

PRELIMINARY

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 I_{rms} current, +105°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
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	1.8	2.3
ML378PJB681MLZ	0.68	0.080	189	270	1.8	1.9	1.9	1.5	2.0
ML378PJB102MLZ	1.0	0.085	161	230	1.6	1.7	1.7	1.3	1.75
ML378PJB152MLZ	1.5	0.120	115	165	1.3	1.3	1.4	1.2	1.60
ML378PJB182MLZ	1.8	0.150	105	150	1.2	1.2	1.3	1.0	1.40
ML378PJB222MLZ	2.2	0.220	91.0	130	1.3	1.4	1.4	0.90	1.10
ML378PJB332MLZ	3.3	0.220	77.0	110	0.83	0.88	0.90	0.85	1.10
ML378PJB472MLZ	4.7	0.300	64.4	92	0.72	0.75	0.77	0.70	0.95
ML378PJB562MLZ	5.6	0.400	56.0	80	0.67	0.69	0.71	0.60	0.78
ML378PJB682MLZ	6.8	0.450	19.0	70	0.61	0.63	0.64	0.56	0.74
ML378PJB822MLZ	8.2	0.500	43.4	62	0.56	0.59	0.60	0.53	0.71
ML378PJB103MLZ	10	0.540	40.6	58	0.50	0.53	0.55	0.48	0.64
ML378PJB123MLZ	12	0.700	32.9	47	0.46	0.49	0.50	0.44	0.58
ML378PJB153MLZ	15	0.950	30.1	43	0.41	0.43	0.44	0.38	0.52
ML378PJB183MLZ	18	1.00	27.0	40	0.38	0.40	0.41	0.33	0.47
ML378PJB223MLZ	22	1.20	25.2	36	0.32	0.35	0.36	0.30	0.41
ML378PJB333MLZ	33	2.00	18.9	27	0.25	0.27	0.28	0.26	0.35
ML378PJB473MLZ	47	3.20	14.7	21	0.23	0.24	0.25	0.22	0.31
ML378PJB683MLZ	68	3.50	14.7	21	0.20	0.21	0.22	0.20	0.28
ML378PJB104MLZ	100	5.25	9.8	14	0.14	0.16	0.17	0.18	0.24
ML378PJB124MLZ	120	6.10	8.4	12	0.13	0.15	0.15	0.15	0.20
ML378PJB154MLZ	150	9.15	7.7	11	0.13	0.14	0.14	0.13	0.17
ML378PJB184MLZ	180	10.1	6.3	9	0.11	0.12	0.13	0.11	0.15
ML378PJB224MLZ	220	12.5	5.6	8	0.10	0.11	0.12	0.095	0.13
ML378PJB334MLZ	330	18.5	4.9	7	0.10	0.105	0.115	0.085	0.11

1. When ordering, please specify testing code:

ML378PJB334MLZ

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10004

C = Custom screening (please specify when ordering)

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.

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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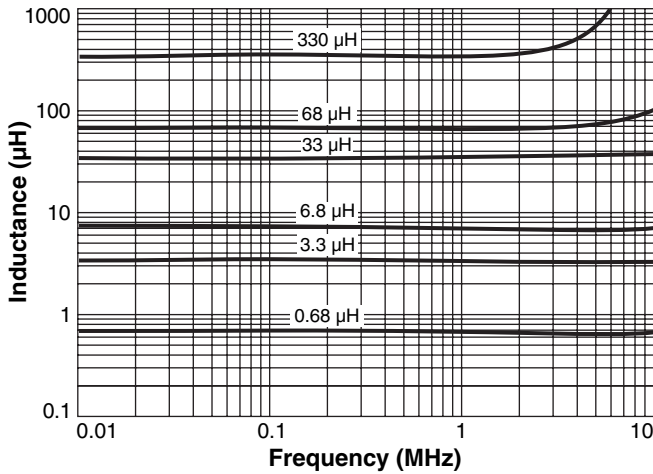
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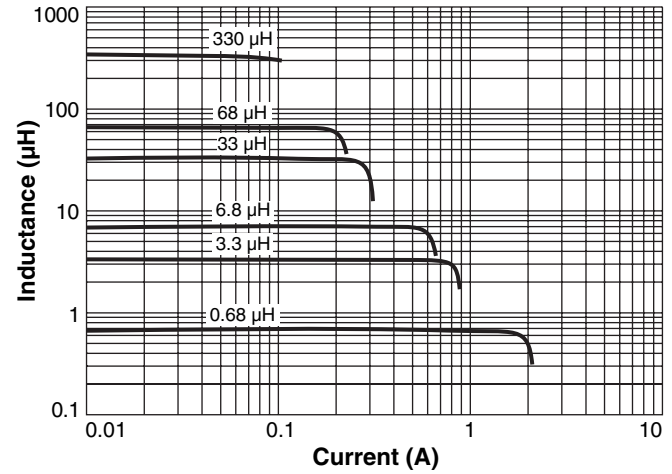
PRELIMINARY

ML378PJB Series (3010)

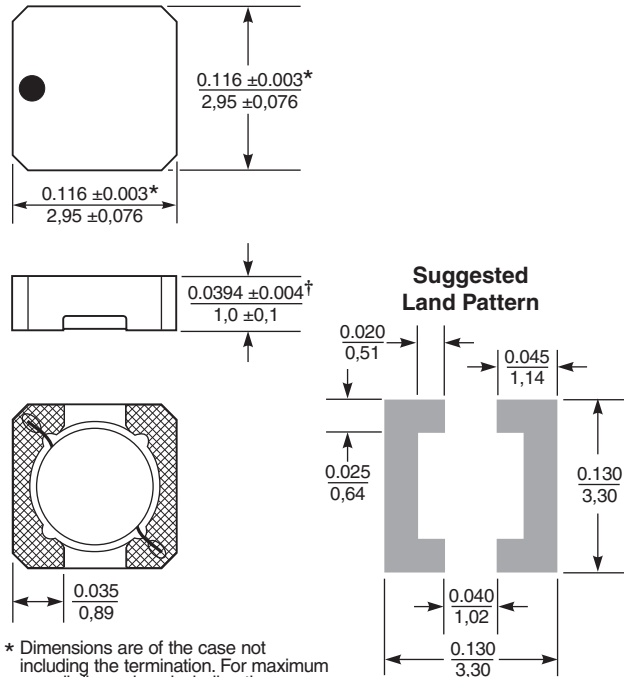
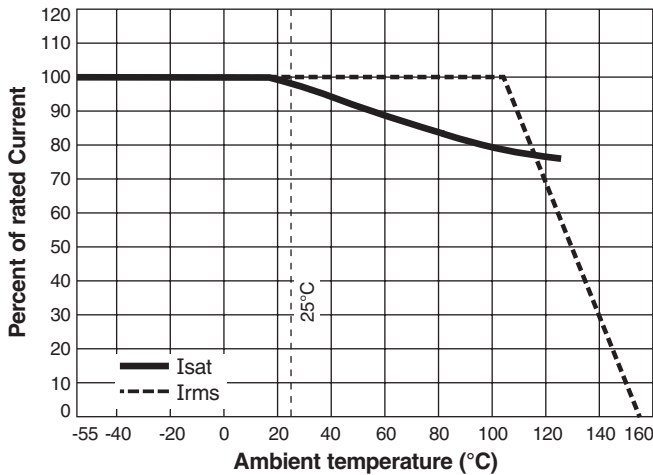
Typical L vs Frequency



Typical L vs Current



Typical Current Derating



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

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0.152 mm.

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