

# Chip Inductors for DOCSIS 3.x

- Low inductance (150 – 390 nH) 1812 size chip inductors
- Exceptionally high Q
- High current ratings – up to 1150 mA
- 2% tolerance for all values

Part number <sup>1</sup>	Inductance <sup>2</sup> ±2% (nH)	Q typ <sup>3</sup>	SRF typ <sup>4</sup> (MHz)	DCR max <sup>5</sup> (mOhms)	Irms <sup>6</sup> (mA)
HA4031-AL_	150	75	860	100	1150
HA4032-AL_	180	80	850	105	1150
HA4033-AL_	220	80	700	110	940
HA4034-AL_	270	85	730	120	940
HA4035-AL_	330	80	600	135	850
HA4036-AL_	390	80	600	150	850

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

HA4036-ALC

**Termination:** L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.

R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.

Special order: S = non-RoHS tin-lead (63/37) or T = RoHS tin-silver-copper (95.5/4/0.5) over silver-palladium-platinum-glass frit terminations or P = non-RoHS tin-lead (63/37) over matte tin over nickel over silver-platinum-glass frit or Q = RoHS tin-silver-copper (95.5/4/0.5) over matte tin over nickel over silver-platinum-glass frit.

**Packaging:** C = 7" machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2200 parts per full reel).

- Inductance measured at 50 MHz, using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured at 50 MHz, using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF859 test fixture.
- Current that causes a 15°C temperature rise from 25°C ambient.
- 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. Other terminations available at additional cost.

**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

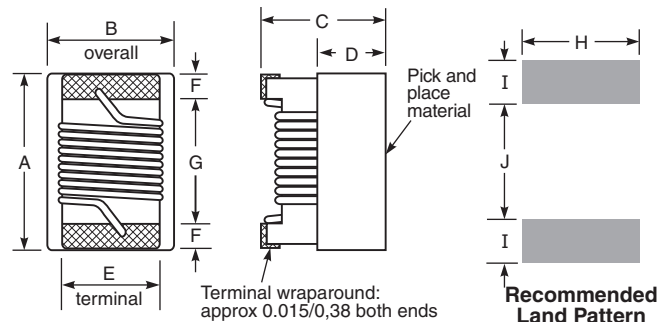
**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)** +25 to +125 ppm/°C

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

**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

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



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0.195	0.150	0.135	0.070	0.100	0.025	0.128	0.120	0.045	0.118
4,95	3,81	3,43	1,78	2,54	0,64	3,25	3,05	1,14	3,00

**Note:** Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.



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Document 730-1 Revised 12/07/23

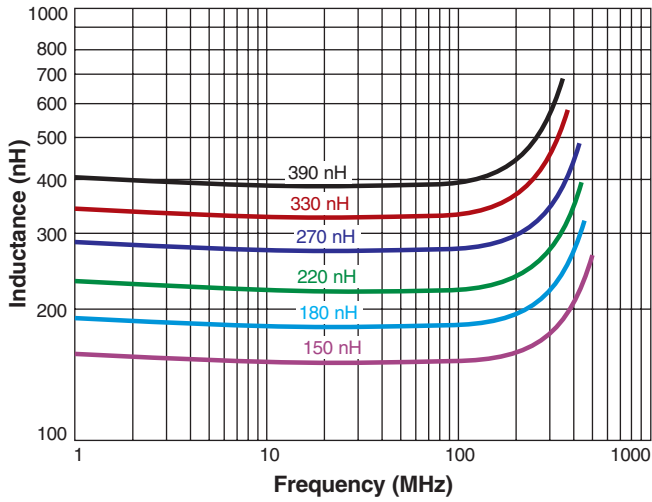
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# Ultra High Q Chip Inductors – 1812

## L vs Frequency



## Q vs Frequency

