

# 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 <sup>1</sup>	Inductance ±20% <sup>2</sup> (µH)	DCR max <sup>3</sup> (Ohms)	SRF (MHz) <sup>4</sup>		Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
			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 **testing** codes:

**ML414PJB105MLZ**

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

**Testing:** Z = Unscreened  
H = Group A screening per Coilcraft CP-SA-10001  
T = Screening per MIL-STD-981  
U = Screening per EEE-INST-002  
F = Screening per ESCC 3201  
All screening performed to the document's latest revision  
Custom screening also available

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.

**Coilcraft CPS**

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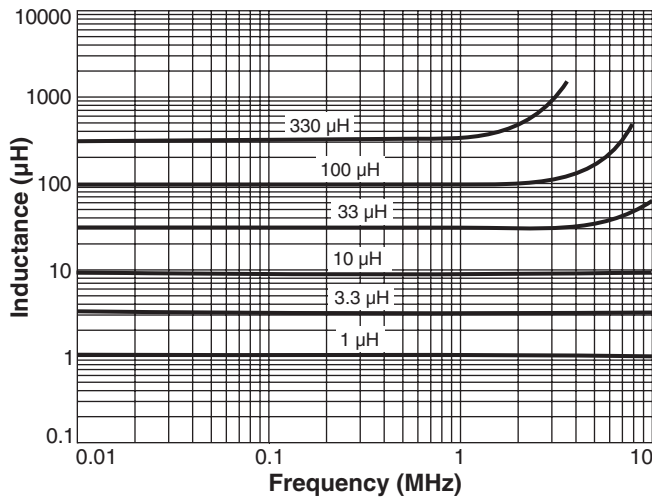
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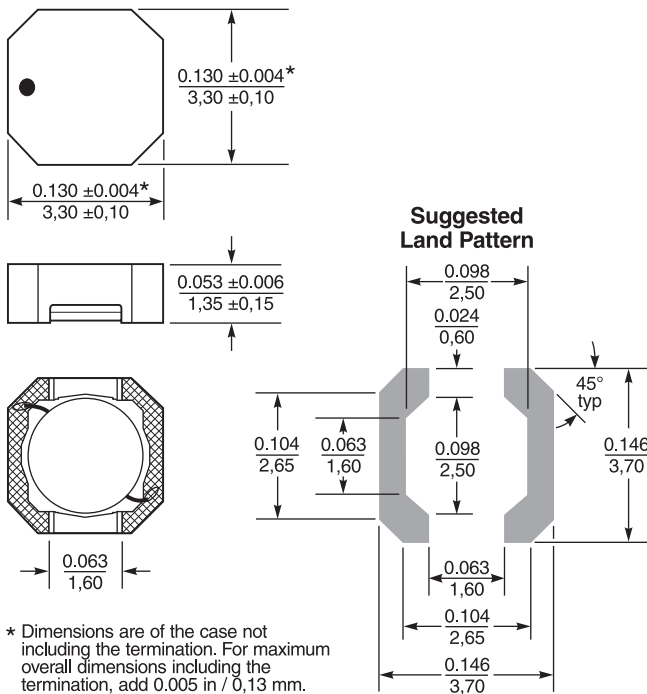
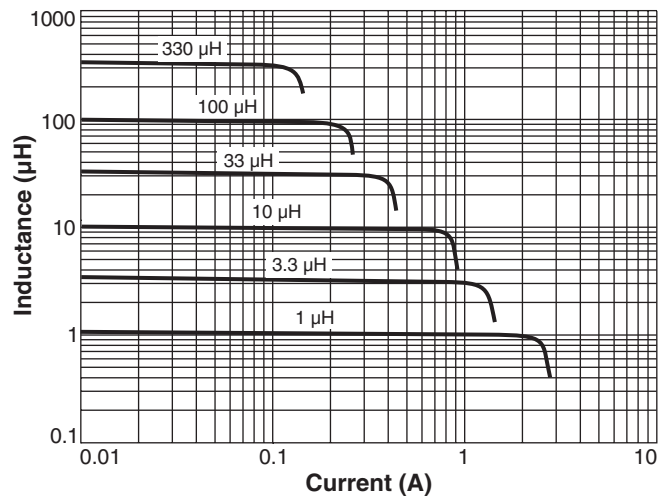
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# ML414PJB Series (3315)

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



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