Ceramic Chip Inductors 0201HL

- Higher L than other 0201 inductors
- Twice the Q of thin-film multilayer technology
- Optimized for LTE Antenna matching

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance² ±5% (nH)</th>
<th>900 MHz</th>
<th>1.7 GHz</th>
<th>2.4 GHz</th>
<th>SRF typ² (GHz)</th>
<th>DCR max⁵ (Ohms)</th>
<th>Irms⁶ (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
</tr>
<tr>
<td>0201HL-22NXJR_</td>
<td>22</td>
<td>21.8</td>
<td>36</td>
<td>22.7</td>
<td>52</td>
<td>24.2</td>
<td>62</td>
</tr>
<tr>
<td>0201HL-24NXJR_</td>
<td>24</td>
<td>23.8</td>
<td>36</td>
<td>24.9</td>
<td>53</td>
<td>27.1</td>
<td>56</td>
</tr>
<tr>
<td>0201HL-27NXJR_</td>
<td>27</td>
<td>26.9</td>
<td>35</td>
<td>28.2</td>
<td>47</td>
<td>30.5</td>
<td>55</td>
</tr>
<tr>
<td>0201HL-33NXJR_</td>
<td>33</td>
<td>33.0</td>
<td>35</td>
<td>35.4</td>
<td>45</td>
<td>39.6</td>
<td>49</td>
</tr>
<tr>
<td>0201HL-39NXJR_</td>
<td>39</td>
<td>39.4</td>
<td>35</td>
<td>42.7</td>
<td>43</td>
<td>49.5</td>
<td>45</td>
</tr>
<tr>
<td>0201HL-47NXJR_</td>
<td>47</td>
<td>47.6</td>
<td>35</td>
<td>52.8</td>
<td>43</td>
<td>64.3</td>
<td>41</td>
</tr>
<tr>
<td>0201HL-51NXJR_</td>
<td>51</td>
<td>51.9</td>
<td>35</td>
<td>58.3</td>
<td>44</td>
<td>71.5</td>
<td>44</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:
   - **0201HL-51NXJR_W**
     - Packaging: **W** = 7” machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel).
     - **U** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter W instead.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4982 impedance analyzer with Coilcraft-provided correlation pieces.

3. Q measured using an Agilent/HP 4991A with an Agilent/HP 16197 test fixture.

4. SRF measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.

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

6. Current that causes a 15°C temperature rise from 25°C ambient. Because the core is not ferromagnetic, there is no core saturation.

7. Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Core material: Ceramic

Environmental: RoHS compliant, halogen free

Terminations: RoHS matte tin over nickel over molybdenum-manganese.

Weight: 0.14 – 0.23 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 +150 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: 2000 per 7” reel. Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing


---

1. When ordering, please specify packaging code:
   - **0201HL-51NXJR_W**
     - Packaging: **W** = 7” machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel).
     - **U** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter W instead.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4982 impedance analyzer with Coilcraft-provided correlation pieces.

3. Q measured using an Agilent/HP 4991A with an Agilent/HP 16197 test fixture.

4. SRF measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.

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

6. Current that causes a 15°C temperature rise from 25°C ambient. Because the core is not ferromagnetic, there is no core saturation.

7. Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

---

**Recommended Land Pattern**

- **A max**: 0.023 inches
- **B max**: 0.018 inches
- **C max**: 0.018 inches
- **D**: 0.004 inches
- **E**: 0.015 inches
- **F**: 0.009 inches
- **G**: 0.007 inches
- **H**: 0.018 inches

- **A max**: 0.58 mm
- **B max**: 0.46 mm
- **C max**: 0.46 mm
- **D**: 0.10 mm
- **E**: 0.38 mm
- **F**: 0.23 mm
- **G**: 0.18 mm
- **H**: 0.46 mm

---

**Ceramic Chip Inductors 0201HL**

- Higher L than other 0201 inductors
- Twice the Q of thin-film multilayer technology
- Optimized for LTE Antenna matching

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance² ±5% (nH)</th>
<th>900 MHz</th>
<th>1.7 GHz</th>
<th>2.4 GHz</th>
<th>SRF typ² (GHz)</th>
<th>DCR max⁵ (Ohms)</th>
<th>Irms⁶ (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
<td>Q typ³</td>
<td>L typ</td>
</tr>
<tr>
<td>0201HL-22NXJR_</td>
<td>22</td>
<td>21.8</td>
<td>36</td>
<td>22.7</td>
<td>52</td>
<td>24.2</td>
<td>62</td>
</tr>
<tr>
<td>0201HL-24NXJR_</td>
<td>24</td>
<td>23.8</td>
<td>36</td>
<td>24.9</td>
<td>53</td>
<td>27.1</td>
<td>56</td>
</tr>
<tr>
<td>0201HL-27NXJR_</td>
<td>27</td>
<td>26.9</td>
<td>35</td>
<td>28.2</td>
<td>47</td>
<td>30.5</td>
<td>55</td>
</tr>
<tr>
<td>0201HL-33NXJR_</td>
<td>33</td>
<td>33.0</td>
<td>35</td>
<td>35.4</td>
<td>45</td>
<td>39.6</td>
<td>49</td>
</tr>
<tr>
<td>0201HL-39NXJR_</td>
<td>39</td>
<td>39.4</td>
<td>35</td>
<td>42.7</td>
<td>43</td>
<td>49.5</td>
<td>45</td>
</tr>
<tr>
<td>0201HL-47NXJR_</td>
<td>47</td>
<td>47.6</td>
<td>35</td>
<td>52.8</td>
<td>43</td>
<td>64.3</td>
<td>41</td>
</tr>
<tr>
<td>0201HL-51NXJR_</td>
<td>51</td>
<td>51.9</td>
<td>35</td>
<td>58.3</td>
<td>44</td>
<td>71.5</td>
<td>44</td>
</tr>
</tbody>
</table>
Chip Inductors – 0201HL Series

L vs Frequency

Q vs Frequency

Impedance 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.