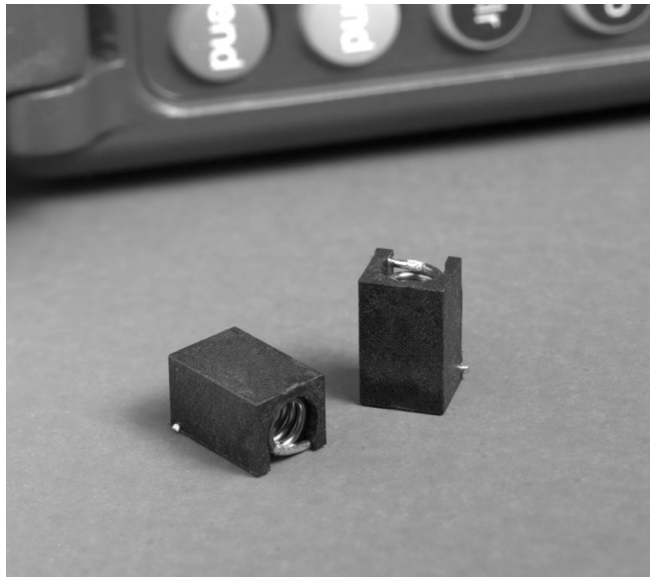


# Air Core Inductors

For Linear Technology  
LT8697 switching regulator



- Developed for Linear Technology LT8697 monolithic step-down switching regulator designed to power 5V USB applications.
- Tight DCR tolerance:  $\pm 5\%$
- Air core inductors feature high Q and high current ratings

**Weight** 0.42– 0.59 g

**Terminations** RoHS compliant tin-silver (96.5/3.5) over copper.

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with Irms current,  $+125^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$  with derated current

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$ .  
Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)**  $+5$  to  $+70$  ppm/ $^{\circ}\text{C}$

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 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** 800/13" reel Plastic tape: 24 mm wide, 0.3 mm thick, 12 mm pocket spacing, 6.1 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf

Part number <sup>1</sup>	Turns	Inductance <sup>2</sup> $\pm 2\%$ (nH)	Q <sup>3</sup>		SRF min <sup>4</sup> (GHz)	DCR $\pm 5\%$ <sup>5</sup> (mOhm)	Irms <sup>6</sup> (A)
			typ	min			
NA5931-AL_	15	246	114	95	0.685	15.7	3.0
NA5932-AL_	16	307	114	95	0.660	21.8	3.0
NA5933-AL_	17	380	114	95	0.590	32.4	2.5
NA5934-AL_	18	422	114	95	0.540	34.3	2.5
NA5935-AL_	19	491	114	95	0.535	44.1	2.0
NA5936-AL_	20	538	104	87	0.490	47.2	2.0

1. When ordering, please specify **packaging** code:

**NA5936-ALD**

**Packaging:** **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (800 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. Inductance tested at 50 MHz on an Agilent/HP 4191A Impedance Analyzer or equivalent with a Coilcraft SMD-A fixture and correlation.

3. Q tested at 50 MHz on an Agilent/HP 4291A Impedance Analyzer or equivalent with a Coilcraft SMD-A fixture and correlation.

4. SRF tested on the Agilent/HP 8753D and a Coilcraft CCF1248 test fixture.

5. DCR tested on the Keithley 580 Micro Ohmmeter.

6. Current that causes a  $15^{\circ}\text{C}$  temperature rise from  $25^{\circ}\text{C}$  ambient.

7. Electrical specifications at  $25^{\circ}\text{C}$ .

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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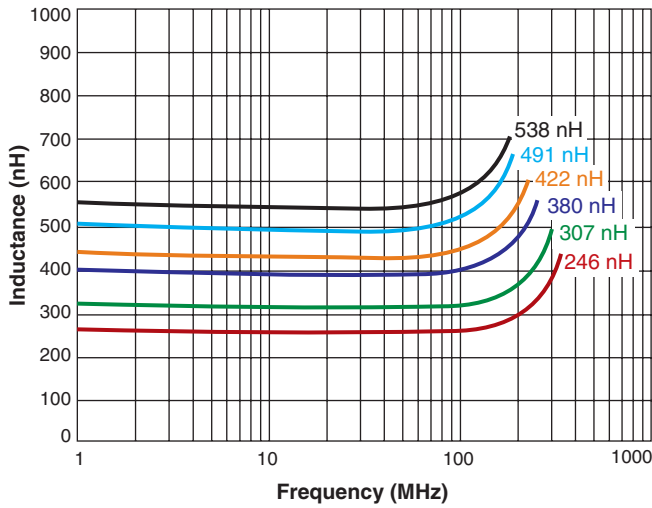
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

