

High-Reliability Power Inductors ML414PJB



- High temperature material allows 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 37.3 – 57.3 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.

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)

Enhanced crush-resistant packaging 1000/7" reel
Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth

Recommended pick and place nozzle OD: 3.3 mm; ID: ≤ 1.65 mm

| Part number ¹ | Inductance ±20% ² (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 |
| ML414PJB102MLZ | 1.0 | 0.055 | 150 | 215 | 1.8 | 1.9 | 1.9 | 1.3 | 1.7 |
| ML414PJB222MLZ | 2.2 | 0.100 | 98.0 | 140 | 1.1 | 1.4 | 1.5 | 0.96 | 1.3 |
| ML414PJB332MLZ | 3.3 | 0.145 | 80.5 | 115 | 0.98 | 1.2 | 1.3 | 0.80 | 1.1 |
| ML414PJB472MLZ | 4.7 | 0.175 | 60.2 | 86 | 0.97 | 0.99 | 1.0 | 0.72 | 1.0 |
| ML414PJB562MLZ | 5.6 | 0.220 | 51.8 | 74 | 0.92 | 0.95 | 0.98 | 0.66 | 0.88 |
| ML414PJB682MLZ | 6.8 | 0.240 | 50.4 | 72 | 0.82 | 0.83 | 0.86 | 0.66 | 0.88 |
| ML414PJB822MLZ | 8.2 | 0.270 | 42.0 | 60 | 0.58 | 0.75 | 0.78 | 0.56 | 0.80 |
| ML414PJB103MLZ | 10 | 0.330 | 38.5 | 55 | 0.56 | 0.66 | 0.70 | 0.52 | 0.70 |
| ML414PJB153MLZ | 15 | 0.440 | 31.5 | 45 | 0.46 | 0.56 | 0.59 | 0.50 | 0.66 |
| ML414PJB183MLZ | 18 | 0.575 | 25.9 | 37 | 0.44 | 0.51 | 0.54 | 0.42 | 0.54 |
| ML414PJB223MLZ | 22 | 0.720 | 23.8 | 34 | 0.44 | 0.48 | 0.49 | 0.36 | 0.48 |
| ML414PJB333MLZ | 33 | 0.920 | 18.9 | 27 | 0.30 | 0.38 | 0.40 | 0.34 | 0.46 |
| ML414PJB473MLZ | 47 | 1.40 | 15.4 | 22 | 0.28 | 0.33 | 0.34 | 0.28 | 0.38 |
| ML414PJB563MLZ | 56 | 1.55 | 13.3 | 19 | 0.26 | 0.30 | 0.31 | 0.26 | 0.34 |
| ML414PJB683MLZ | 68 | 1.80 | 11.9 | 17 | 0.22 | 0.26 | 0.29 | 0.24 | 0.32 |
| ML414PJB823MLZ | 82 | 2.00 | 9.8 | 14 | 0.20 | 0.24 | 0.26 | 0.23 | 0.31 |
| ML414PJB104MLZ | 100 | 2.75 | 9.1 | 13 | 0.19 | 0.23 | 0.24 | 0.21 | 0.30 |
| ML414PJB124MLZ | 120 | 3.45 | 7.7 | 11 | 0.19 | 0.21 | 0.22 | 0.18 | 0.24 |
| ML414PJB154MLZ | 150 | 4.10 | 7.0 | 10 | 0.16 | 0.19 | 0.20 | 0.16 | 0.22 |
| ML414PJB184MLZ | 180 | 4.80 | 6.3 | 9.0 | 0.14 | 0.17 | 0.18 | 0.15 | 0.20 |
| ML414PJB224MLZ | 220 | 6.00 | 4.90 | 7.0 | 0.14 | 0.16 | 0.17 | 0.13 | 0.18 |
| ML414PJB334MLZ | 330 | 9.30 | 4.20 | 6.0 | 0.11 | 0.12 | 0.13 | 0.10 | 0.14 |
| ML414PJB474MLZ | 470 | 12.0 | 3.15 | 4.5 | 0.080 | 0.11 | 0.11 | 0.10 | 0.13 |
| ML414PJB564MLZ | 560 | 14.0 | 3.15 | 4.5 | 0.095 | 0.105 | 0.11 | 0.090 | 0.12 |
| ML414PJB684MLZ | 680 | 18.5 | 2.80 | 4.0 | 0.092 | 0.100 | 0.105 | 0.080 | 0.10 |
| ML414PJB824MLZ | 820 | 24.0 | 2.59 | 3.7 | 0.086 | 0.099 | 0.100 | 0.070 | 0.090 |
| ML414PJB105MLZ | 1000 | 31.0 | 2.10 | 3.0 | 0.090 | 0.099 | 0.100 | 0.065 | 0.080 |
| ML414PJB155MLZ | 1500 | 44.0 | 1.89 | 2.7 | 0.080 | 0.086 | 0.090 | 0.050 | 0.060 |

1. Please specify **termination** and **screening** codes:

ML414PJB155MLZ

Termination: L = Silver-palladium-platinum-glass frit
R = Matte tin over nickel over silver-platinum glass frit

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. Inductance at 1 MHz is the same for parts with SRF ≥ 10 MHz.

