Ferrites and Accessories PQ Cores

Series/Type: PQ 35/35

The following products presented in this data sheet are being withdrawn.

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Substitute Product</th>
<th>Date of Withdrawal</th>
<th>Deadline Last Orders</th>
<th>Last Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>B65882E0001T001</td>
<td></td>
<td>2010-12-10</td>
<td>2011-03-31</td>
<td>2011-06-30</td>
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<tr>
<td>B65882E0012T001</td>
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</tbody>
</table>

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

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EPCOS AG is a TDK Group Company.
Cores B65881A series

To IEC 62317-13
Delivery mode: sets

Magnetic characteristics (per set)

\[
\begin{align*}
\Sigma/l/A &= 0.467 \text{ mm}^{-1} \\
l_e &= 79.20 \text{ mm} \\
A_e &= 169.7 \text{ mm}^2 \\
A_{\text{min}} &= 146.5 \text{ mm}^2 \\
V_e &= 13440 \text{ mm}^3 
\end{align*}
\]

Approx. weight : 74 g/set

Dimensions in mm

Ungapped

<table>
<thead>
<tr>
<th>Material</th>
<th>(A_L) value(^1) nH</th>
<th>(\mu_e)</th>
<th>(P_V) W/Set</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>N87</td>
<td>4500 +30/–20%</td>
<td>1670</td>
<td>&lt; 8.75 (100 kHz, 200 mT, 100 °C)</td>
<td>B65881A0000R087</td>
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<tr>
<td>N97</td>
<td>4700 +30/–20%</td>
<td>1750</td>
<td>&lt; 7.10 (100 kHz, 200 mT, 100 °C)</td>
<td>B65881A0000R097</td>
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<tr>
<td>N95</td>
<td>5700 +30/–20%</td>
<td>2120</td>
<td>&lt; 7.92 (100 kHz, 200 mT, 25 ... 100 °C)</td>
<td>B65881A0000R095</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; 9.50 (100 kHz, 200 mT, 120 °C)</td>
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<tr>
<td>N92</td>
<td>3300 +30/–20%</td>
<td>1225</td>
<td>&lt; 10.5 (100 kHz, 200 mT, 100 °C)</td>
<td>B65881A0000R092</td>
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<tr>
<td>N49</td>
<td>3300 +30/–20%</td>
<td>1225</td>
<td>&lt; 3.75 (500 kHz, 50 mT, 100 °C)</td>
<td>B65881A0000R049</td>
</tr>
</tbody>
</table>

1) Measurement parameter: 10 kHz, 0.25 mT, 100 turns, room temperature.

\(A_L\) value is measured acc. to IEC62044-2. An appropriate wringing of cores with polished surface is used to improve reproducibility of the measurement. (It is recommended to rub the mating surfaces themselves six times in a circular or elliptic arc that matches the core profile before measuring \(A_L\) value).
Coil former 4 Pin

Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: F = max. operating temperature 155 °C), color code black

Rynite FR 530 [E41938 (M)], E I DUPONT DE NEMOURS & CO INC

Solderability: IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3.5 s

<table>
<thead>
<tr>
<th>Sections</th>
<th>$A_N$ mm²</th>
<th>$I_N$ mm</th>
<th>$A_R$ value µΩ</th>
<th>Terminals</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>158</td>
<td>76</td>
<td>16.5</td>
<td>4</td>
<td>B65882E0004T001</td>
</tr>
</tbody>
</table>
Coil former 12 Pin

Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: 
F = max. operating temperature 155 °C), color code black

Rynite FR 530 [E41938 (M)], E I DUPONT DE NEMOURS & CO INC

Solderability: IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3.5 s

<table>
<thead>
<tr>
<th>Sections</th>
<th>AN mm²</th>
<th>IN mm</th>
<th>A_R value µΩ</th>
<th>Terminals</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>158</td>
<td>76</td>
<td>16.5</td>
<td>12</td>
<td>B65882E0012T001</td>
</tr>
</tbody>
</table>

Please read Cautions and warnings and important notes at the end of this document.
Cautions and warnings

Mechanical stress and mounting
Ferrite cores have to meet mechanical requirements during assembly and for a growing number of applications. Since ferrites are ceramic materials one has to be aware of their special behavior under mechanical load.

Just like any ceramic material, ferrite cores are brittle and sensitive to any shock, fast changing or tensile load. Especially fast cooling rates under ultrasonic cleaning, high static and cyclic loads can cause cracks or failure of the ferrite cores.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.1”.

Effects of core combination on AL value
Stresses in the core affect not only the mechanical but also the magnetic properties. It is apparent that the initial permeability is dependent on the stress state of the core. The higher the stresses are in the core, the lower the value for the initial permeability. Thus, the embedding medium should offer the greatest possible elasticity.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.2”.

Heating up
Ferrites can run hot during operation at higher flux densities and higher frequencies.

NiZn-materials
The magnetic properties of NiZn-materials can change irreversibly when exposed to strong magnetic fields.

Processing notes
– The start of the winding process should be soft. Otherwise, the flanges may be destroyed.
– Excessive winding forces may damage the flanges or squeeze the tube so that the cores can no longer be mounted.
– Excessive soldering time at high temperature (>300 °C) may affect coplanarity or pin arrangement.
– Not following the processing notes for soldering of the J-leg terminals may cause solderability problems at the transformer because of contamination with tin oxide (SnO) from the tin bath or burned insulation from the wire. For detailed information see Data Book 2007, chapter "Processing notes, 2.2".
– The dimensions of the pin hole arrangement are fixed and should be understood as an ideal recommendation for drilling the printed circuit board. In order to avoid problems when mounting the transformer, customers should make allowances for manufacturing tolerances in the drilling and pick-and-place processes by increasing the diameter of the pin holes.
Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

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