

High-Reliability Power Inductors ML378PJB



- 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 25 – 32 mg

Ambient temperature –55°C to +105°C with (40°C) Irms current

Maximum part temperature +155°C (Ambient + temperature 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, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth

Recommended pick and place nozzle OD: 3 mm; ID: ≤1.5 mm

| 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 |
| ML378PJB471MLZ | 0.47 | 0.070 | 259 | 370 | 2.3 | 2.4 | 2.4 | 1.4 | 1.8 |
| ML378PJB681MLZ | 0.68 | 0.080 | 189 | 270 | 1.8 | 1.9 | 1.9 | 1.2 | 1.6 |
| ML378PJB102MLZ | 1.0 | 0.085 | 161 | 230 | 1.6 | 1.7 | 1.7 | 1.0 | 1.4 |
| ML378PJB152MLZ | 1.5 | 0.120 | 115 | 165 | 1.3 | 1.3 | 1.4 | 0.96 | 1.3 |
| ML378PJB182MLZ | 1.8 | 0.150 | 105 | 150 | 1.2 | 1.2 | 1.3 | 0.80 | 1.1 |
| ML378PJB222MLZ | 2.2 | 0.220 | 91.0 | 130 | 1.3 | 1.4 | 1.4 | 0.72 | 0.88 |
| ML378PJB332MLZ | 3.3 | 0.220 | 77.0 | 110 | 0.83 | 0.88 | 0.90 | 0.68 | 0.88 |
| ML378PJB472MLZ | 4.7 | 0.300 | 64.4 | 92 | 0.72 | 0.75 | 0.77 | 0.56 | 0.76 |
| ML378PJB562MLZ | 5.6 | 0.400 | 56.0 | 80 | 0.67 | 0.69 | 0.71 | 0.48 | 0.62 |
| ML378PJB682MLZ | 6.8 | 0.450 | 49.0 | 70 | 0.61 | 0.63 | 0.64 | 0.45 | 0.59 |
| ML378PJB822MLZ | 8.2 | 0.500 | 43.4 | 62 | 0.56 | 0.59 | 0.60 | 0.42 | 0.57 |
| ML378PJB103MLZ | 10 | 0.540 | 40.6 | 58 | 0.50 | 0.53 | 0.55 | 0.38 | 0.51 |
| ML378PJB123MLZ | 12 | 0.700 | 32.9 | 47 | 0.46 | 0.49 | 0.50 | 0.35 | 0.46 |
| ML378PJB153MLZ | 15 | 0.950 | 30.1 | 43 | 0.41 | 0.43 | 0.44 | 0.30 | 0.42 |
| ML378PJB183MLZ | 18 | 1.00 | 27.0 | 40 | 0.38 | 0.40 | 0.41 | 0.26 | 0.38 |
| ML378PJB223MLZ | 22 | 1.20 | 25.2 | 36 | 0.32 | 0.35 | 0.36 | 0.24 | 0.33 |
| ML378PJB333MLZ | 33 | 2.00 | 18.9 | 27 | 0.25 | 0.27 | 0.28 | 0.21 | 0.28 |
| ML378PJB473MLZ | 47 | 3.20 | 14.7 | 21 | 0.23 | 0.24 | 0.25 | 0.18 | 0.25 |
| ML378PJB683MLZ | 68 | 3.50 | 14.7 | 21 | 0.20 | 0.21 | 0.22 | 0.16 | 0.22 |
| ML378PJB104MLZ | 100 | 5.25 | 9.8 | 14 | 0.14 | 0.16 | 0.17 | 0.14 | 0.19 |
| ML378PJB124MLZ | 120 | 6.10 | 8.4 | 12 | 0.13 | 0.15 | 0.15 | 0.12 | 0.16 |
| ML378PJB154MLZ | 150 | 9.15 | 7.7 | 11 | 0.13 | 0.14 | 0.14 | 0.10 | 0.14 |
| ML378PJB184MLZ | 180 | 10.1 | 6.3 | 9 | 0.11 | 0.12 | 0.13 | 0.090 | 0.12 |
| ML378PJB224MLZ | 220 | 12.5 | 5.6 | 8 | 0.10 | 0.11 | 0.12 | 0.080 | 0.10 |
| ML378PJB334MLZ | 330 | 18.5 | 4.9 | 7 | 0.10 | 0.105 | 0.115 | 0.070 | 0.090 |

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

ML378PJB334MLZ

Screening: Z = Unscreened

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 an Agilent/HP 8753ES or equivalent.

