



SMT Power Inductors – MLC Series



- Soft saturation makes them ideal for VRD/VRM applications
- Special materials eliminate all thermal aging issues.

Designer's Kit C387 contains samples of all values

Core material Iron

Core and winding loss See www.coilcraft.com/coreloss

Terminations RoHS tin-silver over copper. Other terminations available at additional cost.

Weight MLC12XX 1.91 – 3.03 g; MLC15XX 2.73 – 4.72 g

Ambient temperature –40°C to +85°C with I_{rms} current

Maximum part temperature: The part may be operated without damage as long its temperature (ambient + self-heating) does not exceed +125°C.

Storage temperature Component: –40°C to +125°C.

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

PCB washing Only pure water or alcohol recommended

| Part number ¹ | L ² ±20% (µH) | DCR (mOhm) | | SRF ³ (MHz) | Isat (A) ⁴ | | I _{rms} (A) ⁵ | | Height max (mm) |
|------------------------------------|--------------------------------|---------------|-------|---------------------------|-----------------------|-------------|-----------------------------------|--------------|-----------------------|
| | | typ | max | | 10% drop | 20% drop | 20°C rise | 40°C rise | |
| 10.5 mm × 11.4 mm body size | | | | | | | | | |
| MLC1265-361ML_ | 0.36 | 0.93 | 1.03 | 234 | 26.9 | 42.6 | 16.5 | 22.7 | 6.5 |
| MLC1260-401ML_ | 0.40 | 0.93 | 1.03 | 228 | 21.0 | 35.2 | 16.3 | 21.9 | 6.1 |
| MLC1255-421ML_ | 0.42 | 0.93 | 1.03 | 219 | 21.1 | 34.5 | 16.8 | 24.1 | 5.6 |
| MLC1240-451ML_ | 0.45 | 1.73 | 1.91 | 198 | 16.5 | 24.9 | 12.8 | 19.8 | 4.1 |
| MLC1265-701ML_ | 0.70 | 1.24 | 1.37 | 134 | 16.4 | 27.5 | 15.2 | 21.0 | 6.5 |
| MLC1250-801ML_ | 0.80 | 2.35 | 2.59 | 151 | 13.3 | 21.7 | 12.4 | 17.3 | 5.1 |
| MLC1240-901ML_ | 0.90 | 2.57 | 2.83 | 108 | 13.9 | 22.8 | 11.9 | 16.3 | 4.1 |
| MLC1260-122ML_ | 1.20 | 2.38 | 2.62 | 93 | 14.0 | 23.3 | 12.3 | 17.6 | 6.1 |
| MLC1255-122ML_ | 1.20 | 2.38 | 2.62 | 85 | 14.1 | 22.4 | 12.4 | 17.5 | 5.6 |
| MLC1250-132ML_ | 1.30 | 2.38 | 2.62 | 76 | 10.8 | 17.7 | 11.7 | 16.5 | 5.3 |
| MLC1245-152ML_ | 1.50 | 4.08 | 4.49 | 79 | 10.7 | 17.3 | 10.3 | 14.2 | 4.6 |
| MLC1260-172ML_ | 1.75 | 2.84 | 3.13 | 72 | 12.1 | 19.2 | 10.9 | 15.3 | 6.1 |
| MLC1245-402ML_ | 4.00 | 8.18 | 9.00 | 46 | 7.42 | 11.8 | 6.9 | 9.8 | 4.8 |
| 13.2 mm × 14.0 mm body size | | | | | | | | | |
| MLC1565-451ML_ | 0.45 | 0.864 | 0.951 | 158 | 32.8 | 54.0 | 18.0 | 25.6 | 6.5 |
| MLC1565-501ML_ | 0.50 | 0.864 | 0.951 | 132 | 21.3 | 38.1 | 18.6 | 26.9 | 6.5 |
| MLC1555-551ML_ | 0.55 | 1.34 | 1.48 | 165 | 20.8 | 35.7 | 16.1 | 22.3 | 5.6 |
| MLC1565-801ML_ | 0.80 | 1.20 | 1.32 | 93 | 27.4 | 47.4 | 17.4 | 24.6 | 6.5 |
| MLC1560-901ML_ | 0.90 | 1.72 | 1.90 | 101 | 17.8 | 28.7 | 14.6 | 20.6 | 6.0 |
| MLC1538-102ML_ | 1.00 | 3.46 | 3.81 | 81 | 13.6 | 21.2 | 11.5 | 16.7 | 3.9 |
| MLC1550-102ML_ | 1.00 | 1.72 | 1.90 | 76 | 16.1 | 27.3 | 13.9 | 19.7 | 5.2 |
| MLC1565-142ML_ | 1.40 | 2.20 | 2.42 | 77 | 18.9 | 30.1 | 13.7 | 19.9 | 6.5 |
| MLC1538-152ML_ | 1.50 | 4.36 | 4.80 | 50 | 13.4 | 21.0 | 10.6 | 14.6 | 3.9 |
| MLC1565-202ML_ | 2.00 | 3.56 | 3.82 | 64 | 15.2 | 24.2 | 11.6 | 16.3 | 6.5 |
| MLC1550-252ML_ | 2.50 | 3.43 | 3.74 | 45 | 10.9 | 17.7 | 11.5 | 15.8 | 5.2 |
| MLC1565-282ML_ | 2.80 | 4.10 | 4.51 | 44 | 13.7 | 22.3 | 10.7 | 15.2 | 6.5 |
| MLC1555-302ML_ | 3.00 | 4.06 | 4.47 | 42 | 11.1 | 18.1 | 10.9 | 15.6 | 5.6 |
| MLC1550-452ML_ | 4.50 | 7.13 | 7.85 | 36 | 7.12 | 11.8 | 8.43 | 11.7 | 5.2 |

