



Shielded Power Inductors – MLC75xx



- Soft saturation makes them ideal for VRD/VRM applications
- Special materials eliminate all thermal aging issues.
- AEC-Q200 Grade 3 (–40°C to +85°C)
- Saturation current up to 59 Amps

Core material Iron

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

Weight 0.60 – 0.80 g

Environmental RoHS compliant, halogen free

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

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +125°C (ambient + temperature rise)

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

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) | DCR (mOhm) | | SRF typ ³ (MHz) | Isat (A) ⁴ | | | Irms (A) ⁵ | |
|--------------------------|---------------------------------|------------|------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
| | | typ | max | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| MLC7532-101NE_ | 0.10±30% | 1.20 | 1.40 | 140 | 21.0 | 38.0 | 56.2 | 24.9 | 32.5 |
| MLC7532-221ME_ | 0.22±20% | 2.50 | 2.80 | 128 | 22.9 | 41.0 | 59.2 | 20.2 | 26.5 |
| MLC7542-311ME_ | 0.31±20% | 2.30 | 2.70 | 114 | 12.2 | 21.9 | 29.8 | 20.0 | 23.8 |
| MLC7542-601ME_ | 0.60±20% | 2.95 | 3.80 | 96 | 9.9 | 15.7 | 20.2 | 16.7 | 21.9 |
| MLC7540-102ME_ | 1.00±20% | 4.42 | 5.00 | 81 | 7.4 | 11.3 | 15.7 | 13.8 | 18.2 |
| MLC7540-142ME_ | 1.40±20% | 7.10 | 8.00 | 76 | 6.3 | 11.0 | 14.3 | 10.6 | 14.1 |
| MLC7540-222ME_ | 2.17±20% | 11.7 | 13.0 | 65 | 5.3 | 8.3 | 11.4 | 8.5 | 11.3 |

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

MLC7540-222ME**C**

Termination: E = RoHS 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.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4284A LCR meter.

3. SRF measured using an Agilent/HP4291A impedance analyzer and a Coilcraft 16193 fixture.

4. DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information.](#)

5. 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.](#)

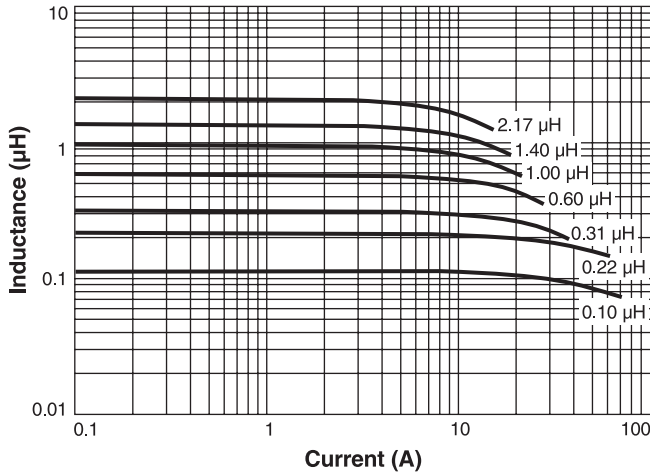
6. Electrical specifications at 25°C.

