

High-Reliability Power Inductors ML420PJB



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Special construction allows it to pass vibration testing to 80 G and shock testing to 1000 G.

Core material Ferrite

Terminations Silver-palladium-platinum-glass frit

Weight 66 – 76 mg

Ambient temperature –55°C to +105°C with Irms current

Maximum part temperature +155°C (ambient + temp rise)

Storage temperature Component: –55°C to +155°C.

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

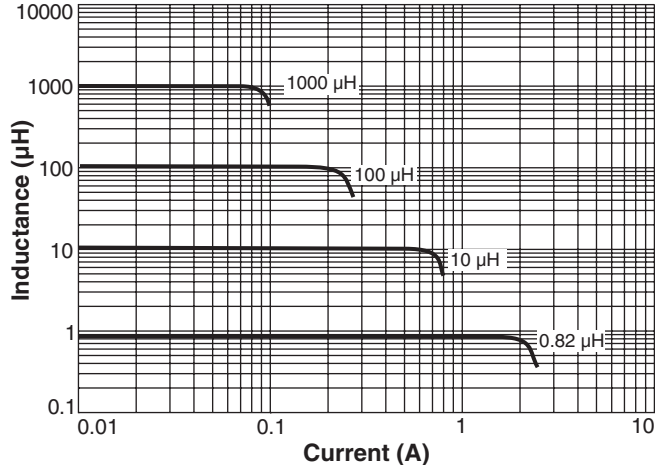
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Enhanced crush-resistant packaging 1000/7" reel

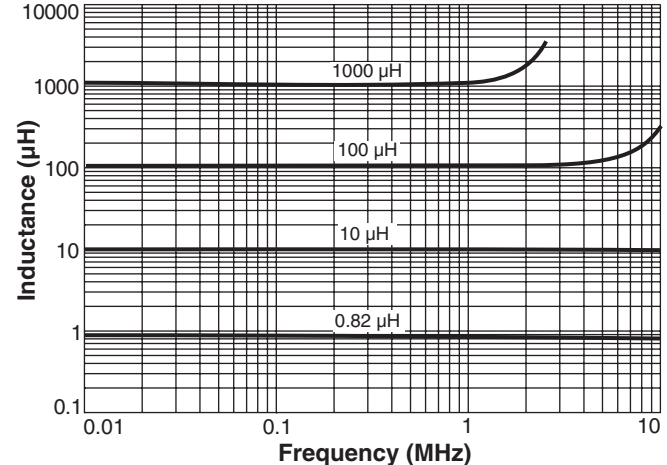
Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.02 mm pocket depth

Recommended pick and place nozzle OD: 5 mm; ID: ≤ 2.5 mm

Typical L vs Current



Typical L vs Frequency



ML420PJB Series (5010)