3. DCR measured on a micro-ohmmeter.

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

5. DC current at 25°C that causes the specified inductance drop from its value without current.

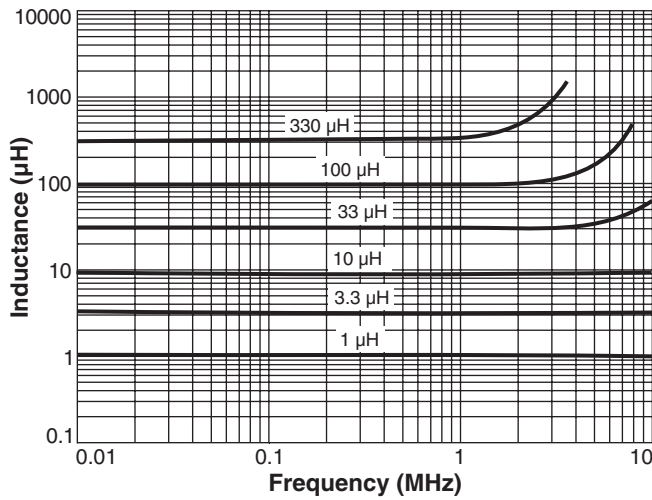
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

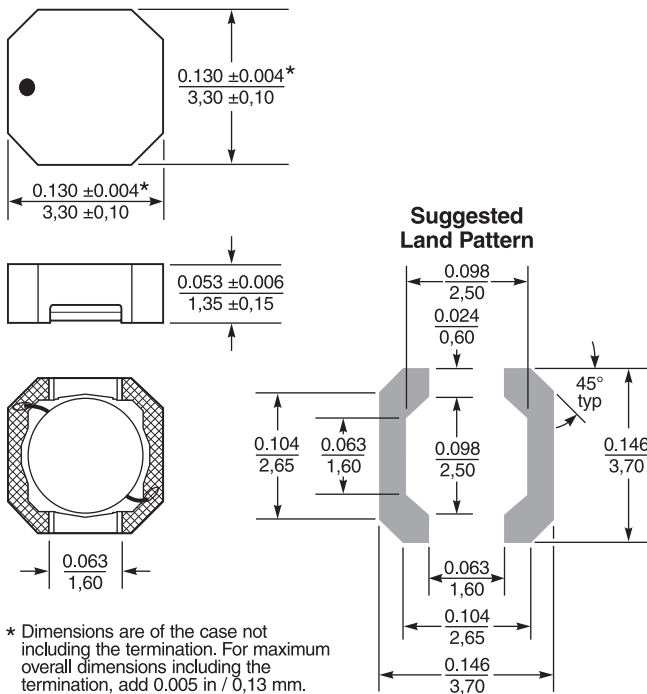
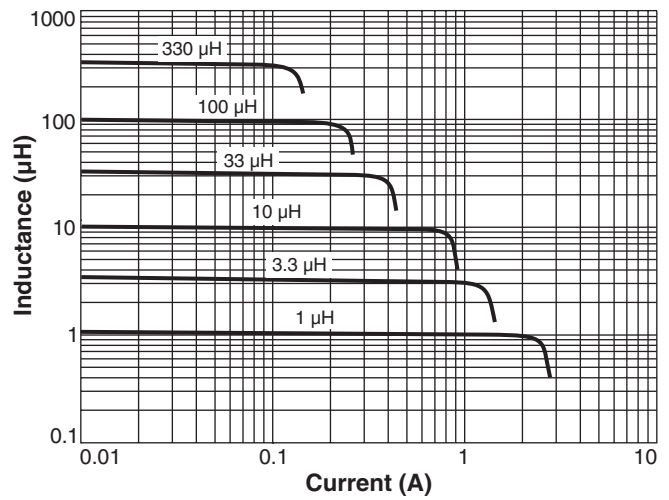
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

ML414PJB Series (3314)

Typical L vs Frequency



Typical L vs Current



* 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 $\frac{\text{inches}}{\text{mm}}$



1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document ML541-2 Revised 04/13/23

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.