Flexible Ferrite Sheets
For NFC & Wireless Charging
MSLL Series

FEATURES
- Flexible ferrite sheets for 13.56 MHz NFC, RFID application & wireless charging application
- Made by thin, high permeability sintered ferrite with PET film and adhesive tape
- Standard ferrite layer thickness 0.05mm, 0.1mm and 0.2mm
- Custom size or thickness available upon request
- Operating temperature -40°C to 85°C
- RoHS compliant

APPLICATIONS
- NFC antenna for mobile phones
- NFC antenna for automobile
- NFC or RFID antenna for security & access control system
- Wireless charging for mobile phones and battery powered handheld electronic devices
- NFC or RFID read/write devices, improved read distance
- EMI suppression for IC or IC circuitry

SHAPES AND DIMENSIONS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>A mm (inches)</th>
<th>B mm (inches)</th>
<th>C mm (inches)</th>
<th>D mm MAX (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSLL5040-000</td>
<td>50 (1.969)</td>
<td>40 (1.575)</td>
<td>0.20 (0.008)</td>
<td>0.35 (0.014)</td>
</tr>
<tr>
<td>MSLL5040-200</td>
<td>50 (1.969)</td>
<td>40 (1.575)</td>
<td>0.10 (0.004)</td>
<td>0.20 (0.008)</td>
</tr>
<tr>
<td>MSLL6060-300</td>
<td>60 (2.362)</td>
<td>60 (2.362)</td>
<td>0.05 (0.002)</td>
<td>0.09 (0.004)</td>
</tr>
<tr>
<td>MSLL12060-000</td>
<td>120 (4.724)</td>
<td>60 (2.362)</td>
<td>0.20 (0.008)</td>
<td>0.35 (0.014)</td>
</tr>
<tr>
<td>MSLL12060-200</td>
<td>120 (4.724)</td>
<td>60 (2.362)</td>
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<td>0.20 (0.008)</td>
</tr>
</tbody>
</table>

PART NUMBER SYSTEM EXAMPLE

MCP-DS-MSLL SHEET 0814

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*For NFC & Wireless Charging*

**MSLL Series**

### MATERIAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>MSLL Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Permeability, $\mu'$@13.56MHz, 0.1V</td>
<td>100 ± 20%</td>
</tr>
<tr>
<td>Imaginary Permeability, $\mu''$@13.56MHz, 0.1V</td>
<td>5 max</td>
</tr>
<tr>
<td>Operating Temperature, °C</td>
<td>-40°C ~ +85°C</td>
</tr>
</tbody>
</table>

### TYPICAL ELECTRICAL CHARACTERISTICS

![Complex Permeability vs. Frequency](image)

**Complex Permeability vs. Frequency**

- $\mu'$
- $\mu''$

**TYPICAL ELECTRICAL CHARACTERISTICS**

- **Real Permeability, $\mu'$**
  - @13.56MHz, 0.1V: 100 ± 20%

- **Imaginary Permeability, $\mu''$**
  - @13.56MHz, 0.1V: 5 max

- **Operating Temperature, °C**
  - -40°C ~ +85°C

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