Dual Inductor for Class-D – GA3416-CL

- Dual inductor for use in Class-D output filter
- Very low magnetic coupling
- AEC-Q200 Grade 1 (−40°C to +125°C)
- Shielded surface mount package with both coils and additional mounting pads for excellent board adhesion

Output Power

<table>
<thead>
<tr>
<th>Power typ (W)</th>
<th>Temperature rise from 25°C</th>
<th>Load</th>
<th>THD+N</th>
<th>Test condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>17.0</td>
<td>4 Ohm</td>
<td>1%</td>
<td>1 kHz, 14.4 Vdc</td>
</tr>
<tr>
<td>25</td>
<td>20.0</td>
<td>4 Ohm</td>
<td>10%</td>
<td>1 kHz, 14.4 Vdc</td>
</tr>
<tr>
<td>44</td>
<td>30.7</td>
<td>4 Ohm</td>
<td>1%</td>
<td>1 kHz, 21 Vdc</td>
</tr>
<tr>
<td>54</td>
<td>35.0</td>
<td>4 Ohm</td>
<td>10%</td>
<td>1 kHz, 21 Vdc</td>
</tr>
<tr>
<td>33</td>
<td>46.5</td>
<td>2 Ohm</td>
<td>1%</td>
<td>1 kHz, 14.4 Vdc</td>
</tr>
<tr>
<td>40</td>
<td>51.6</td>
<td>2 Ohm</td>
<td>10%</td>
<td>1 kHz, 14.4 Vdc</td>
</tr>
</tbody>
</table>

Core material: Ferrite

Terminations: RoHS compliant tin-silver (96.5/3.5) over copper (leads), electroplated gold (<50 µm) over nickel over phosph bronze (additional mounting pads). Other terminations available at additional cost.

Weight: 7.8 g

Ambient temperature: −40°C to +125°C with Irms current

Maximum part temperature: +165°C (ambient + temp rise)

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

Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging: 200/13″ reel. Plastic tape: 32 mm wide, 0.4 mm thick, 20 mm pocket spacing, 12.95 mm pocket depth


1. When ordering, please specify termination, and packaging codes:

   - **L** = RoHS compliant tin-silver (96.5/3.5) over copper (leads), gold over nickel over phosph bronze (additional mounting pads).
   - **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

2. Maximum power into specified load that causes a 40°C temperature rise. Measured at 1 kHz with a 14.4 Vdc supply for the 2-Ohm load and a 21 Vdc supply for the 4-Ohm load. Refer to Output Power table for typical output conditions. Tested using the TASS414A Evaluation Board from Texas Instruments.

3. Inductance measured at 500 kHz, 0.5 Vrms, 0 Adc using an Agilent/HP 4284A impedance analyzer.

4. DCR measured on a micro-ohmmeter.

5. SRF measured using Agilent/HP 8753D network analyzer.

6. Total harmonic distortion + noise measured at 23 W into a 2-Ohm or 4-Ohm load at 1 kHz with a 21 Vdc supply.

7. DC current at 25°C that causes the specified inductance drop from its value without current.

8. Current applied to both windings at the same time that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

9. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Class D Dual Inductor – GA3416-CL

L vs Current

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- Dot indicates pin 1
- Internal code

Recommended Land Pattern

Dimensions are in inches (mm)

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Pads provided for mounting stability only

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Inductance (µH) vs Current (A)

- 100
- 10
- 1

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