

PRELIMINARY

Military Grade Power Inductors ML416PJB



- 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 54 – 64 mg

Ambient temperature –55°C to +85°C with I_{rms} current, +85°C to +155°C with derated current

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; 3500/13" reel
Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 1.32 mm pocket depth

Recommended pick and place nozzle OD: 4 mm; ID: ≤ 2 mm

Part number ¹	Inductance ² (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
ML416PJB331MLZ	0.33 ±20%	0.023	375	5.2	5.4	5.6	2.7	3.7
ML416PJB681MLZ	0.68 ±20%	0.055	220	3.5	3.6	3.7	1.8	2.4
ML416PJB102NLZ	1.0 ±30%	0.060	180	2.8	2.9	3.0	1.7	2.4
ML416PJB152MLZ	1.5 ±20%	0.070	140	2.6	2.7	2.8	1.6	2.2
ML416PJB222MLZ	2.2 ±20%	0.100	115	2.3	2.4	2.5	1.2	1.75
ML416PJB332MLZ	3.3 ±20%	0.100	100	1.3	1.4	1.4	1.45	2.00
ML416PJB472MLZ	4.7 ±20%	0.175	70	1.6	1.7	1.8	1.10	1.45
ML416PJB562MLZ	5.6 ±20%	0.260	60	1.5	1.6	1.6	0.85	1.10
ML416PJB682MLZ	6.8 ±20%	0.340	55	1.3	1.3	1.4	0.80	0.98
ML416PJB103MLZ	10 ±20%	0.350	40	0.98	1.0	1.1	0.55	0.75
ML416PJB153MLZ	15 ±20%	0.550	30	0.79	0.82	0.84	0.53	0.73
ML416PJB223MLZ	22 ±20%	0.600	25	0.74	0.78	0.79	0.52	0.70
ML416PJB333MLZ	33 ±20%	0.825	22	0.45	0.47	0.48	0.46	0.61
ML416PJB473MLZ	47 ±20%	1.40	19	0.35	0.37	0.38	0.40	0.52
ML416PJB683MLZ	68 ±20%	1.70	15	0.30	0.32	0.33	0.35	0.46
ML416PJB104MLZ	100 ±20%	2.40	12	0.24	0.26	0.27	0.30	0.40
ML416PJB124MLZ	120 ±20%	3.30	11.5	0.23	0.24	0.25	0.27	0.36
ML416PJB154MLZ	150 ±20%	3.50	10.0	0.21	0.22	0.23	0.25	0.32
ML416PJB184MLZ	180 ±20%	5.00	8.0	0.18	0.19	0.20	0.23	0.29
ML416PJB224MLZ	220 ±20%	5.20	7.0	0.15	0.16	0.17	0.21	0.27
ML416PJB334MLZ	330 ±20%	7.20	7.0	0.14	0.14	0.15	0.17	0.225
ML416PJB474MLZ	470 ±20%	10.0	4.0	0.10	0.11	0.12	0.13	0.175
ML416PJB564MLZ	560 ±20%	12.5	3.5	0.10	0.105	0.115	0.11	0.140
ML416PJB684MLZ	680 ±20%	13.5	3.0	0.10	0.105	0.110	0.11	0.135
ML416PJB824MLZ	820 ±20%	20.0	3.0	0.090	0.095	0.095	0.105	0.132
ML416PJB105MLZ	1000 ±20%	21.5	3.0	0.080	0.090	0.095	0.100	0.130
ML416PJB155MLZ	1500 ±20%	35.0	2.5	0.090	0.090	0.090	0.087	0.115
ML416PJB185MLZ	1800 ±20%	36.0	2.0	0.079	0.085	0.087	0.075	0.100
ML416PJB225MLZ	2200 ±20%	40.0	1.0	0.079	0.083	0.085	0.070	0.090
ML416PJB335MLZ	3300 ±20%	76.0	0.95	0.074	0.078	0.080	0.050	0.065

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

ML416PJB105MLZ

- Testing:** **Z** = Coilcraft Critical Products Environmental Stress Conditions Testing.
H = Coilcraft Qual + Coilcraft Hi-Rel Burn-in
P = Coilcraft Qual + MIL-STD-981 Class S Group A screening
N = Coilcraft Qual + MIL-STD-981 Class B Group A screening
C = Coilcraft Qual + MIL-STD-981 Class S Group A screening + MIL-STD-981 Class S Group B qualification
W = Coilcraft Qual + MIL-STD-981 Class B Group A screening + MIL-STD-981 Class S Group B qualification

2. Inductance tested at 100 kHz, 0.1 V_{rms} 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 that causes the specified inductance drop from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

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1102 Silver Lake Road
Cary IL 60013