5. DC current 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.



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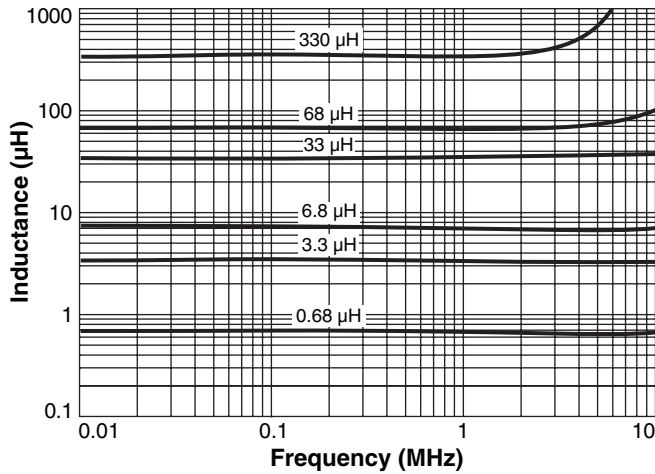
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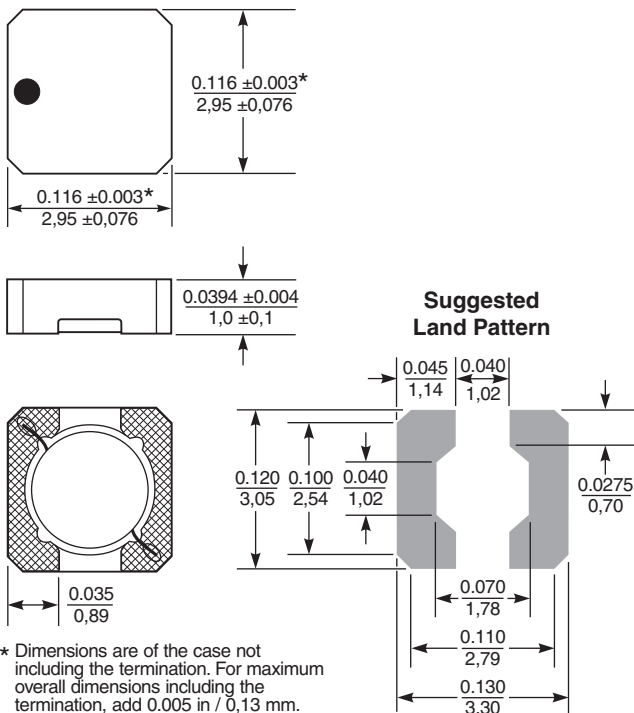
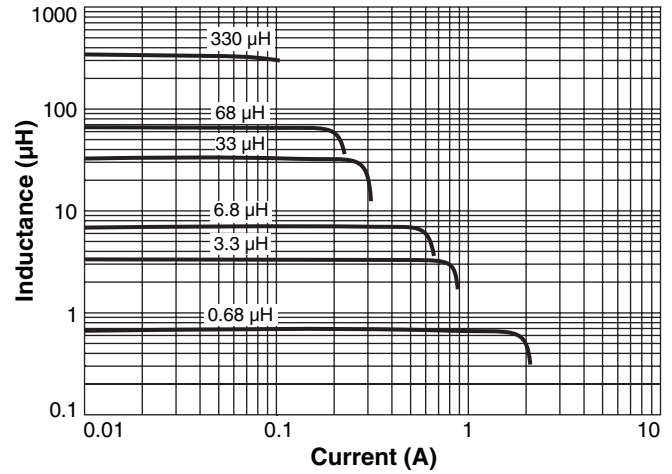
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ML378PJB Series (3010)

Typical L vs Frequency



Typical L vs Current



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



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