Ferrite Cores for EMI Suppression

Material Characteristics
REMINDERS FOR USING THESE PRODUCTS

Please be sure to read this manual thoroughly before using the products.

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

(1) Aerospace/Aviation equipment  (8) Public information-processing equipment
(2) Transportation equipment (electric trains, ships, etc.)  (9) Military equipment
(3) Medical equipment  (10) Electric heating apparatus, burning equipment
(4) Power-generation control equipment  (11) Disaster prevention/crime prevention equipment
(5) Atomic energy-related equipment  (12) Safety equipment
(6) Seabed equipment  (13) Other applications that are not considered general-purpose applications
(7) Transportation control equipment

When using this product in general-purpose standard applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc to ensure higher safety.
Ferrite Cores for EMI Suppression

Material List ........................................................................................................................................ 4
HF90..................................................................................................................................................... 5
HF60..................................................................................................................................................... 6
Material List of Ferrite Cores for EMI Suppression

**MATERIAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Material</th>
<th>Material affiliates</th>
<th>Initial permeability $\mu_i$</th>
<th>Curie temperature $T_c$ (°C)</th>
<th>Saturation magnetic flux density $B_s$ (mT)</th>
<th>Electrical resistivity $\rho$ (Ω · m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF90</td>
<td>Mn-Zn</td>
<td>5000</td>
<td>&gt;165</td>
<td>485[H=1194A/m]</td>
<td>0.3</td>
</tr>
<tr>
<td>HF60</td>
<td>Mn-Zn</td>
<td>1600</td>
<td>&gt;130</td>
<td>300[H=1194A/m]</td>
<td>4</td>
</tr>
</tbody>
</table>

**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

![Impedance vs. Frequency Graph](image)

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.
MATERIAL CHARACTERISTICS (Mn-Zn)

<table>
<thead>
<tr>
<th>Initial permeability $\mu_i$</th>
<th>Temperature factor of initial permeability $\alpha_{\mu i}$ ($\times 10^{-6}/^\circ C$)</th>
<th>Curie temperature $T_c$ ($^\circ C$)</th>
<th>Saturation magnetic flux density $B_s$ (mT)</th>
<th>Electrical resistivity $\rho$ ($\Omega \cdot m$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000</td>
<td>—</td>
<td>&gt;165</td>
<td>485[H=1194A/m]</td>
<td>0.3</td>
</tr>
</tbody>
</table>

IMPEDEANCE vs. FREQUENCY CHARACTERISTICS

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.

Please note that the contents may change without any prior notice due to reasons such as upgrading.
Ferrite Cores for EMI Suppression  Material List of HF60

MATERIAL CHARACTERISTICS (Mn-Zn)

<table>
<thead>
<tr>
<th>Initial permeability</th>
<th>Temperature factor of initial permeability</th>
<th>Curie temperature</th>
<th>Saturation magnetic flux density</th>
<th>Electrical resistivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>μi</td>
<td>μir (&lt;10⁻⁶°C)</td>
<td>Tc (°C)</td>
<td>Bs (mT)</td>
<td>𝜌 (Ω * m)</td>
</tr>
<tr>
<td>1600</td>
<td>—</td>
<td>&gt;130</td>
<td>300[Hs=1194A/m]</td>
<td>4</td>
</tr>
</tbody>
</table>

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

![Impedance vs. Frequency Characteristic Graph]

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