High Current Power Inductor  
- CSCI1056 Series

Outline:
产品概要
- Magnetic shielding structure, excellent resistance to electro magnetic interference.
  磁屏蔽结构，抗电磁干扰(EMI)性能强。
- Assemblage design, sturdy structure.
  组立式设计，结构坚固。
- Small volume, high current, low magnetic loss, low ESR, small parasitic capacitance.
  小体积，大电流，低磁损，低阻抗，寄生电容小。
- Temperature rise current and saturation current is less influenced by environment.
  温升电流及饱和电流受环境条件影响小。
- Operating temperature: -40℃ ～ +125℃ (Including coil’s temperature rise)
  工作温度：-40℃ ～ +125℃ (包含线圈发热)

1 Appearance and dimensions (mm)
外形尺寸

2 Marking
印字标识

3 Reference land pattern (mm)
参考基板尺寸

4 Schematic
原理图
# High Current Power Inductor  
## CSCI1056 Series

### 5 Electrical characteristics

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Inductance (μH)</th>
<th>D.C.R. (mΩ)</th>
<th>Saturation current (A)</th>
<th>Temperature rise current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±20% Typical</td>
<td>Max Typical</td>
<td>Typical</td>
<td>Typical</td>
</tr>
<tr>
<td>CSCI1056-1R3M</td>
<td>1.30</td>
<td>4.20</td>
<td>4.90</td>
<td>16.0</td>
</tr>
<tr>
<td>CSCI1056-1R5M</td>
<td>1.50</td>
<td>4.20</td>
<td>4.90</td>
<td>14.0</td>
</tr>
<tr>
<td>CSCI1056-2R2M</td>
<td>2.20</td>
<td>4.80</td>
<td>5.70</td>
<td>12.0</td>
</tr>
<tr>
<td>CSCI1056-4R0M</td>
<td>4.00</td>
<td>11.2</td>
<td>13.5</td>
<td>12.0</td>
</tr>
<tr>
<td>CSCI1056-5R6M</td>
<td>5.60</td>
<td>11.7</td>
<td>14.0</td>
<td>8.00</td>
</tr>
<tr>
<td>CSCI1056-6R8M</td>
<td>6.80</td>
<td>16.5</td>
<td>20.0</td>
<td>7.00</td>
</tr>
<tr>
<td>CSCI1056-8R8M</td>
<td>8.80</td>
<td>17.5</td>
<td>21.5</td>
<td>6.00</td>
</tr>
</tbody>
</table>

- **All data is tested based on 25°C ambient temperature.**
- **1** Inductance measured condition at 100kHz, 0.1V.
- **2** Saturation current: the actual value of DC current when the inductance decrease 20% of its initial value.
- **3** Temperature rise current: the actual value of DC current when the temperature rise is ΔT40°C(Ta=25°C).

Special reminder: Circuit design, component placement, PWB size and thickness, cooling system and etc. all will affect the product temperature. Please verify the product temperature in the final application.

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6 Saturation current VS temperature rise current curve
饱和电流 VS 温升电流曲线

CSCI1056-1R3M
CSCI1056-1R5M
CSCI1056-2R2M
CSCI1056-4R0M
CSCI1056-5R6M
CSCI1056-6R8M
CSCI1056-8R8M
7 Packing specification

7.1 Carrier tape dimensions (mm)

<table>
<thead>
<tr>
<th>Dimension (mm)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer diameter</td>
<td>1.5 ± 0.1</td>
</tr>
<tr>
<td>Width A</td>
<td>16.0 ± 0.1</td>
</tr>
<tr>
<td>Width B</td>
<td>2.0 ± 0.1</td>
</tr>
<tr>
<td>Height A</td>
<td>4.0 ± 0.1</td>
</tr>
<tr>
<td>Height B</td>
<td>1.75 ± 0.1</td>
</tr>
<tr>
<td>Length</td>
<td>11.5 ± 0.1</td>
</tr>
<tr>
<td>Length (10.75)</td>
<td></td>
</tr>
<tr>
<td>Length B</td>
<td>24.0 ± 0.3</td>
</tr>
<tr>
<td>Thickness</td>
<td>6.3 ± 0.1</td>
</tr>
<tr>
<td>Ref. Thickness</td>
<td>6.5 ± 0.1</td>
</tr>
<tr>
<td>Width A (Ref)</td>
<td></td>
</tr>
<tr>
<td>Width B (Ref)</td>
<td></td>
</tr>
<tr>
<td>Thickness (Ref)</td>
<td></td>
</tr>
</tbody>
</table>

※ Packing is referred to the international standard IEC 60286-3.
包装参照国际标准 IEC 60286-3。

7.2 Tape direction

7.3 Cover tape peel off condition

- Cover tape peel force shall be 0.1 to 1.3N.
盖带剥离力为 0.1 ～ 1.3N。
- Reference peel speed 300±10mm/min.
参考剥离速度 300±10mm/分钟。
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- CSCI1056 Series

7.4 Reel dimensions (mm)
卷盘尺寸

7.5 Carton dimensions and packing quantity
包装箱尺寸和包装数量

<table>
<thead>
<tr>
<th>Product Series</th>
<th>Quantity / Reel</th>
<th>Inner Carton Quantity</th>
<th>Out Carton Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI1056</td>
<td>400pcs</td>
<td>(400×2) = 800pcs</td>
<td>(800×3) = 2400pcs</td>
</tr>
</tbody>
</table>

7.6 Label making
标签标识

The following items will be marked on the reel of product label and shipping label.
以下项目将明确标识于产品卷盘标签以及运输标签上。
8 Soldering specification
焊接规格

8.1 Reflow profile for SMT components
SMT 回流焊温度曲线

8.2 Classification of peak package body temperature (TP)
封装体峰值温度(TP)分类

<table>
<thead>
<tr>
<th>Package Thickness 封装厚度</th>
<th>Package Volume 封装体积</th>
<th>&lt;350 mm³</th>
<th>350〜2000 mm³</th>
<th>&gt;2000 mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB-Free Assembly 无铅装配</td>
<td>&lt;1.6mm</td>
<td>260℃</td>
<td>260℃</td>
<td>260℃</td>
</tr>
<tr>
<td></td>
<td>1.6〜2.5mm</td>
<td>260℃</td>
<td>250℃</td>
<td>245℃</td>
</tr>
<tr>
<td></td>
<td>≥2.5mm</td>
<td>250℃</td>
<td>245℃</td>
<td>245℃</td>
</tr>
</tbody>
</table>

※ Reflow is referred to standard IPC/JEDEC J-STD-020D.
回流焊参照标准 IPC/JEDEC J-STD-020D。