RoHS COMPLIANT

Halogen Free

Shielded Power Inductors–MLC1770

- Soft saturation makes them ideal for VRD/VRM applications
- Special materials eliminate all thermal aging issues.
- Saturation current up to 64 Amps

Part number[1]	Inductance[2] ±20% (µH)	DCR (mOhm) typ	DCR (mOhm) max	SRF typ[3] (MHz)	Isat (A)[4] 10% drop	Isat (A)[4] 20% drop	Isat (A)[4] 30% drop	Irms (A)[5] 20°C rise	Irms (A)[5] 40°C rise
MLC1770-801ME_	0.80	1.15	1.30	72	28.40	49.92	64.88	20.36	28.92
MLC1770-142ME_	1.40	1.80	2.00	59	20.52	35.64	51.44	16.10	24.06
MLC1770-202ME_	2.00	2.70	3.00	49	14.20	24.80	37.00	12.98	19.12
MLC1770-282ME_	2.80	3.60	4.00	41	13.00	22.80	33.80	11.56	15.80

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

   MLC1770-282MEC

   Termination: E = RoHS compliant tin-silver over copper
   Special order, added cost: **T** = RoHS tin-silver-copper (95.5/4/0.5) or
   S = non-RoHS tin-lead (63/37).

   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 measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter.
3. SRF measured using an Agilent/HP4291A impedance analyzer and an Agilent/HP 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.
5. Electrical specifications at 25°C.

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

Core material Iron

Core and winding loss Go to core loss calculator

Environmental RoHS compliant, halogen free

Weight 7.8 – 8.0 g

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

Ambient temperature –40°C to +85°C with Irms 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.
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 per 13″ reel Plastic tape: 24 mm wide, 0.4 mm thick, 24 mm pocket spacing, 7.0 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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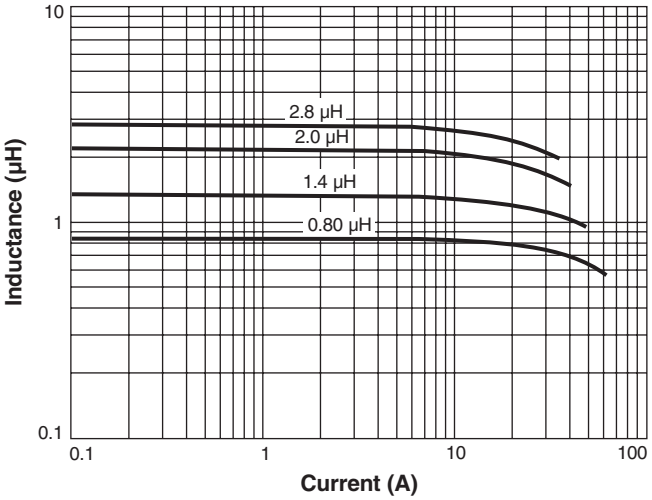
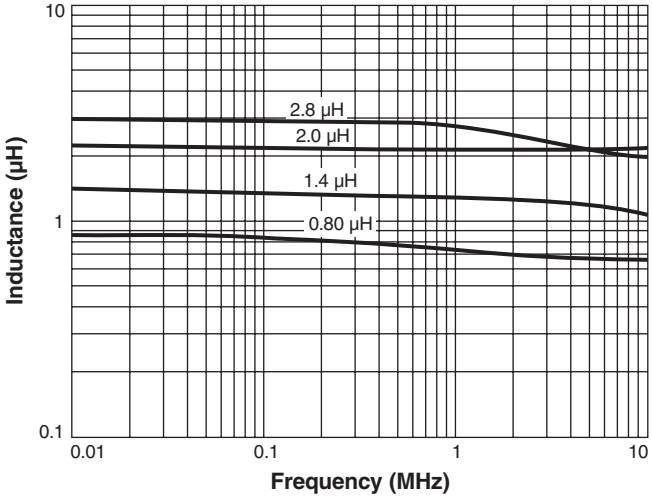
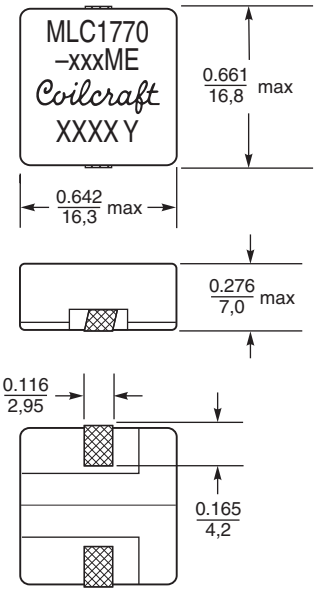
Shielded Power Inductors – MLC1770

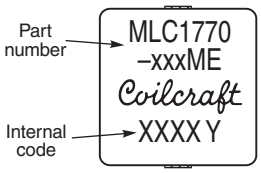
L vs Current



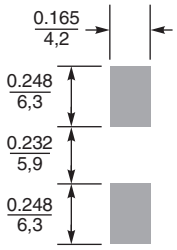
L vs Frequency







Part Marking



Recommended Land Pattern

Dimensions are in inches / mm

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