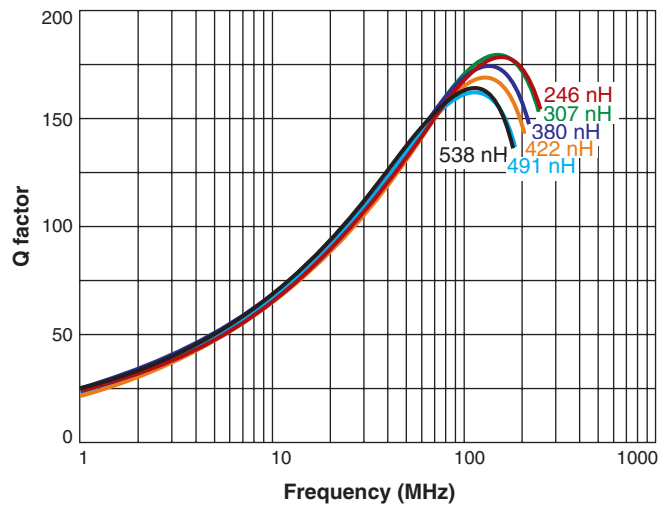


# Air Core Inductors for Linear Technology LT8697

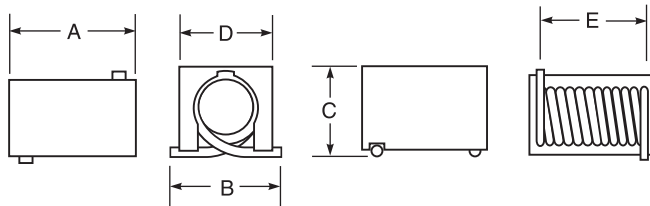
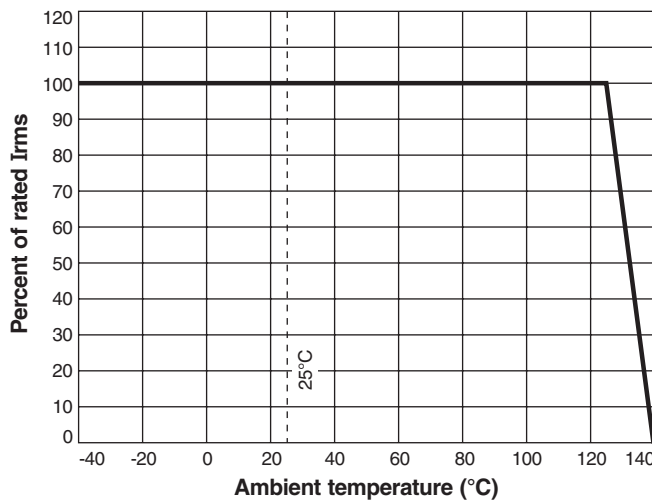
## L vs Frequency



## Q vs Frequency

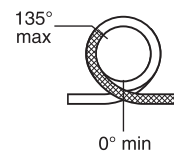


## Typical Irms Derating



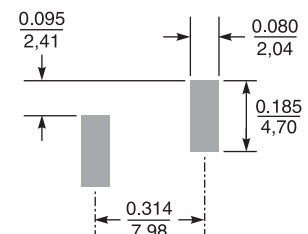
A max	B max	C max	D	E
0.415	0.260	0.235	0.240 ±0.015	0.314 ±0.020
10,55	6,60	5,97	6,10 ±0,38	7,98 ±0,51

### Strip Length



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

### Recommended Land Pattern



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