- Please specify **termination** and **packaging** codes:

MLC1550-452ML C

Termination: L = RoHS compliant tin-silver over copper.

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.

B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked.

- Inductance measured at 100 kHz, 0.1 V_{rms}, 0.1 A_{dc} using a Coilcraft SMD-A fixture in an Agilent/HP 4284A LCR meter.
 - SRF measured using an Agilent/HP4291A impedance analyzer and a Coilcraft 16193 fixture.
 - DC current at which the inductance drops the specified amount from its value without current.
 - Current that causes the specified temperature rise from 25°C ambient.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Coilcraft[®]

Specifications subject to change without notice.
Please check our website for latest information.

Document 327-1 Revised 07/23/09

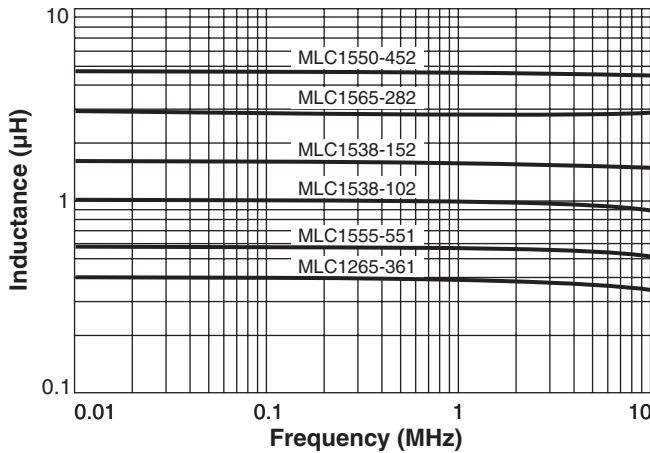
1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web <http://www.coilcraft.com>

