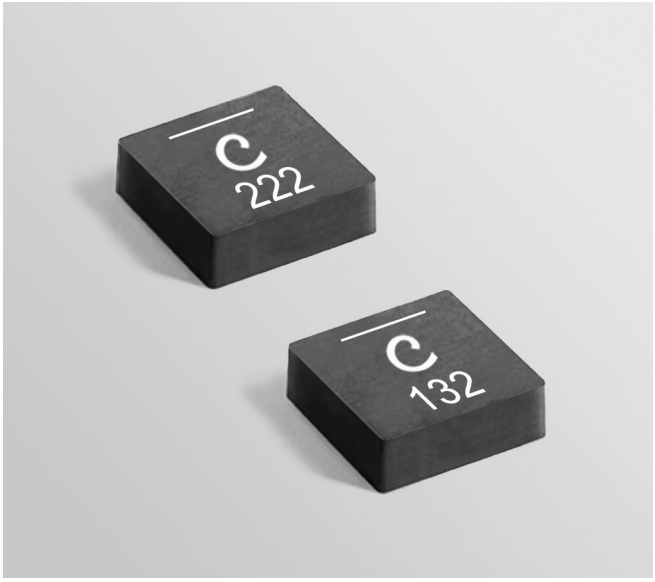
Shielded Power Inductors – XAL1350



- AEC-Q200 Grade 1 qualified (–40°C to +125°C ambient)
- High current and very low DCR
- Soft saturation makes them ideal for VRM/VRD applications.

Core material Composite
Environmental RoHS compliant, halogen free
Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.
Weight 4.5 – 4.9 g
Ambient temperature –40°C to +125°C with (40°C rise) Irms current.
Maximum part temperature +165°C (ambient + temp rise). Derating.
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 400/13″ reel Plastic tape: 24 mm wide, 0.3 mm thick, 20 mm pocket spacing, 5.2 mm pocket depth
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] (µH)	Percent tolerance	DCR (mOhms)[3] typ	DCR (mOhms)[3] max	SRF typ[4] (MHz)	Isat[5] (A)	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
XAL1350-631_E_	0.63	**30**,20	1.50	1.70	50	74	28	38
XAL1350-931_E_	0.93	**30**,20	2.00	2.20	42	60	25	33
XAL1350-132_E_	1.3	**30**,20	2.50	2.70	33	56	23	32
XAL1350-222_E_	2.2	**30**,20	4.16	4.80	23	46	19	24
XAL1350-302_E_	3.0	**30**,20	5.86	6.80	19	37	16	21

Irms Testing

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

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

XAL1350-302NED

Tolerance: **N** = 30%, **M** = 20% (Table above shows stock tolerances in bold.)
Packaging: **D** = 13″ machine-ready reel. EIA-481 embossed plastic tape (400 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 100 kHz, 0.1 Vrms, 0 Adc.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using an Agilent/HP 4395A or equivalent.
5. DC current at which the inductance drops 30% (typ) from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

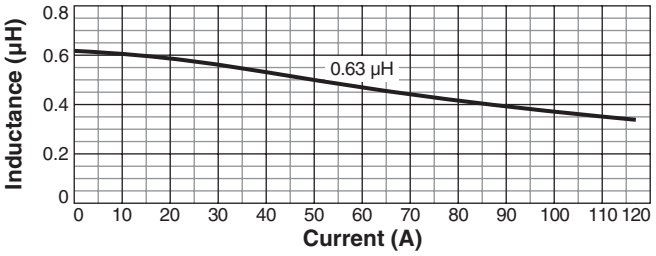
Coilcraft
www.coilcraft.com

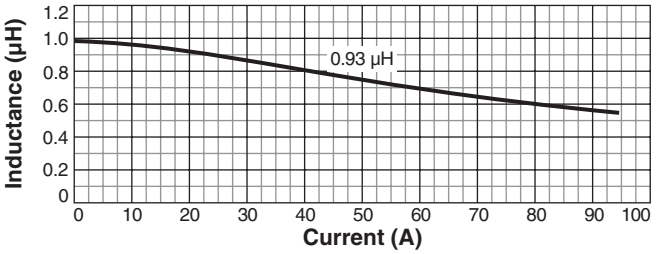
US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

