Inductors for Power Supply Circuit

Wound/STD • magnetic shielded

VLM series

Type: VLM10555-2
      VLM10555-3
      VLM13580-D1

Issue date: September 2011

• All specifications are subject to change without notice.
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
Inductors for Power Supply Circuit
Wound/STD • Magnetic Shielded

VLM Series  VLM10555-2

FEATURES
- Low loss and large current capability design.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Magnetic coupling type core with low magnetic flux leakage and a three-terminal structure.
- Available for automatic mounting in tape and real package.

APPLICATIONS
Note book type and mobile computers, amusement equipment, DVD players, VRMs, plasma displays, etc.

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Inductance (µH)</th>
<th>Inductance tolerance (%)</th>
<th>Test frequency (kHz)</th>
<th>DC resistance (mΩ)</th>
<th>Rated current(A)* Based on inductance change</th>
<th>Based on temperature rise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[±15%] typ.</td>
<td>max.(typ.) at 25°C</td>
</tr>
<tr>
<td>VLM10555T-1R8M8R8-2</td>
<td>1.8</td>
<td>±20</td>
<td>100</td>
<td>5.6</td>
<td>5.6</td>
<td>14(16)</td>
</tr>
<tr>
<td>VLM10555T-2R5M8R0-2</td>
<td>2.5</td>
<td>±20</td>
<td>100</td>
<td>6.7</td>
<td>6.7</td>
<td>12(14)</td>
</tr>
<tr>
<td>VLM10555T-3R3M7R2-2</td>
<td>3.3</td>
<td>±20</td>
<td>100</td>
<td>8.3</td>
<td>8.3</td>
<td>10(12)</td>
</tr>
<tr>
<td>VLM10555T-4R3M7R2-2</td>
<td>4.3</td>
<td>±20</td>
<td>100</td>
<td>8.3</td>
<td>8.3</td>
<td>9(11)</td>
</tr>
</tbody>
</table>

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

Operating temperature range: -40 to +125°C (Including self-temperature rise)
Test equipment WK 3260B PRECISION MAGNETICS ANALYZER, WK 3265B 25A DC BIAS UNIT, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION

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Inductors for Power Supply Circuit
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VLM Series VLM10555-3

FEATURES
- Low loss and large current capability design.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Magnetic coupling type core with low magnetic flux leakage and a three-terminal structure.
- Available for automatic mounting in tape and real package.

APPLICATIONS
Note book type and mobile computers, amusement equipment, DVD players, VRMs, plasma displays, etc.

FEATURES
- Low loss and large current capability design.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Magnetic coupling type core with low magnetic flux leakage and a three-terminal structure.
- Available for automatic mounting in tape and real package.

APPLICATIONS
Note book type and mobile computers, amusement equipment, DVD players, VRMs, plasma displays, etc.

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Inductance (nH)</th>
<th>Inductance tolerance (%)</th>
<th>Test frequency (kHz)</th>
<th>DC resistance (mΩ)</th>
<th>Rated current(A)*</th>
<th>Based on inductance change max.</th>
<th>Based on temperature rise typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLM10555T-R33M180-3</td>
<td>330 ±20</td>
<td>100</td>
<td></td>
<td>1.2</td>
<td>0.56</td>
<td>34</td>
<td>30</td>
</tr>
<tr>
<td>VLM10555T-R45M110-3</td>
<td>450 ±20</td>
<td>100</td>
<td></td>
<td>2.6</td>
<td>2.2</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>VLM10555T-R56M120-3</td>
<td>560 ±20</td>
<td>100</td>
<td></td>
<td>2.5</td>
<td>2.1</td>
<td>34</td>
<td>26</td>
</tr>
<tr>
<td>VLM10555T-R70M120-3</td>
<td>700 ±20</td>
<td>100</td>
<td></td>
<td>2.5</td>
<td>2.1</td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td>VLM10555T-1R2M100-3</td>
<td>1200 ±20</td>
<td>100</td>
<td></td>
<td>3.2</td>
<td>2.7</td>
<td>18</td>
<td>15</td>
</tr>
</tbody>
</table>

* Rated current: Value obtained when current flows and the temperature has risen to 40˚C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.
* Operating temperature range: -40 to +125˚C (including self-temperature rise)
* Test equipment WK 3260B PRECISION MAGNETICS ANALYZER, WK 3265B 25A DC BIAS UNIT, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

TEMPERATURE RISE CHARACTERISTICS

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Inductors for Power Supply Circuit
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VLM Series VLM13580-D1

FEATURES
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- High magnetic shield construction should actualize high resolution for EMC protection.
- Magnetic coupling type core with low magnetic flux leakage and a three-terminal structure.
- Available for automatic mounting in tape and real package.

APPLICATIONS
Mobile computers etc.

ELECTRICAL CHARACTERISTICS

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<tr>
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<th>Inductance (µH)</th>
<th>Inductance tolerance (%)</th>
<th>Test frequency (kHz)</th>
<th>DC resistance (mΩ)</th>
<th>Rated current (A)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLM13S80T-R82M-D1</td>
<td>0.82</td>
<td>±20</td>
<td>100</td>
<td>2</td>
<td>Based on inductance change max.</td>
</tr>
<tr>
<td>VLM13S80T-1R5M-D1</td>
<td>1.5</td>
<td>±20</td>
<td>100</td>
<td>2.5</td>
<td>1.7</td>
</tr>
<tr>
<td>VLM13S80T-2R2M-D1</td>
<td>2.2</td>
<td>±20</td>
<td>100</td>
<td>3.9</td>
<td>3.3</td>
</tr>
<tr>
<td>VLM13S80T-3R3M-D1</td>
<td>3.3</td>
<td>±20</td>
<td>100</td>
<td>4.5</td>
<td>3.8</td>
</tr>
</tbody>
</table>

* Rated current: Value obtained when current flows and the temperature has risen to 20°C or 40°C or when DC current flows and the initial value of inductance has fallen by 30%, whichever is smaller.
- Operating temperature range: –40 to +150°C (including self-temperature rise)
- Test equipment: WK 3260B PRECISION MAGNETICS ANALYZER, WK 3265B 25A DC BIAS UNIT, or equivalent

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