        | 1M                | 1M   | 19.0                 | 0.900                       | 360  | 520  |
| SQ4532330KL□-□□□ | 33.00 $\pm$ 10%          | 55        | 1M                | 1M   | 18.0                 | 1.100                       | 330  | 430  |
| SQ4532390KL□-□□□ | 39.00 $\pm$ 10%          | 60        | 1M                | 1M   | 17.0                 | 1.300                       | 310  | 410  |
| SQ4532470KL□-□□□ | 47.00 $\pm$ 10%          | 60        | 1M                | 1M   | 15.0                 | 1.500                       | 285  | 390  |
| SQ4532560KL□-□□□ | 56.00 $\pm$ 10%          | 58        | 1M                | 1M   | 14.0                 | 1.600                       | 270  | 385  |
| SQ4532680KL□-□□□ | 68.00 $\pm$ 10%          | 58        | 1M                | 1M   | 11.0                 | 2.100                       | 230  | 330  |
| SQ4532820KL□-□□□ | 82.00 $\pm$ 10%          | 60        | 1M                | 1M   | 11.0                 | 2.200                       | 215  | 300  |
| SQ4532101KL□-□□□ | 100.00 $\pm$ 10%         | 60        | 1M                | 796K | 10.0                 | 2.500                       | 200  | 270  |
| SQ4532121KL□-□□□ | 120.00 $\pm$ 10%         | 60        | 1M                | 796K | 9.0                  | 3.000                       | 180  | 240  |
| SQ4532151KL□-□□□ | 150.00 $\pm$ 10%         | 55        | 1M                | 796K | 8.5                  | 3.700                       | 165  | 220  |
| SQ4532181KL□-□□□ | 180.00 $\pm$ 10%         | 55        | 1M                | 796K | 7.0                  | 4.500                       | 145  | 200  |
| SQ4532221KL□-□□□ | 220.00 $\pm$ 10%         | 45        | 1M                | 796K | 6.3                  | 5.400                       | 130  | 185  |
| SQ4532271KL□-□□□ | 270.00 $\pm$ 10%         | 50        | 1M                | 796K | 6.0                  | 8.000                       | 110  | 140  |
| SQ4532331KL□-□□□ | 330.00 $\pm$ 10%         | 55        | 1M                | 796K | 5.8                  | 11.500                      | 100  | 120  |
| SQ4532391KL□-□□□ | 390.00 $\pm$ 10%         | 50        | 1M                | 796K | 5.2                  | 13.000                      | 95   | 110  |
| SQ4532471KL□-□□□ | 470.00 $\pm$ 10%         | 50        | 1K                | 796K | 5.0                  | 14.200                      | 85   | 105  |
| SQ4532561KL□-□□□ | 560.00 $\pm$ 10%         | 53        | 1K                | 796K | 4.5                  | 15.500                      | 80   | 100  |
| SQ4532681KL□-□□□ | 680.00 $\pm$ 10%         | 45        | 1K                | 796K | 3.5                  | 16.800                      | 75   | 90   |
| SQ4532821KL□-□□□ | 820.00 $\pm$ 10%         | 50        | 1K                | 796K | 2.8                  | 20.000                      | 70   | 85   |
| SQ4532102KL□-□□□ | 1000.00 $\pm$ 10%        | 30        | 1K                | 252K | 2.5                  | 30.000                      | 60   | 70   |
| SQ4532122KL□-□□□ | 1200.00 $\pm$ 10%        | 30        | 1K                | 252K | 2.3                  | 33.500                      | 45   | 60   |
| SQ4532152KL□-□□□ | 1500.00 $\pm$ 10%        | 35        | 1K                | 252K | 2.0                  | 38.500                      | 40   | 55   |
| SQ4532182KL□-□□□ | 1800.00 $\pm$ 10%        | 35        | 1K                | 252K | 1.8                  | 44.000                      | 35   | 50   |
| SQ4532222KL□-□□□ | 2200.00 $\pm$ 10%        | 30        | 1K                | 252K | 1.6                  | 63.000                      | 30   | 40   |

