ADSL Transformers for Analog Devices chipsets

These transformers have been designed to provide optimum performance with various ADSL chip sets from Analog Devices.

They feature a compact size, minimum DC resistance and very low leakage inductance. Primary inductance is stable from -40°C to +85°C and the longitudinal balance is optimized for the best overall performance at the ADSL transmission speed. Most parts have been designed to meet UL 1950 requirements.

For free evaluation samples or to discuss custom designs, please contact Coilcraft.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Part number</th>
<th>Style</th>
<th>Chip set</th>
<th>Line side inductance (mH)</th>
<th>Leakage inductance max (µH)</th>
<th>DCR max (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chip side</td>
<td>Line side</td>
<td></td>
</tr>
<tr>
<td>AS7787-A</td>
<td>THT</td>
<td>AD20MSP910/918 CO/CPE</td>
<td>5.0 ± 10%</td>
<td>16</td>
<td>1.21 (10-8), 1.65 (9-7)</td>
</tr>
<tr>
<td>AS8456-A</td>
<td>SMT</td>
<td>AD20MSP910/918 CO/CPE</td>
<td>5.0 ± 10%</td>
<td>16</td>
<td>1.21 (10-8), 1.65 (9-7)</td>
</tr>
<tr>
<td>AS8923-A</td>
<td>THT</td>
<td>AD20MSP930 CO</td>
<td>2.03 min</td>
<td>7.5</td>
<td>0.60 (1-3, 2-4), 0.60 (10-8), 0.60 (9-7)</td>
</tr>
<tr>
<td>AS8908-A</td>
<td>SMT</td>
<td>AD20MSP930 CO</td>
<td>2.03 min</td>
<td>7.5</td>
<td>0.60 (1-3, 2-4), 0.60 (10-8), 0.60 (9-7)</td>
</tr>
<tr>
<td>AS8925-A</td>
<td>THT</td>
<td>AD20MSP930 CPE</td>
<td>2.42 min</td>
<td>7.5</td>
<td>0.55 (1-3, 2-4), 0.58 (10-8), 0.58 (9-7)</td>
</tr>
<tr>
<td>AS8924-A</td>
<td>SMT</td>
<td>AD20MSP930 CPE</td>
<td>2.42 min</td>
<td>7.5</td>
<td>0.55 (1-3, 2-4), 0.58 (10-8), 0.58 (9-7)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part number</th>
<th>Dielectric strength (V)</th>
<th>Turns ratio line:chip</th>
<th>Capacitance max (pF)</th>
<th>Longitudinal balance min (dB)</th>
<th>THD @ 20 kHz typ (dB)</th>
<th>Designed to meet</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS7787-A</td>
<td>1875</td>
<td>1:1</td>
<td>55</td>
<td>40 (20 kHz - 1.1 MHz)</td>
<td>~89</td>
<td>UL 1459, 1950</td>
</tr>
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</tr>
<tr>
<td>AS8923-A</td>
<td>2300</td>
<td>1.1:1</td>
<td>55</td>
<td>40 (20 kHz - 1.1 MHz)</td>
<td>~85</td>
<td>UL 1459, 1950</td>
</tr>
<tr>
<td>AS8908-A</td>
<td>2300</td>
<td>1.1:1</td>
<td>55</td>
<td>40 (20 kHz - 1.1 MHz)</td>
<td>~85</td>
<td>UL 1459, 1950</td>
</tr>
<tr>
<td>AS8925-A</td>
<td>2300</td>
<td>1.2:1</td>
<td>55</td>
<td>40 (20 kHz - 1.1 MHz)</td>
<td>~85</td>
<td>UL 1459, 1950</td>
</tr>
<tr>
<td>AS8924-A</td>
<td>2300</td>
<td>1.2:1</td>
<td>55</td>
<td>40 (20 kHz - 1.1 MHz)</td>
<td>~85</td>
<td>UL 1459, 1950</td>
</tr>
</tbody>
</table>

1. All electrical specifications referenced to line side.
2. Operating temperature range -40°C to +85°C.
3. Electrical specifications at 25°C.

This product is not RoHS-compliant. Contact Coilcraft for current status or possible alternatives.
ADSL Transformers for Analog Devices

AS7787-A, AS8923-A, AS8925-A

<table>
<thead>
<tr>
<th>A max</th>
<th>B max</th>
<th>C max</th>
<th>D min</th>
<th>E</th>
<th>F typ</th>
<th>G dia</th>
<th>H dia</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.550</td>
<td>0.550</td>
<td>0.500</td>
<td>0.100</td>
<td>0.400</td>
<td>0.100</td>
<td>0.013</td>
<td>0.032</td>
</tr>
<tr>
<td>13.97</td>
<td>13.97</td>
<td>12.70</td>
<td>2.54</td>
<td>10.16</td>
<td>2.54</td>
<td>0.33</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Recommended Board Layout

AS8456-A, AS8908-A, AS8924-A

<table>
<thead>
<tr>
<th>A max</th>
<th>B max</th>
<th>C max</th>
<th>E</th>
<th>F typ</th>
<th>G typ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.530</td>
<td>0.699</td>
<td>0.500</td>
<td>0.590</td>
<td>0.098</td>
<td>0.050 × 0.061</td>
</tr>
<tr>
<td>13.46</td>
<td>17.75</td>
<td>12.70</td>
<td>14.99</td>
<td>2.50</td>
<td>1.27 × 1.55</td>
</tr>
</tbody>
</table>

Recommended Land Pattern

Packaging
- 50 parts per tray

Schematics

AS7787-A, AS8456-A

AS8923-A, AS8908-A

AS8925-A, AS8924-A

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