Wire Wound Magnetically Shielded SMD Power Inductor

ASPI-2010 series

FEATURES:
- Small size and low profile: 1.0mm
- Small DCR and high rated current
- High reliability to mechanical stress
- Magnetically shielded by magnetic powder molding
- Suitable for RoHS reflow profile

APPLICATIONS:
- Mobile phones
- MP3 & 4 and other portable communication equipment
- Digital cameras.

ELECTRICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inductance</th>
<th>L Tolerance</th>
<th>DC Resistance Typ</th>
<th>DC Resistance Max</th>
<th>Saturation Current Typ</th>
<th>Saturation Current Max</th>
<th>Temperature Rise Current Typ</th>
<th>Temperature Rise Current Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPI-2010-R47</td>
<td>0.47</td>
<td>M</td>
<td>0.049</td>
<td>0.059</td>
<td>2.30</td>
<td>2.85</td>
<td>2.35</td>
<td>2.60</td>
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<td>ASPI-2010-R68</td>
<td>0.68</td>
<td>M</td>
<td>0.063</td>
<td>0.076</td>
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<td>2.45</td>
<td>2.05</td>
<td>2.25</td>
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<td>ASPI-2010-1R0</td>
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<td>0.095</td>
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<td>1.60</td>
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<td>ASPI-2010-1R5</td>
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<td>1.65</td>
<td>1.25</td>
<td>1.40</td>
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<td>ASPI-2010-2R2</td>
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<td>M</td>
<td>0.220</td>
<td>0.264</td>
<td>1.20</td>
<td>1.45</td>
<td>1.10</td>
<td>1.20</td>
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<tr>
<td>ASPI-2010-3R3</td>
<td>3.3</td>
<td>M</td>
<td>0.279</td>
<td>0.335</td>
<td>0.90</td>
<td>1.05</td>
<td>0.88</td>
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<td>ASPI-2010-4R7</td>
<td>4.7</td>
<td>M</td>
<td>0.399</td>
<td>0.479</td>
<td>0.70</td>
<td>0.85</td>
<td>0.74</td>
<td>0.82</td>
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<tr>
<td>ASPI-2010-6R8</td>
<td>6.8</td>
<td>M</td>
<td>0.680</td>
<td>0.816</td>
<td>0.60</td>
<td>0.70</td>
<td>0.52</td>
<td>0.58</td>
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</tbody>
</table>

Test Conditions:
- Ambient Temperature: 20± 15°C
- Relative Humidity: 65%±20%
- Air Pressure: 86KPa to 106KPa

Inductance (L): WK3260B LCR meter or equivalent, 1MHz
Direct Current Resistance (DCR): HIOKI 3540 or equivalent
Saturation Current (Isat): WK3260B LCR meter or equivalent
Isat: Based on inductance change (ΔL/Lo ≈ -30%)
Temperature rise current (Irms): Electric Power, Electric current meter, Thermometer
Irms: Based on temperature rise (ΔT : 40°C TYP.)
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ASPI-2010 series

RoHS/RoHS II Compliant

2.0 x 1.6 x 1.0 mm

ELECTRICAL CHARACTERISTICS CURVES

Temperature vs. DC Current Characteristics

Inductance vs. DC Current Characteristics

PART IDENTIFICATION:

ASPI-2010- □ □ - □

Inductance Code
Tolerance
Packaging

Please refer to the table above
M: ±20%
T: Tape and Reel (2kpcs / reel)

OUTLINE DIMENSION:

Dimensions: mm

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C Max.</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>a Typ.</th>
<th>b Typ.</th>
<th>c Typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0±0.2</td>
<td>1.6±0.2</td>
<td>1.0</td>
<td>1.2±0.2</td>
<td>0.60±0.2</td>
<td>0.80±0.2</td>
<td>0.70</td>
<td>0.70</td>
<td>1.70</td>
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Recommended Land Pattern
Wire Wound Magnetically Shielded SMD Power Inductor

ASPI-2010 series

RoHS/RoHS II Compliant

No Components Material
1 Ferrite Core Ni-Zn Ferrite
2 Wire Polyurethane System enameled copper wire
3 Magnetic Glue Epoxy resin and magnetic powder
4 Plating Electrodes Plating: Ag/Ni/Sn
5 Outer Electrodes Top surface solder coating: Sn96.5%/Ag3%/Cu0.5%

MATERIAL:

REFLOW PROFILE:

- Preheat condition: 150 ~ 200°C / 60 ~ 120 sec.
- Allowed time above 217°C: 60 ~ 90 sec.
- Max temp: 260°C
- Max time at max temp: 5 sec.
- Solder paste: Sn/3.0Ag/0.5Cu
- Allowed Reflow time: 2x max
TAPE & REEL:

T: 2,000pcs / reel

<table>
<thead>
<tr>
<th>Ao</th>
<th>Bo</th>
<th>W</th>
<th>E</th>
<th>F</th>
<th>Po</th>
<th>P1</th>
<th>P2</th>
<th>Do</th>
<th>T</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.90±0.05</td>
<td>2.20±0.05</td>
<td>8.0±0.1</td>
<td>1.75±0.1</td>
<td>3.5±0.05</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>2.0±0.05</td>
<td>1.5±0.1/-0.0</td>
<td>0.25±0.02</td>
<td>1.20±0.05</td>
</tr>
</tbody>
</table>

Storage Conditions

a. To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled.
b. Recommended conditions: -10°C ~ +40°C, 70% RH (Max.)
c. Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, product should be used within one year from the time of delivery.
d. In case of storage over 6 months, solderability shall be checked before actual usage.

Dimension: mm