- 1). □ : Packaging information... [A]: Bulk [B]: Taping reel
- 2). "- □□□":Reference code
- 3). Irms1 Based on Temperature rise  $\Delta$ T=20 $^{\circ}$ C max.
- 4). Irms2 Based on Temperature rise  $\Delta$ T=40 $^{\circ}$ C max.
- 5). Inductance drop 10% max. at rated Irms

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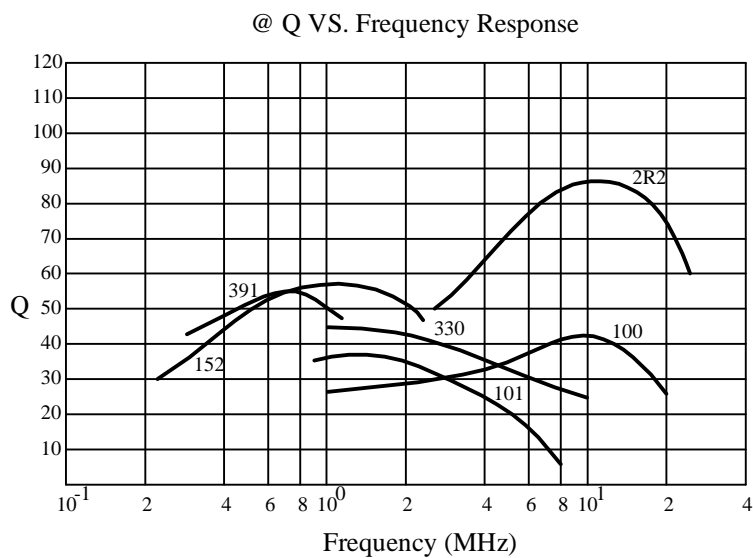
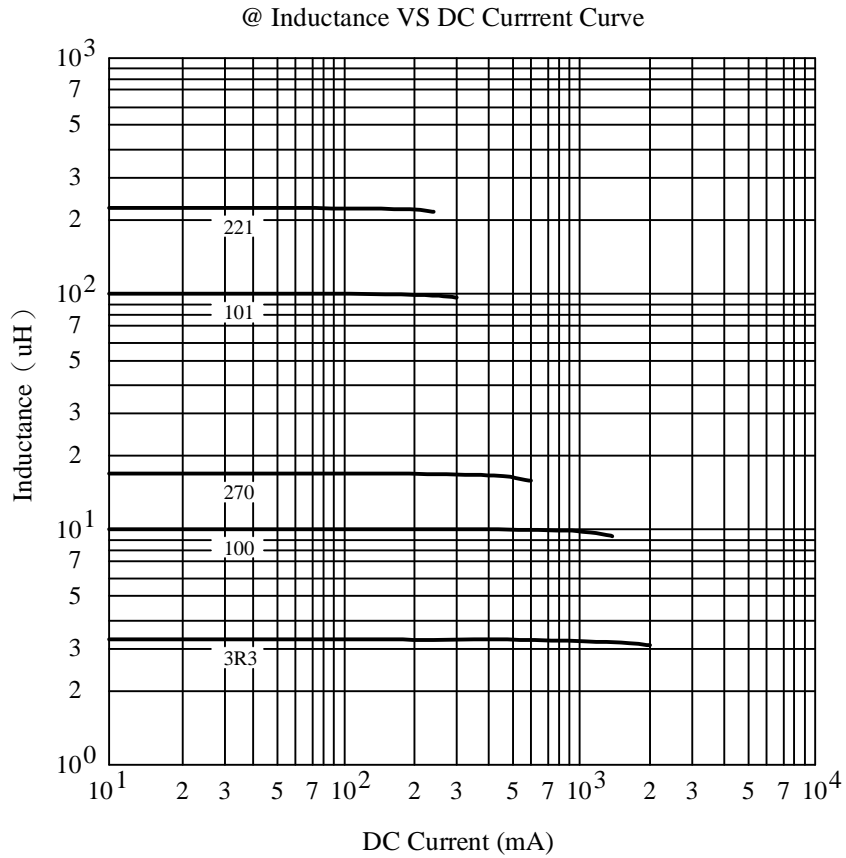
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VI . CURVE :



