



# Dual Inductor for Class D – GA3416-CL



- Dual inductor for use in Class D output filter
- Very low magnetic coupling
- AEC-Q200 Grade 1 qualified
- Shielded surface mount package with both coils and additional mounting pads for excellent board adhesion

## Output Power

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

Part number <sup>1</sup>	Maximum power (W) <sup>2</sup>			DCR max <sup>4</sup> (Ohms)	SRF typ <sup>5</sup> (MHz)	THD+N <sup>6</sup> (%)	Isat (A) <sup>7</sup>			Irms (A) <sup>8</sup>	
	2 Ohm load	4 Ohm load	Inductance <sup>3</sup> ±10% (µH)				10% drop	20% drop	30% drop	20°C rise	40°C rise
GA3416-CL_	28	60	10.0	0.021	23.6	<0.1	8.6	8.7	8.8	3.0	4.3

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

**GA3416-CLD**

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

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (200 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 D instead.

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 TAS5414A 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.

**Core material** Ferrite

**Terminations** RoHS compliant tin-silver (96.5/3.5) over copper (leads), electroplated gold (<50 µin) over nickel over phos 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

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

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

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

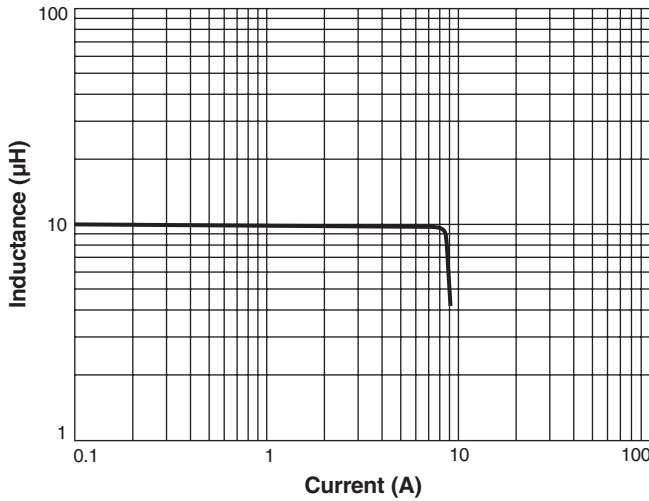
**Packaging** 200/13" reel Plastic tape: 32 mm wide, 0.4 mm thick, 20 mm pocket spacing, 12.95 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

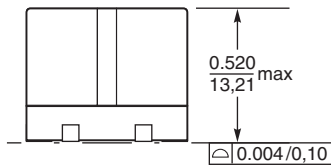
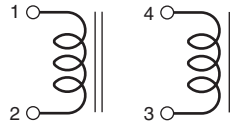
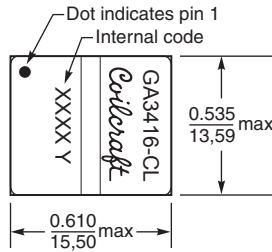
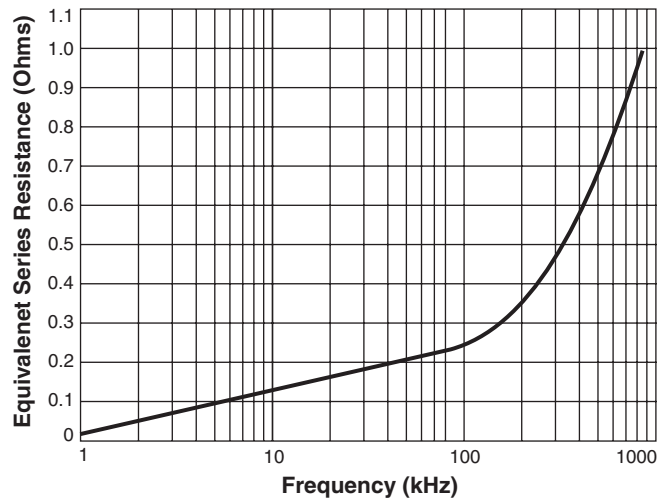


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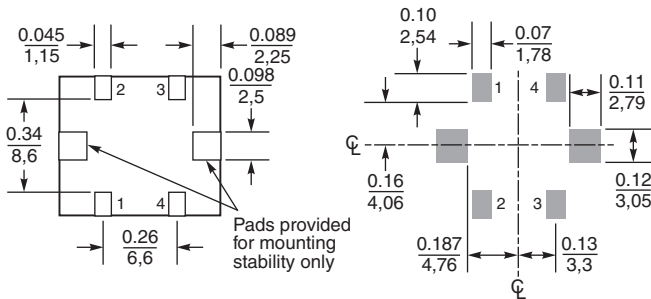
## L vs Current



## ESR vs Frequency



### Recommended Land Pattern



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



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