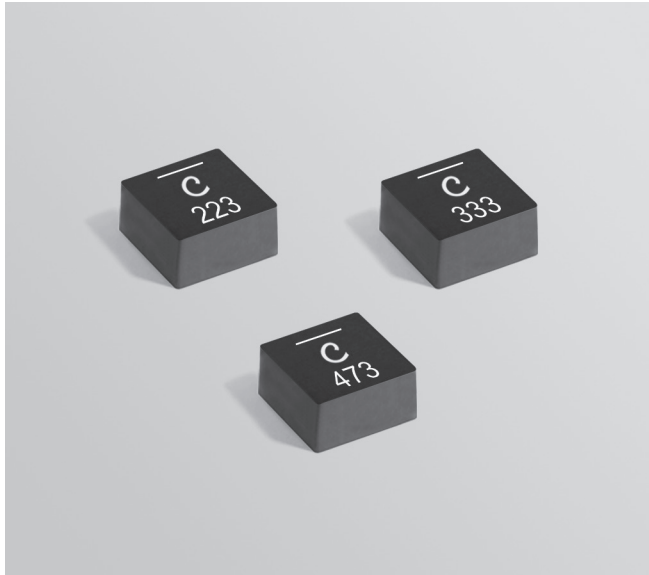




Shielded Power Inductors – XAL7050



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

Core material Composite

Environmental RoHS compliant, halogen free

Terminations RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

Weight 1.50 – 1.55 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 250/7" reel, 1000/13" reel Plastic tape: 16 mm wide, 0.40 mm thick, 12 mm pocket spacing, 5.21 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 ±20% (µH)	DCR (mOhms) ³		SRF typ ⁴ (MHz)	Isat ⁵ (A)	Irms (A) ⁶	
		typ	max			20°C rise	40°C rise
XAL7050-103ME_	10	25	29	12.1	7.1	6.3	8.5
XAL7050-153ME_	15	35	41	10.3	6.4	5.1	7.0
XAL7050-183ME_	18	43	50	9.3	6.2	4.5	6.2
XAL7050-223ME_	22	60	70	8.6	5.5	4.0	5.0
XAL7050-333ME_	33	75	85	6.7	4.1	3.4	4.6
XAL7050-473ME_	47	105	120	6.0	3.5	2.5	3.5

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

XAL7050-473MEC

Termination: E = Halogen free component. RoHS compliant tin-silver over copper terminations.
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

Packaging: C = 7" machine-ready reel. EIA-481 embossed plastic tape (250 parts per full reel).
Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1000 parts per full reel).

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.

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.

