### Shielded Power Inductors—MSS1210H

- 12.3 x 12.3 mm footprint; 10 mm high shielded inductors
- 27 inductance values from 10 µH to 10 mH
- Low DCR and excellent current handling
- AEC-Q200 Grade 1 qualified (−40°C to +125°C ambient)
- Designer’s Kit C498 contains 3 of each part

**Core material** Ferrite

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

**Environment** RoHS compliant, halogen free

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

**Weight:** 5.1 – 6.2 g

**Ambient temperature** −40°C to +125°C with (40°C rise) Irms current.

**Maximum part temperature** +165°C (ambient + temp rise). Derating.

**Storage temperature** Component: −55°C to +165°C. Tape and reel packaging: −40°C to +80°C.

**Resistance to soldering heat** Max three 40 second reflows 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

**Termination** E = RoHS compliant matte tin over nickel over phosphor bronze.

**Special order:** Q = RoHS tin-silver-copper (85.5/4/0.5) or P = non-RoHS tin-lead (63/37).

**Packaging:** D = 13” machine-ready reel. EIA-481 embossed plastic tape (300 parts per full reel).

**Inductance**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>DCR (Ohms)</th>
<th>SRF (MHz)</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSS1210H-103MED</td>
<td>10±20%</td>
<td>0.010</td>
<td>0.013</td>
<td>18.00</td>
<td>7.50</td>
</tr>
<tr>
<td>MSS1210H-153MED</td>
<td>15±20%</td>
<td>0.016</td>
<td>0.018</td>
<td>13.00</td>
<td>6.00</td>
</tr>
<tr>
<td>MSS1210H-223MED</td>
<td>22±20%</td>
<td>0.021</td>
<td>0.027</td>
<td>11.00</td>
<td>5.10</td>
</tr>
<tr>
<td>MSS1210H-333MED</td>
<td>33±20%</td>
<td>0.031</td>
<td>0.036</td>
<td>8.00</td>
<td>4.10</td>
</tr>
<tr>
<td>MSS1210H-473MED</td>
<td>47±20%</td>
<td>0.037</td>
<td>0.045</td>
<td>6.50</td>
<td>3.50</td>
</tr>
<tr>
<td>MSS1210H-683MED</td>
<td>68±20%</td>
<td>0.056</td>
<td>0.065</td>
<td>5.30</td>
<td>2.90</td>
</tr>
<tr>
<td>MSS1210H-104KED</td>
<td>100±10%</td>
<td>0.078</td>
<td>0.096</td>
<td>4.30</td>
<td>2.40</td>
</tr>
<tr>
<td>MSS1210H-124KED</td>
<td>120±10%</td>
<td>0.088</td>
<td>0.110</td>
<td>4.00</td>
<td>2.20</td>
</tr>
<tr>
<td>MSS1210H-154KED</td>
<td>150±10%</td>
<td>0.100</td>
<td>0.123</td>
<td>3.80</td>
<td>1.90</td>
</tr>
<tr>
<td>MSS1210H-184KED</td>
<td>180±10%</td>
<td>0.130</td>
<td>0.163</td>
<td>3.20</td>
<td>2.10</td>
</tr>
<tr>
<td>MSS1210H-224KED</td>
<td>220±10%</td>
<td>0.160</td>
<td>0.185</td>
<td>2.80</td>
<td>1.60</td>
</tr>
<tr>
<td>MSS1210H-334KED</td>
<td>330±10%</td>
<td>0.230</td>
<td>0.280</td>
<td>2.30</td>
<td>1.30</td>
</tr>
<tr>
<td>MSS1210H-474KED</td>
<td>470±10%</td>
<td>0.340</td>
<td>0.400</td>
<td>1.90</td>
<td>1.10</td>
</tr>
<tr>
<td>MSS1210H-684KED</td>
<td>680±10%</td>
<td>0.490</td>
<td>0.596</td>
<td>1.40</td>
<td>0.91</td>
</tr>
<tr>
<td>MSS1210H-105KED</td>
<td>1000±10%</td>
<td>0.630</td>
<td>0.768</td>
<td>1.30</td>
<td>0.75</td>
</tr>
</tbody>
</table>

1. Specify termination code: MSS1210H-106KED

**Termination:**

- **E** = RoHS compliant matte tin over nickel over phosphor bronze.
- **Special order:**
  - **Q** = RoHS tin-silver-copper (85.5/4/0.5) or **P** = non-RoHS tin-lead (63/37).

**Packaging:**

- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (300 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.

4. SRF measured using a micro-ohmmeter and a Coilcraft CCF858 test fixture.

**Weight:**

- **5.1 – 6.2 g**

**Moisture Sensitivity Level (MSL)**

- **1** (unlimited floor life at <30°C / 85% relative humidity)

**Resistance to soldering heat**

- Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles.

**DC current at 25°C**

- 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.**

**Derating**

- 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.**

**7. Electrical specifications at 25°C**

- Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

**Termination code:**

- **MSS1210H-106KED**

- **E** = RoHS compliant matte tin over nickel over phosphor bronze.
- **Special order:**
  - **Q** = RoHS tin-silver-copper (85.5/4/0.5) or **P** = non-RoHS tin-lead (63/37).

**Packaging:**

- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (300 parts per full reel).

**Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.**

**DC current at 25°C**

- 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.**

**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.**

**7. Electrical specifications at 25°C**

- Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

**1. Specify termination code:**

- **MSS1210H-106KED**

- **E** = RoHS compliant matte tin over nickel over phosphor bronze.
- **Special order:**
  - **Q** = RoHS tin-silver-copper (85.5/4/0.5) or **P** = non-RoHS tin-lead (63/37).

**Packaging:**

- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (300 parts per full reel).

**Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.**

**DC current at 25°C**

- 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.**

**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.**

**7. Electrical specifications at 25°C**

- Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Shielded Power Inductors – MSS1210H

Typical L vs Current

Typical L vs Frequency

Packaging 300/13” reel; Plastic tape: 24 mm wide, 0.5 mm thick, 20 mm pocket spacing, 10.3 mm pocket depth

Dimensions are in inches

Recommended Land Pattern

* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.012 inch (0.3 mm).

Dimensions are in mm

© Coilcraft Inc. 2020

This product may not be used in medical or high risk applications without prior Coilcraft approval
Specification subject to change without notice
Please check web site for latest information