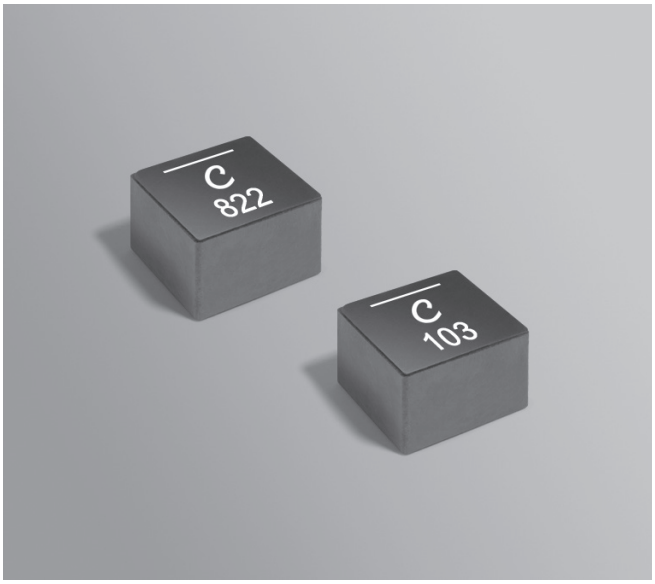
THE DATASHEET OF

XAL1510-822MED

Shielded Power Inductors XAL1510



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

Core material Composite
Core and winding loss Go to online calculator
Environmental RoHS compliant, halogen free
Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.
Weight 12.4 – 15.0 g
Operating voltage: 0 – 60 V
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: –55°C to +165°C.
Tape and reel packaging: –55°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)
Packaging 150/13″ reel Plastic tape: 32 mm wide, 0.4 mm thick, 24 mm pocket spacing, 10.26 mm pocket depth (**all except -333**) 11.26 mm pocket depth (**-333 only**).
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number[1]	Inductance[2] ±20% (µH)	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
XAL1510-472ME_	4.7	3.35	3.80	12.7	39.0	21	29
XAL1510-682ME_	6.8	4.17	4.60	11.5	36.0	19	26
XAL1510-822ME_	8.2	6.00	7.50	10.8	30.0	18	24
XAL1510-103ME_	10	6.80	9.00	10.1	26.3	16	22
XAL1510-153ME_	15	9.17	12.4	8.0	23.0	13	18
XAL1510-223ME_	22	14.5	16.0	6.3	18.7	10.5	14
XAL1510-333ME_	33	18.7	20.0	5.8	16.7	8.6	12

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

XAL1510-333MED

Termination: **E** = RoHS compliant tin-silver over copper.
Special order: S = non-RoHS tin-lead (63/37).

Packaging: **D** = 13″ machine-ready reel. EIA-481 embossed plastic tape (150 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 D.

2. Inductance tested at 1 MHz, 0.1 Vrms, 0 Adc.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using Agilent/HP 4395A or equivalent.
5. DC current at 25°C that causes an inductance drop of 30% (typ) from its value without current.
Click for temperature derating information.
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.
7. Electrical specifications at 25°C.

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

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.

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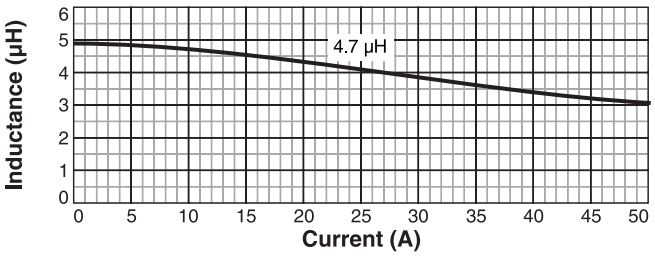
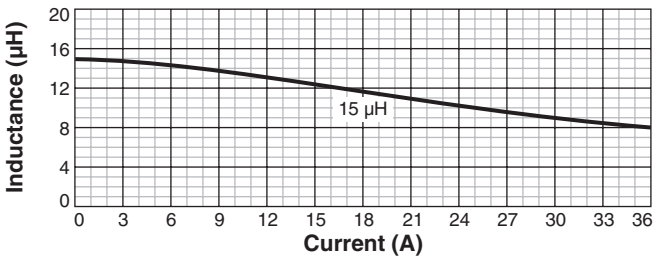
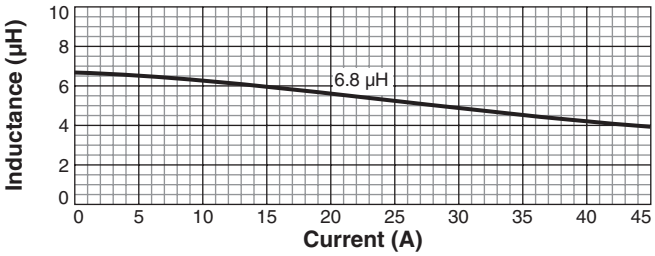
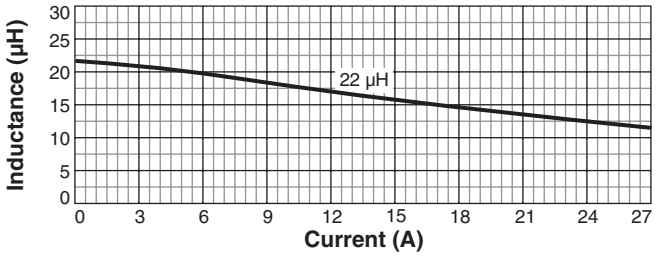
Shielded Power Inductors – XAL1510