7. Electrical specifications at 25°C.

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

Irms Testing

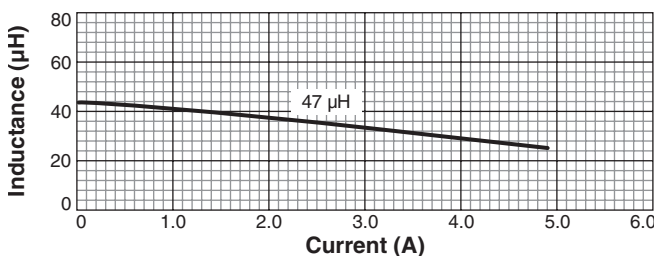
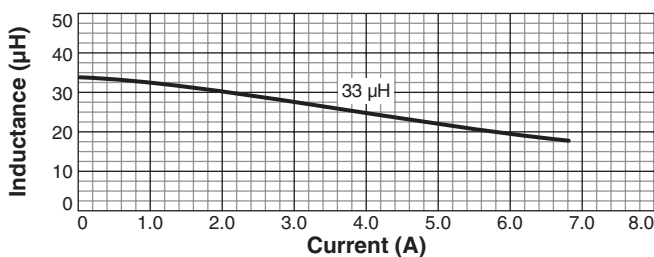
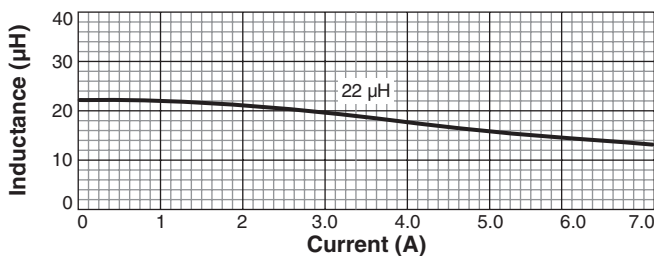
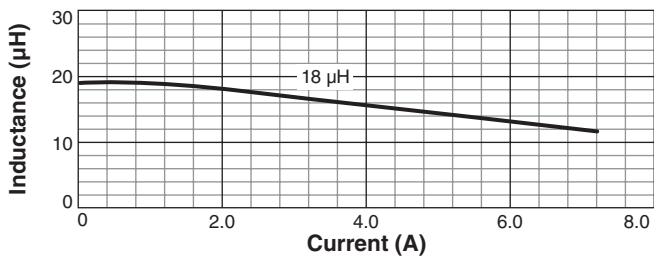
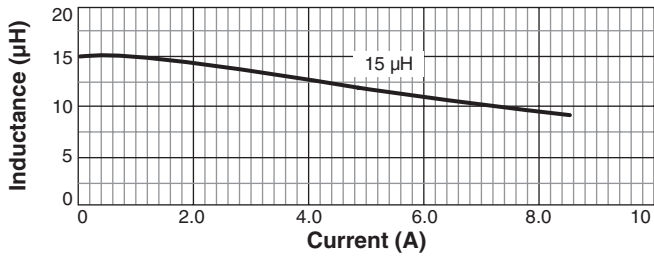
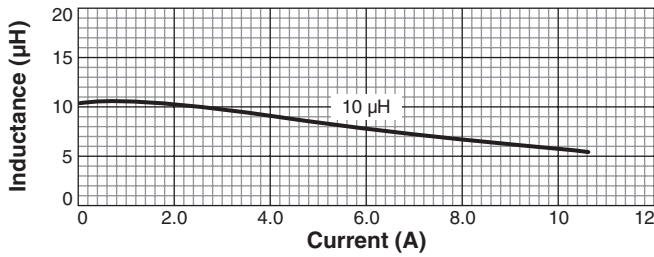
Irms testing was performed on 0.75 inch wide x 0.25 inch thick copper traces in still air.

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.

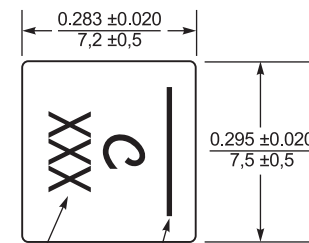
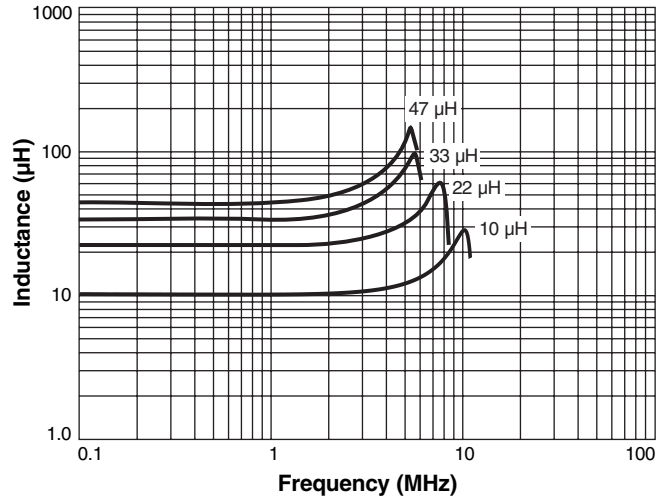


Shielded Power Inductors – XAL7050

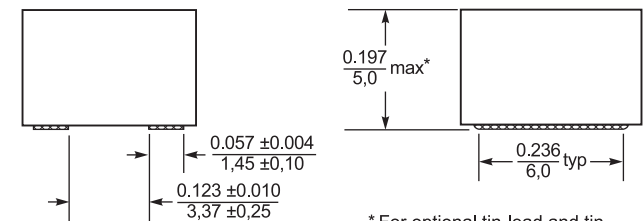
L vs Current



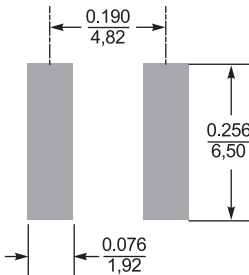
Typical L vs Frequency



Dash number
Indicates direction of terminals and start (short) lead. Connect high dv/dt here for lowest EMI.



* 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.



Recommended Land Pattern

Dimensions are in inches/mm



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