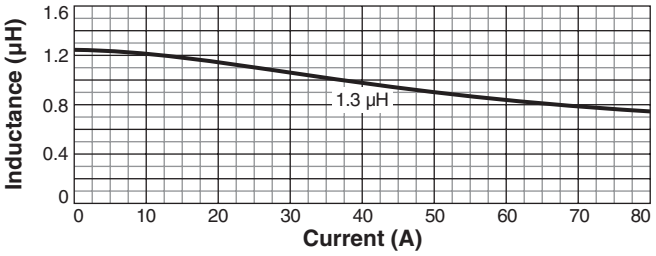
Document 1032-1 Revised 05/19/17

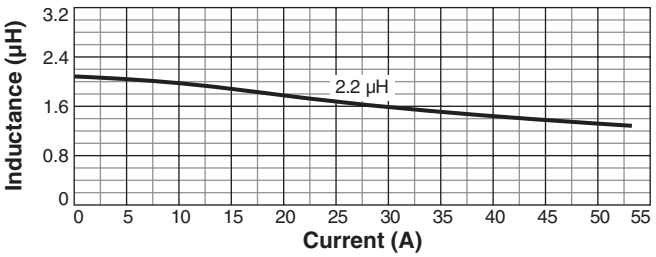
Shielded Power Inductors – XAL1350

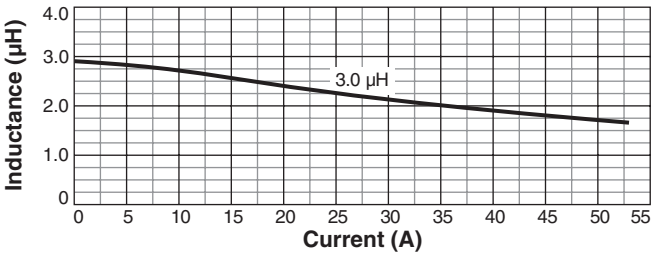
L vs Current



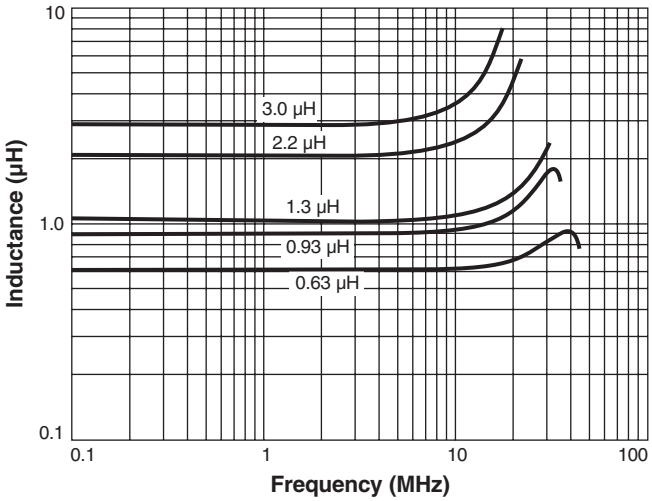


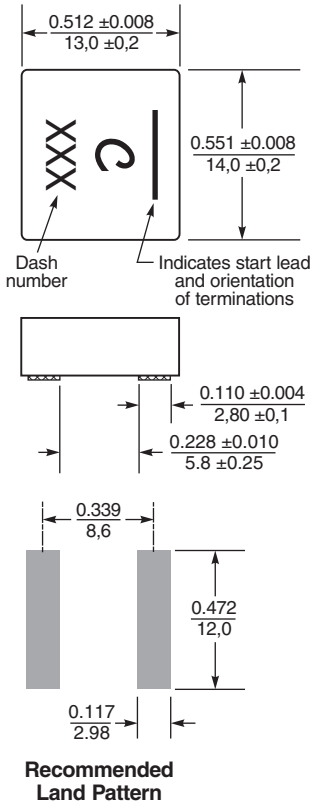




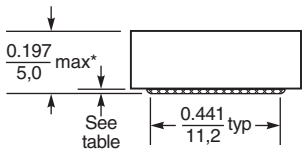


L vs Frequency





Recommended Land Pattern



Dash number	Terminal thickness (typ) (in / mm)
-631	0.0157 / 0.40
-931	0.0157 / 0.40
-132	0.0157 / 0.40
-222	0.0118 / 0.30
-302	0.0098 / 0.25

* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0.13 mm.

Dimensions are in inches / mm

Coilcraft®
www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 1032-2 Revised 05/19/17