

# High-Reliability Power Inductors ML612PNB



- High current, low DCR shielded power inductors
- High temperature materials allow operation in ambient temperatures up to 155°C

**Core material** Ferrite

**Terminations** Matte tin over nickel over phos bronze.

**Weight:** 3.8 g – 4.6 g

**Ambient temperature** –55°C to +105°C with Irms 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** 500/13" reel;  
Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 8.1 mm pocket depth

Part number <sup>1</sup>	Inductance <sup>2</sup> (µH)	DCR <sup>3</sup> (mOhms)		SRF (MHz) <sup>4</sup>		Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
ML612PNB102NLZ	1.0 ±30%	6.3	7.0	80	115	31.84	35.04	36.84	7.1	10.1
ML612PNB142NLZ	1.4 ±30%	8.8	9.8	60	85	25.04	27.76	29.52	6.8	9.8
ML612PNB222NLZ	2.2 ±30%	9.4	10.5	42	60	22.56	24.80	25.96	6.3	9.2
ML612PNB272NLZ	2.7 ±30%	10.1	11.3	28	40	18.76	20.72	22.04	6.1	8.6
ML612PNB392NLZ	3.9 ±30%	11.7	13.0	25	35	16.52	18.24	19.20	5.7	7.7
ML612PNB472MLZ	4.7 ±20%	13.9	15.5	23	33	15.30	16.90	17.76	4.3	6.2
ML612PNB562MLZ	5.6 ±20%	15.7	17.5	21	30	13.38	14.86	15.74	4.3	6.2
ML612PNB682MLZ	6.8 ±20%	19.1	21.3	16	23	12.10	13.56	14.20	4.2	6.0
ML612PNB822MLZ	8.2 ±20%	20.3	22.6	14	20	11.38	12.60	13.28	4.1	5.9
ML612PNB103MLZ	10 ±20%	21.8	24.3	12	17	10.62	11.82	12.48	4.0	5.7
ML612PNB123MLZ	12 ±20%	23.2	25.8	11	15	8.90	9.88	10.44	3.7	5.2
ML612PNB153MLZ	15 ±20%	27.9	31.0	9.0	13	8.36	9.32	9.94	3.5	4.9
ML612PNB183MLZ	18 ±20%	30.8	34.3	8.4	12	8.00	8.88	9.36	3.0	4.5
ML612PNB223MLZ	22 ±20%	35.5	39.5	7.7	11	7.08	7.88	8.34	2.9	4.0
ML612PNB273MLZ	27 ±20%	45.0	50.0	7.0	10	6.32	7.08	7.54	2.6	3.6
ML612PNB333MLZ	33 ±20%	61.9	68.8	6.6	9.5	5.96	6.56	6.98	2.3	3.1
ML612PNB393MLZ	39 ±20%	69.1	76.8	6.0	8.5	5.38	5.94	6.28	2.1	3.0
ML612PNB473MLZ	47 ±20%	72.3	80.4	5.3	7.5	4.76	5.40	5.66	2.0	2.9
ML612PNB563MLZ	56 ±20%	80.2	89.2	4.9	7.0	4.40	4.98	5.30	1.9	2.7
ML612PNB683MLZ	68 ±20%	91.3	101.5	4.6	6.5	3.92	4.46	4.74	1.8	2.6
ML612PNB823MLZ	82 ±20%	125.9	139.9	3.5	5.0	3.66	4.08	4.38	1.6	2.3
ML612PNB104MLZ	100 ±20%	135.1	150.2	3.1	4.5	3.12	3.56	3.78	1.5	2.2
ML612PNB124KLZ	120 ±10%	182.3	202.6	3.0	4.3	3.02	3.36	3.58	1.4	1.9
ML612PNB154KLZ	150 ±10%	216.5	240.6	2.9	4.1	2.60	2.94	3.10	1.3	1.8
ML612PNB184KLZ	180 ±10%	229.0	254.5	2.8	4.0	2.36	2.68	2.84	1.2	1.7
ML612PNB224KLZ	220 ±10%	323.6	359.6	2.4	3.4	2.24	2.50	2.62	1.0	1.6
ML612PNB274KLZ	270 ±10%	415.6	461.8	2.2	3.1	1.94	2.18	2.34	0.90	1.2
ML612PNB334KLZ	330 ±10%	487.3	541.5	2.0	2.9	1.72	1.92	2.06	0.80	1.0
ML612PNB394KLZ	390 ±10%	533.6	592.9	1.9	2.7	1.62	1.82	1.92	0.75	1.0
ML612PNB474KLZ	470 ±10%	707.5	786.2	1.6	2.2	1.44	1.64	1.74	0.66	0.90
ML612PNB564KLZ	560 ±10%	777.4	863.8	1.4	2.0	1.40	1.54	1.66	0.60	0.80
ML612PNB684KLZ	680 ±10%	1045	1162	1.2	1.7	1.24	1.32	1.46	0.55	0.75
ML612PNB824KLZ	820 ±10%	1166	1296	1.0	1.4	1.14	1.28	1.42	0.50	0.70
ML612PNB105KLZ	1000 ±10%	1334	1482	0.90	1.3	0.982	1.08	1.18	0.48	0.68