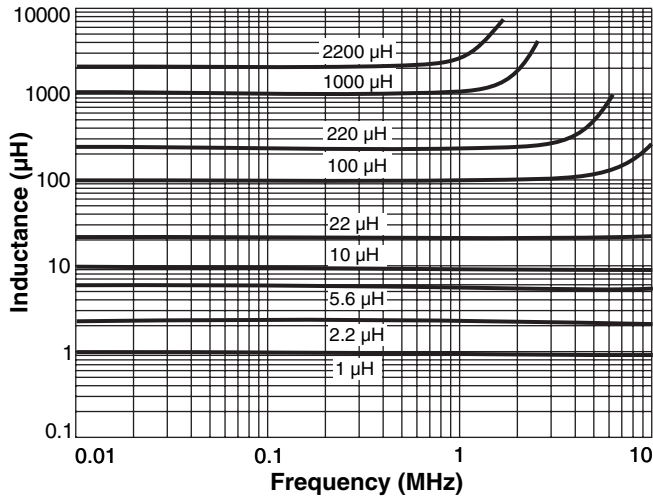
Phone 800-981-0363
Fax 847-639-1508

E-mail cp@coilcraft.com
Web www.coilcraft-cps.com

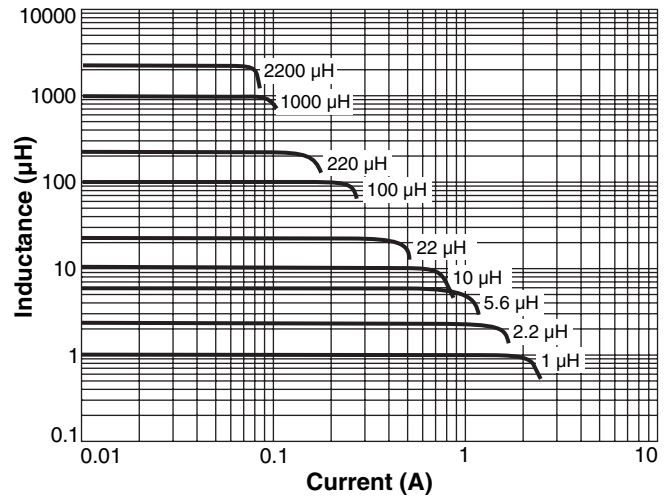
PRELIMINARY

ML416PJB Series

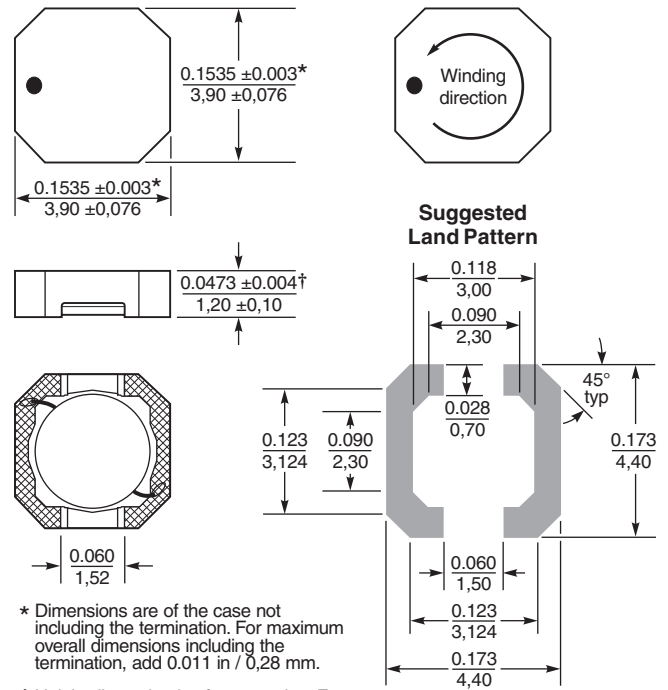
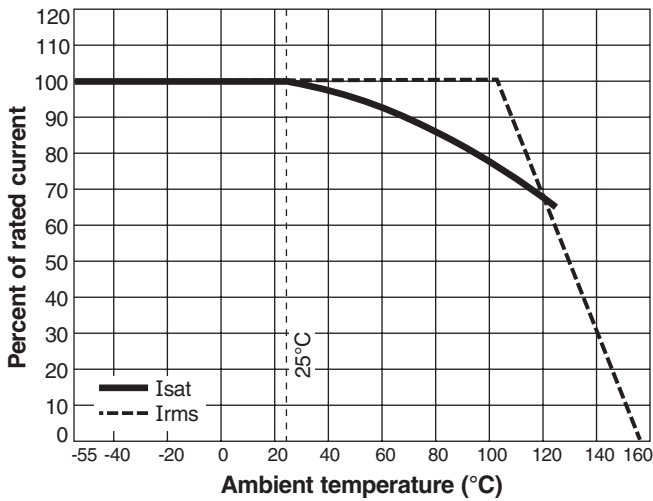
Typical L vs Frequency



Typical L vs Current



Current Derating



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.011 in / 0,28 mm.

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0,152 mm.

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