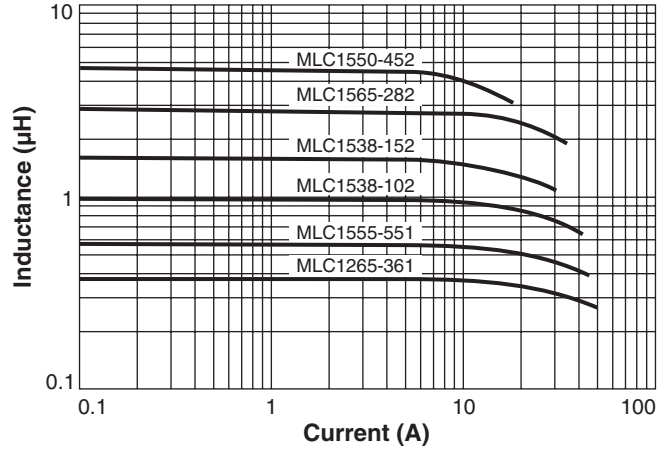


SMT Power Inductors - MLC Series

Typical L vs Frequency

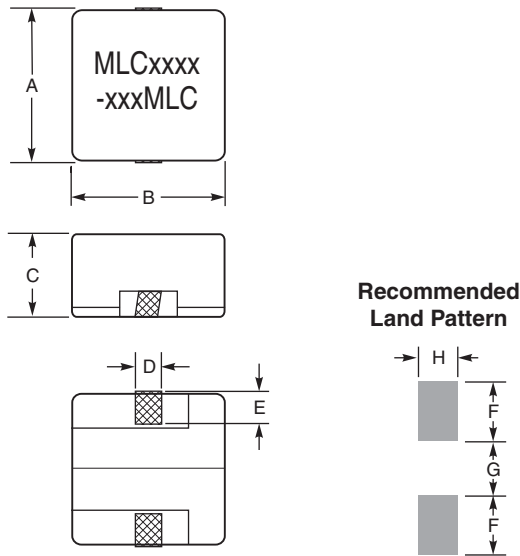


Typical L vs Current



Inductance vs current is unaffected by part temperature up to 135°C.

Dimensions

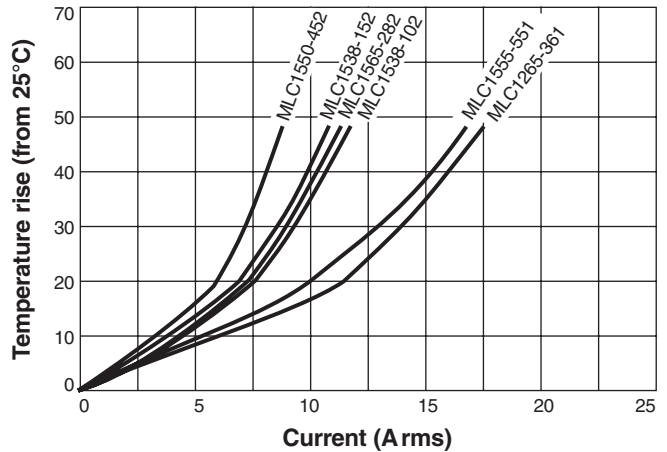


Weight: MLC12XX 1.91 – 3.03 g; MLC15XX 2.73 – 4.72 g

| Body Size | A max | B max | C max | D | E | F | G | H |
|-----------|-------|-------|-------|-----|-----|-----|-----|-----|
| 1240 | 11.2 | 10.5 | 4.1 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1245 | 11.2 | 10.5 | 4.6 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1250 | 11.2 | 10.5 | 5.1 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1255 | 11.4 | 10.5 | 5.6 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1260 | 11.4 | 10.5 | 6.1 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1265 | 11.4 | 10.5 | 6.5 | 1.8 | 2.3 | 4.0 | 4.0 | 2.7 |
| 1538 | 13.8 | 13.2 | 3.9 | 2.4 | 3.0 | 5.0 | 5.4 | 3.4 |
| 1550 | 13.8 | 13.2 | 5.2 | 2.4 | 3.0 | 5.0 | 5.4 | 3.4 |
| 1555 | 13.8 | 13.2 | 5.6 | 2.4 | 3.0 | 5.0 | 5.4 | 3.4 |
| 1560 | 13.8 | 13.2 | 6.0 | 2.4 | 3.0 | 5.0 | 5.4 | 3.4 |
| 1565 | 14.0 | 13.2 | 6.5 | 2.4 | 3.0 | 5.0 | 5.4 | 3.4 |

All dimensions are in mm.

Temperature Rise vs Current



Tape and Reel

| | | | |
|----------------|--------------|--------------|------------------|
| MLC1240 | 250/7" reel; | 900/13" reel | 24 mm tape width |
| MLC1245 | 200/7" reel; | 800/13" reel | 24 mm tape width |
| MLC1250 | 200/7" reel; | 700/13" reel | 24 mm tape width |
| MLC1255 | 200/7" reel; | 700/13" reel | 24 mm tape width |
| MLC1260 | 175/7" reel; | 600/13" reel | 24 mm tape width |
| MLC1265 | 150/7" reel; | 600/13" reel | 24 mm tape width |
| MLC1538 | 200/7" reel; | 800/13" reel | 24 mm tape width |
| MLC1550 | 150/7" reel; | 600/13" reel | 24 mm tape width |
| MLC1555 | 150/7" reel; | 500/13" reel | 24 mm tape width |
| MLC1560 | 150/7" reel; | 500/13" reel | 24 mm tape width |
| MLC1565 | 125/7" reel; | 500/13" reel | 24 mm tape width |

7" reels are stocked; 13" reels are factory orders only.

For packaging data see Tape and Reel Specifications section.



Specifications subject to change without notice.
Please check our website for latest information.

Document 327-2 Revised 07/23/09

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web <http://www.coilcraft.com>