Overview

The KEMET ESD-FPD Series split cores are designed for use on flat cable. The series features a stainless steel clamp and is available in a variety of sizes.

Benefits

- Split construction
- Stainless steel clamp

Applications

- Consumer electronics

Turns and Impedance Characteristics

When the desired performance of an EMI core cannot be obtained with a single pass through the core, the impedance characteristics can be changed with multiple turns.

A turn is counted by the number of lead-wire windings which pass through the inner hole of the core. Windings on the outside of the core do not count. See Figure 1 for examples of one, two, and three turns.

Adding turns will result in higher impedance while also lowering the effective frequency range. See Figure 2 for an example.

Core Material and Effective Frequency Range

There are two ferrite material options for KEMET EMI Cores: Nickel-Zinc (Ni-Zn) and Manganese-Zinc (Mn-Zn). Each core material has a different resistance and effective frequency range. The Mn-Zn core material has lower resistance compared to the Ni-Zn; therefore, be sure to provide adequate insulation before use.

For reference, the Ni-Zn core material is typically effective for the frequencies in the MHz band range such as the FM-band, while the Mn-Zn core material is typically effective for the kHz band range such as the AM-band. See Figure 3.

It is recommended to verify actual effectiveness in the target application with measurements.
EMI Core – ESD-FPD Series Split Cores with Metal Clamp for Flat Cables

Dimensions – Millimeters

Core

See Table 1 for dimensions

Clamp (Stainless Steel)

Installation Example

Environmental Compliance

All KEMET EMI cores are RoHS Compliant.

RoHS Compliant
Table 1 – Ratings & Part Number Reference

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions (mm)</th>
<th>Applicable Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>ESD-FPD-16</td>
<td>37.0</td>
<td>25.4</td>
</tr>
<tr>
<td>ESD-FPD-34</td>
<td>60.0</td>
<td>48.3</td>
</tr>
<tr>
<td>ESD-FPD-40</td>
<td>68.0</td>
<td>56.0</td>
</tr>
<tr>
<td>ESD-FPD-50</td>
<td>80.0</td>
<td>68.6</td>
</tr>
</tbody>
</table>

Impedance vs. Frequency

[Graphs showing impedance vs. frequency for ESD-FPD-16, ESD-FPD-34, ESD-FPD-40, and ESD-FPD-50]
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