Chip Inductors for DOCSIS 3.x

- Low inductance (150 – 390 nH) 1812 size chip inductors
- Exceptionally high Q
- High current ratings – up to 1150 mA
- 2% tolerance for all values

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Q typ</th>
<th>SRF (MHz)</th>
<th>DCR max (mOhms)</th>
<th>I rms (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA4031-AL</td>
<td>150</td>
<td>75</td>
<td>860</td>
<td>100</td>
<td>1150</td>
</tr>
<tr>
<td>HA4032-AL</td>
<td>180</td>
<td>80</td>
<td>850</td>
<td>105</td>
<td>1150</td>
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<tr>
<td>HA4033-AL</td>
<td>220</td>
<td>80</td>
<td>700</td>
<td>110</td>
<td>940</td>
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<td>HA4034-AL</td>
<td>270</td>
<td>85</td>
<td>730</td>
<td>120</td>
<td>940</td>
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<td>HA4035-AL</td>
<td>330</td>
<td>80</td>
<td>600</td>
<td>135</td>
<td>850</td>
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<td>HA4036-AL</td>
<td>390</td>
<td>80</td>
<td>600</td>
<td>150</td>
<td>850</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

   HA4036-ALC

   Packaging:
   - **C** = 7” machine-ready reel. EIA-481 embossed plastic tape (600 parts 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 (2200 parts per full reel).

2. Inductance measured at 50 MHz, using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
3. Q measured measured at 50 MHz, using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF859 test fixture.
6. Current that causes a 15°C temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

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

Core material: Ceramic
Terminations: RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.
Weight: 109 – 128 mg
Ambient temperature: –40°C to +125°C with Irms current
Maximum part temperature: +140°C (ambient + temp rise)
Storage temperature: Component: –40°C to +140°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.
Temperature Coefficient of Inductance (TCL): +25 to +125 ppm/°C
Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)
Failures in Time (FIT) / Mean Time Between Failures (MTBF): One per billion hours / one billion hours, calculated per Telcordia SR-332
Packaging: 600 per 7” reel; 2200 per 13” reel. Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 3.7 mm pocket depth

Recommended Land Pattern

Pick and place material

Panel and overall height: approx. 0.015/0.38 both ends

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0.152 mm.
Ultra High Q Chip Inductors – 1812

L vs Frequency

Q vs Frequency

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.