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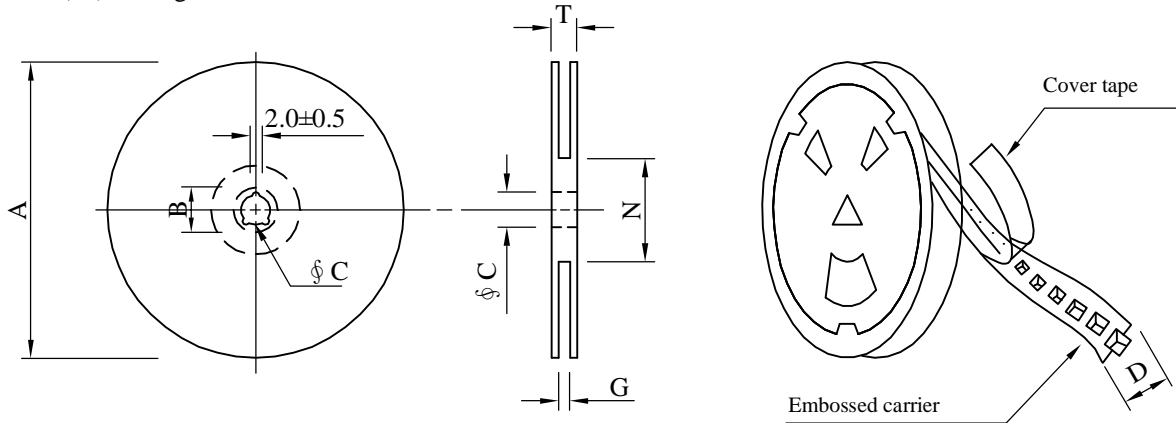
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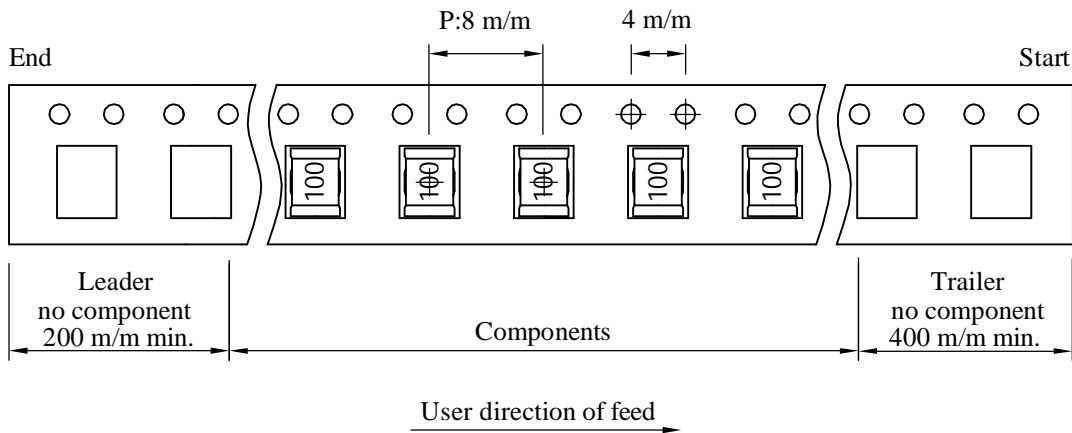
|               |                           |                                 |                  |
|---------------|---------------------------|---------------------------------|------------------|
| PROD.<br>NAME | <b>SMD POWER INDUCTOR</b> | ABC'S DWG NO.<br>ABC'S ITEM NO. | SQ4532□□□□L□-□□□ |
|---------------|---------------------------|---------------------------------|------------------|