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

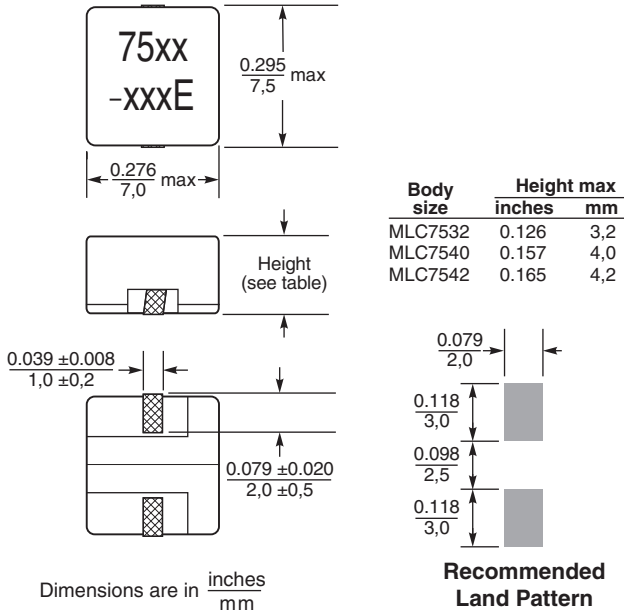
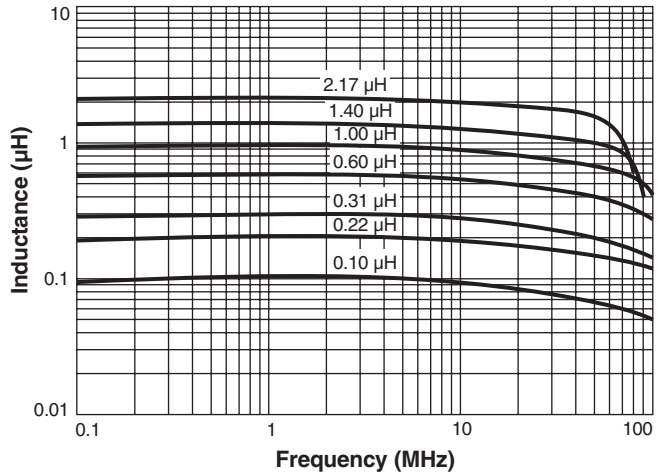


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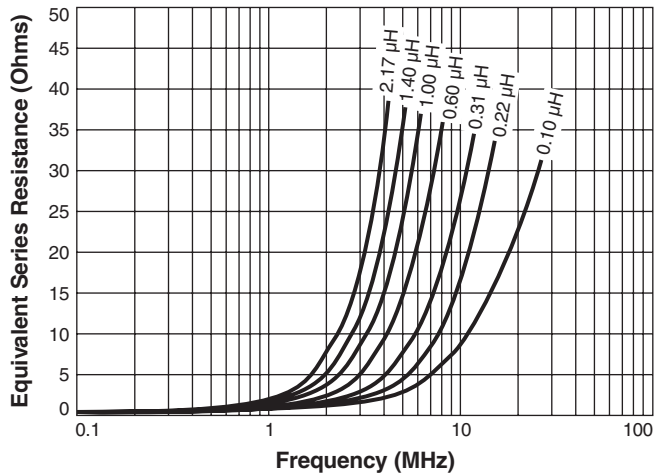
L vs Current



L vs Frequency



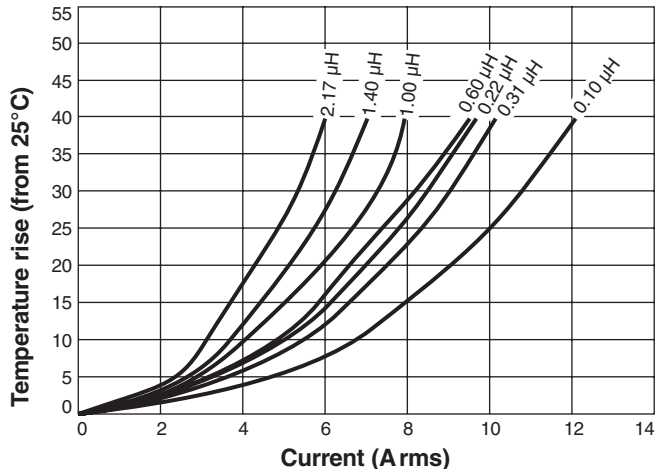
ESR vs Frequency



Packaging

MLC7532 350/7" reel; 1500/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 3.3 mm pocket depth
MLC7540 250/7" reel; 1200/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.2 mm pocket depth
MLC7542 250/7" reel; 1200/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.2 mm pocket depth

Temperature Rise vs Current



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