### Shielded Power Inductors – MSS7331

- 7.0 x 7.0 mm footprint; 3.1 mm high shielded inductors
- Low DCR and excellent current handling

**Core material**  
Ferrite

**Core and winding loss**  
See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations**  
RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight**  
0.48 – 0.51 g

**Ambient temperature**  
–40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature**  
+125°C (ambient + temp rise). Derating.

**Storage temperature**  
Component: –40°C to +125°C.

**Resistance to soldering heat**  
Max three 40 second refloows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)**  
1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**  
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging**  
350/7” reel, 1500/13” reel; Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 3.7 mm pocket depth

**PCB washing**  

### Shielded Power Inductors

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>DCR (Ohms)</th>
<th>SRF typ (MHz)</th>
<th>Isat (A)¹</th>
<th>Irms (A)²</th>
<th>10% drop</th>
<th>20% drop</th>
<th>30% drop</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSS7331-104ML</td>
<td>0.040</td>
<td>1.5 ±30%</td>
<td>0.012</td>
<td>0.35</td>
<td>4.4</td>
<td>5.1</td>
<td>4.8</td>
<td>6.9</td>
<td></td>
<td></td>
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<tr>
<td>MSS7331-302ML</td>
<td>0.014</td>
<td>3.0 ±30%</td>
<td>0.020</td>
<td>0.23</td>
<td>3.0</td>
<td>3.5</td>
<td>4.2</td>
<td>6.0</td>
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<td></td>
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<tr>
<td>MSS7331-392ML</td>
<td>0.017</td>
<td>3.9 ±30%</td>
<td>0.023</td>
<td>0.22</td>
<td>2.8</td>
<td>3.2</td>
<td>4.1</td>
<td>5.7</td>
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<td></td>
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<tr>
<td>MSS7331-502ML</td>
<td>0.022</td>
<td>5.0 ±20%</td>
<td>0.030</td>
<td>0.20</td>
<td>2.4</td>
<td>2.8</td>
<td>3.3</td>
<td>4.5</td>
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</tr>
<tr>
<td>MSS7331-602ML</td>
<td>0.025</td>
<td>6.0 ±20%</td>
<td>0.033</td>
<td>0.18</td>
<td>2.2</td>
<td>2.6</td>
<td>3.4</td>
<td>4.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Please specify termination and packaging codes:

**MSS7331-104MLC**

**Termination:**  
L = RoHS compliant gold over nickel over phos bronze

**Special order:**  
T = RoHS tin-silver-copper (95.5/4/0.5) over tin over nickel over phos bronze or
S = non-RoHS tin-lead (63/37) over tin over nickel over phos bronze.

**Packaging:**  
C = 7” machine-ready reel EIA-481 embossed plastic tape (350 per full reel).

**B = Less than full reel**  
In tape, but not machine-ready. To have a leader and trailer added ($25 charge), use code letter C instead.

**D = 13” machine-ready reel**  
EIA-481 embossed plastic tape. Factory order only, not stocked (1500 per reel per full reel).

2. Inductance tested at 100 Hz, 0.1 Vrms, 0 Adc using an Agilent/HP 4284A LCR meter or equivalent.

3. For SRF >13 MHz, SRF measured using an Agilent/HP 8753D network Analyzer or equivalent. For SRF <13 MHz, SRF measured using an Agilent/HP 4192A or equivalent.

4. DC current at 25°C that causes the specified inductance drop from its value without current.

5. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.

6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Shielded Power Inductors – MSS7331

Typical L vs Current

![Typical L vs Current Graph](image)

Typical L vs Frequency

![Typical L vs Frequency Graph](image)

Dimensions are in inches

Recommended Land Pattern

*Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.02 in / 0.51 mm.