**VII . PACKAGING INFORMATION :**

( 1 ) Configuration



※Carrier tape width : D



( 2 ) Dimensions

Unit:m/m

| Style   | A   | B      | C  | D  | G                | N                | T    |
|---------|-----|--------|----|----|------------------|------------------|------|
| 07 - 12 | 178 | 21±0.8 | 13 | 12 | 14 <sup>+0</sup> | 50 <sup>-0</sup> | 16.5 |
| 13 - 12 | 330 | 21±0.8 | 13 | 12 | 14 <sup>+0</sup> | 50 <sup>-0</sup> | 18.4 |

( 3 ) Q'TY & G.W. Per package

| Series | Inner : Reel |           |         | Outer : Carton |           |              |
|--------|--------------|-----------|---------|----------------|-----------|--------------|
|        | Q'TY (pcs)   | G.W. (gw) | Style   | Q'TY (pcs)     | G.W. (Kg) | Size (cm)    |
| SQ4532 | 500          | 130       | 07 - 12 | 20,000         | 7.20      | 42 x 41 x 24 |
| SQ4532 | 2000         | 540       | 13 - 04 | 16,000         | 6.50      | 38 x 37 x 22 |

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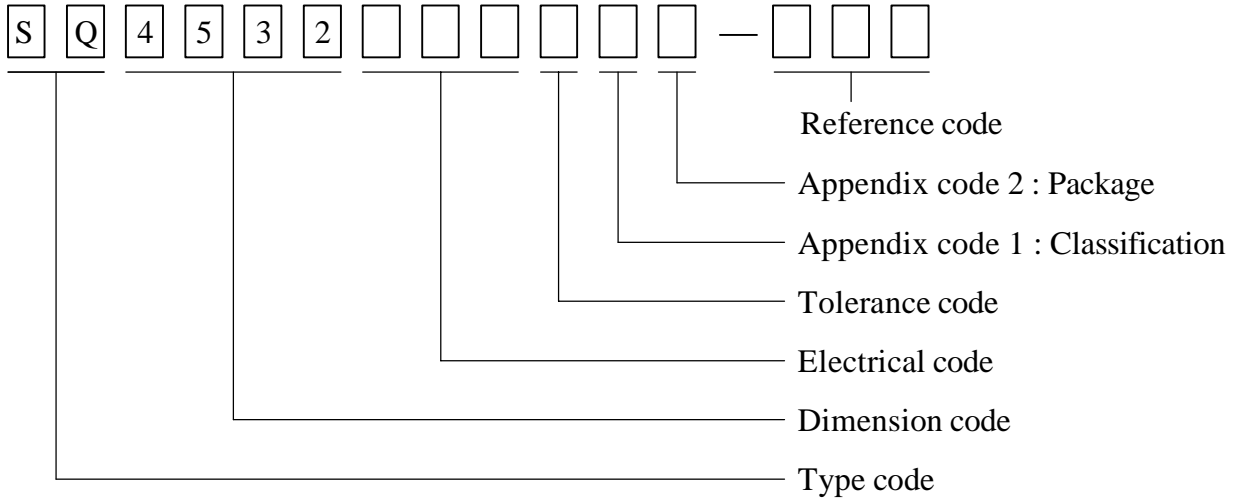
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|            |                    | ABC'S ITEM NO. |                  |

**VIII . 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 Q'TY | Remark |
|------|------------------------|--------------------|--------|
| A    | T.B.D.                 | T.B.D.             |        |
| B    | T / R ( Reel package ) | 500 pcs            |        |
| C    | T / R ( Reel package ) | 2000 pcs           |        |

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| PROD.<br>NAME | SMD POWER INDUCTOR | ABC'S DWG NO.  | SQ4532□□□□L□-□□□ |
|               |                    | ABC'S ITEM NO. |                  |