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

ML612PNB105KLZ

**Testing:** Z = COTS

H = Screening per Coilcraft  
CP-SA-10001

N = Screening per Coilcraft  
CP-SA-10004

- Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
- DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
- SRF measured using an Agilent/HP 8753D network analyzer.
- Typical DC current at which the inductance drops the specified amount from its value without current.
- Typical current that causes the specified temperature rise from 25°C ambient.
- Electrical specifications at 25°C.  
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Coilcraft CPS**

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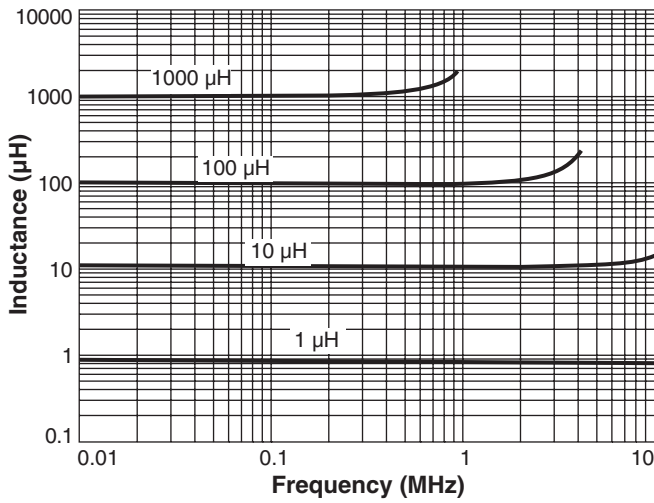
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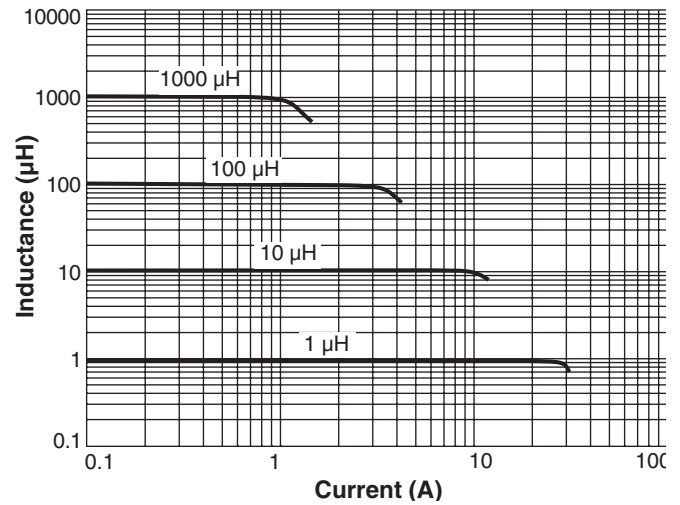
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# ML612PNB Series

## Typical L vs Frequency



## Typical L vs Current



## Current Derating