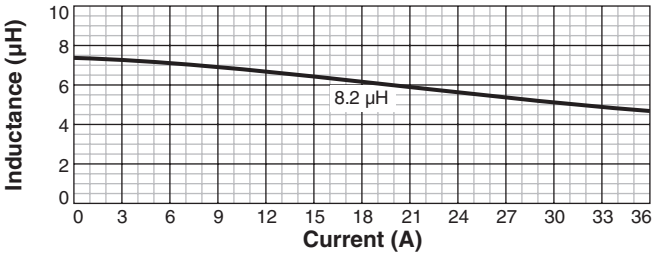
L vs Current

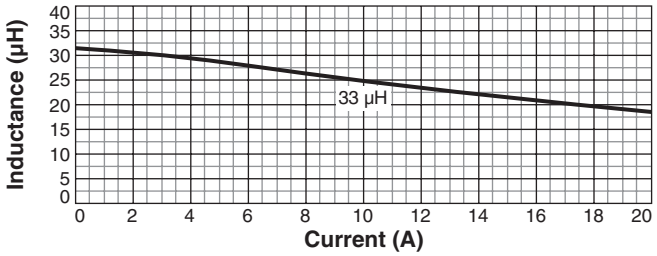


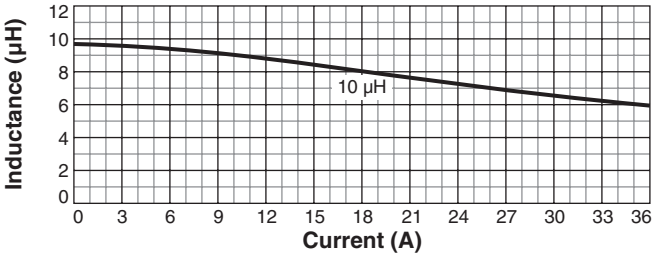












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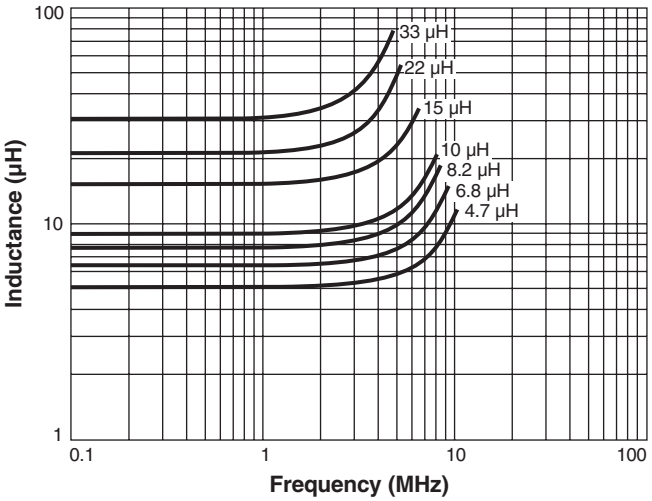
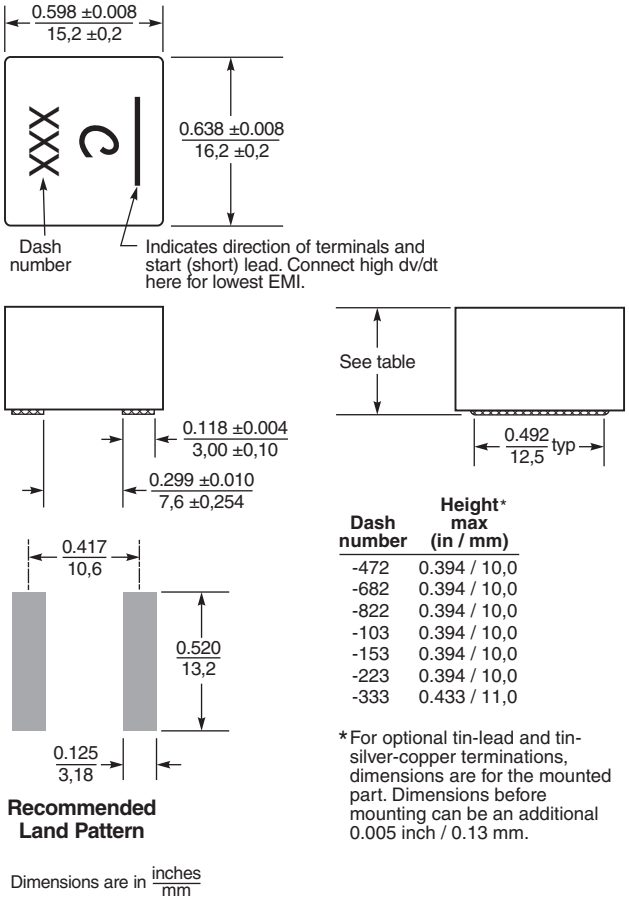
L vs Frequency





Dash number	Height* max (in / mm)
-472	0.394 / 10,0
-682	0.394 / 10,0
-822	0.394 / 10,0
-103	0.394 / 10,0
-153	0.394 / 10,0
-223	0.394 / 10,0
-333	0.433 / 11,0

*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.

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