**IX . RELIABILITY TEST :**

| Test item                             | Specification   | Test condition  |                          |   |                      |                          |   |                       |
|---------------------------------------|---|---|--------------------------|---|----------------------|--------------------------|---|-----------------------|
| Solderability                         | More than 95% of the terminal electrode shall be covered With fresh solder. | Preheat : 155°C / 4 hours.<br>Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent<br>Solder temp. : 235±5°C<br>Flux : Rosin<br>Dip time : 5±0.5 seconds   |                          |   |                      |                          |   |                       |
| Thermal shock test<br>( Temp. cycle ) | Electrical oharacteristics shall not change more than ±20%                  | <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Room temp.<br/>15 minutes</td> <td style="border: none; text-align: center;">→</td> <td style="border: none; text-align: center;">-25 °C<br/>30 minutes</td> </tr> <tr> <td style="border: none;">Room temp.<br/>15 minutes</td> <td style="border: none; text-align: center;">→</td> <td style="border: none; text-align: center;">+105 °C<br/>30 minutes</td> </tr> </table> <p>Total : 50 cycles</p> | Room temp.<br>15 minutes | → | -25 °C<br>30 minutes | Room temp.<br>15 minutes | → | +105 °C<br>30 minutes |
| Room temp.<br>15 minutes              | →   | -25 °C<br>30 minutes  |                          |   |                      |                          |   |                       |
| Room temp.<br>15 minutes              | →   | +105 °C<br>30 minutes   |                          |   |                      |                          |   |                       |
| Humidity test                         |   | Temperature : 40±2°C<br>Humidity : 90±5%<br>Time : 1000 hours   |                          |   |                      |                          |   |                       |
| High temp.<br>Resistance test         |   | Temperature : 105±5°C<br>Applied current : Per spec.<br>Time : 96 hours   |                          |   |                      |                          |   |                       |

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|               |                           | ABC'S ITEM NO. |                  |

X . UL CARD :

| OBMW2  |              | October 06, 2005               |       |                 |               |
|--|--------------|--------------------------------|-------|-----------------|---------------|
| Magnet Wire-Component  |              |                                |       |                 |               |
| ELEKTRISOLA (MALAYSLA) SDN BHD   |              |                                |       |                 | E143312       |
| JALAN DAMAI SATU JANDA BAIK 28750 BENTONG, PAHANG<br>DARUL MAKMUR MALAYSIA |              |                                |       |                 |               |
| Mtl Dsg  | Mark Dsg     | Coating Type                   |       | ANSI<br>Typ     | Temp<br>Class |
|  |              | BC                             | OC    |                 |               |
| Estersol 180   | E180         | Polyesterimide<br>(solderable) | —     | MW-77           | 180           |
| Amldester 200  | A200         | Polyesterimide                 | —     | MW-74           | 200           |
| Polysol-N 155  | PN155        | Polyurethane                   | Nylon | MW-80,<br>MW-28 | 155,<br>130   |
| Polysol 155  | P155, G155   | Polyurethane                   | —     | MW-79,<br>MW-75 | 155,<br>130   |
| Polysol 155g   | Pg155        | Polyurethane                   | —     | MW-75           | 130           |
| Polysol 155p   | Pp155,Gp155  | Polyurethane                   | —     | MW-79           | 155           |
| Polysol 160  | P160         | Polyurethane                   | —     | MW-79           | 155           |
| Polysol 180  | P180,G180    | Polyurethane                   | —     | MW-82<br>MW-79  | 180<br>155    |
| Polysol 170  | P170 or G170 | Polyurethane                   | —     | MW-79           | 155           |
| Polysol-N 180  | PN180        | Polyurethane                   | Nylon | MW-83           | 180           |
| Polysol P155p  | P155p        | Polyurethane                   | —     | MW-79           | 155           |

Marking : Company name, material designation or marked designation and factory identification on package ok reel

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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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