| Part number ¹ | Inductance ² ±20% (µH) | DCR max ³ (Ohms) | SRF (MHz) ⁴ | | Isat (A) ⁵ | | | Irms (A) ⁶ | |
|--------------------------|--------------------------------------|--------------------------------|------------------------|-----|-----------------------|----------|----------|-----------------------|-----------|
| | | | min | typ | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| ML420PJB471MLZ | 0.47 | 0.038 | 203 | 290 | 3.1 | 3.3 | 3.4 | 1.6 | 2.2 |
| ML420PJB821MLZ | 0.82 | 0.058 | 136.5 | 195 | 2.3 | 2.5 | 2.6 | 1.0 | 1.2 |
| ML420PJB152MLZ | 1.5 | 0.072 | 117.6 | 168 | 1.7 | 1.8 | 1.9 | 0.72 | 1.1 |
| ML420PJB222MLZ | 2.2 | 0.100 | 100.8 | 144 | 1.4 | 1.5 | 1.6 | 0.70 | 1.0 |
| ML420PJB332MLZ | 3.3 | 0.125 | 73.5 | 105 | 1.1 | 1.2 | 1.3 | 0.69 | 0.88 |
| ML420PJB472MLZ | 4.7 | 0.175 | 53.2 | 76 | 0.95 | 1.1 | 1.1 | 0.68 | 0.78 |
| ML420PJB562MLZ | 5.6 | 0.240 | 52.5 | 75 | 0.90 | 0.97 | 1.00 | 0.60 | 0.74 |
| ML420PJB682MLZ | 6.8 | 0.255 | 49.7 | 71 | 0.82 | 0.90 | 0.93 | 0.59 | 0.68 |
| ML420PJB103MLZ | 10 | 0.350 | 35.7 | 51 | 0.66 | 0.72 | 0.74 | 0.58 | 0.64 |
| ML420PJB153MLZ | 15 | 0.500 | 27.3 | 39 | 0.55 | 0.59 | 0.62 | 0.54 | 0.60 |
| ML420PJB223MLZ | 22 | 0.670 | 22.4 | 32 | 0.47 | 0.51 | 0.53 | 0.37 | 0.50 |
| ML420PJB333MLZ | 33 | 1.05 | 18.2 | 26 | 0.38 | 0.42 | 0.43 | 0.32 | 0.44 |
| ML420PJB473MLZ | 47 | 1.45 | 14.0 | 20 | 0.31 | 0.34 | 0.36 | 0.26 | 0.35 |
| ML420PJB683MLZ | 68 | 2.00 | 10.5 | 15 | 0.26 | 0.29 | 0.30 | 0.20 | 0.28 |
| ML420PJB104MLZ | 100 | 3.10 | 8.40 | 12 | 0.21 | 0.23 | 0.24 | 0.17 | 0.22 |
| ML420PJB124MLZ | 120 | 3.50 | 7.70 | 11 | 0.20 | 0.22 | 0.23 | 0.15 | 0.20 |
| ML420PJB154MLZ | 150 | 4.25 | 6.30 | 9.0 | 0.18 | 0.20 | 0.21 | 0.14 | 0.18 |
| ML420PJB224MLZ | 220 | 6.25 | 4.90 | 7.0 | 0.15 | 0.16 | 0.17 | 0.12 | 0.16 |
| ML420PJB334MLZ | 330 | 8.60 | 3.85 | 5.5 | 0.12 | 0.13 | 0.14 | 0.10 | 0.15 |
| ML420PJB474MLZ | 470 | 12.7 | 3.15 | 4.5 | 0.090 | 0.11 | 0.11 | 0.090 | 0.12 |
| ML420PJB564MLZ | 560 | 15.7 | 2.80 | 4.0 | 0.090 | 0.10 | 0.10 | 0.080 | 0.11 |
| ML420PJB684MLZ | 680 | 20.0 | 2.59 | 3.7 | 0.090 | 0.097 | 0.10 | 0.070 | 0.10 |
| ML420PJB105MLZ | 1000 | 28.0 | 2.10 | 3.0 | 0.087 | 0.096 | 0.10 | 0.060 | 0.090 |

1. When ordering, please specify **screening** code:

ML427PJB105MLZ

Screening: Z = Unscreened

Y = Unscreened (SLDC Option A)

W = Unscreened (SLDC Option B)

H = Group A screening per Coilcraft CP-SA-10001

G = Coilcraft CP-SA-10001 Group A (SLDC Option A)

D = Coilcraft CP-SA-10001 Group A (SLDC Option B)

• Screening performed to the document's latest revision.

• Custom testing also available.

• Country of origin restrictions available; prefix options G or F.

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A.

3. DCR measured on a micro-ohmmeter.

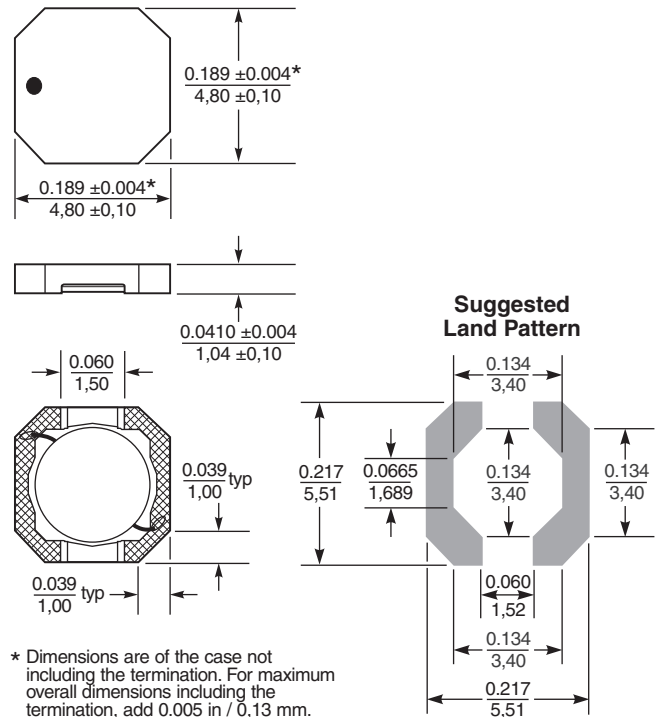
4. SRF measured using an Agilent/HP 8753ES or equivalent.

5. DC current at 25°C that causes the specified inductance drop 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.



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.

Dimensions are in $\frac{\text{inches}}{\text{mm}}$

ML420PJB Series (5010)



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