Chip Inductors for DOCSIS 3.x

- Low inductance (39 – 120 nH) 1812 size chip inductors
- Designed for set-top boxes
- High SRF, up to 2487 MHz
- 2% tolerance for all values

<table>
<thead>
<tr>
<th>Part number¹</th>
<th>Inductance²</th>
<th>Q typ³</th>
<th>SRF max⁴</th>
<th>DCR max⁵</th>
<th>Irms⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA7849-AE_</td>
<td>39</td>
<td>49</td>
<td>2487</td>
<td>120</td>
<td>1100</td>
</tr>
<tr>
<td>TA7850-AE_</td>
<td>47</td>
<td>55</td>
<td>1875</td>
<td>110</td>
<td>1100</td>
</tr>
<tr>
<td>TA7851-AE_</td>
<td>56</td>
<td>55</td>
<td>1908</td>
<td>126</td>
<td>920</td>
</tr>
<tr>
<td>TA7852-AE_</td>
<td>68</td>
<td>55</td>
<td>1972</td>
<td>149</td>
<td>900</td>
</tr>
<tr>
<td>PA6691-AE_</td>
<td>80</td>
<td>61</td>
<td>1345</td>
<td>140</td>
<td>900</td>
</tr>
<tr>
<td>PA6692-AE_</td>
<td>100</td>
<td>62</td>
<td>1245</td>
<td>160</td>
<td>860</td>
</tr>
<tr>
<td>PA6693-AE_</td>
<td>120</td>
<td>67</td>
<td>990</td>
<td>160</td>
<td>860</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:
   - TA7852-AE C
   - TA7852-AE B
   - TA7852-AE D

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. 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 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.
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

---

Document 1355-1 Revised 07/07/16
DOCSIS filters – 1812

L vs Frequency

Q vs Frequency