

Outgassing Compliant Power Inductors AE612PNB



- High current, low DCR shielded power inductors
- Passes NASA low outgassing specifications
- High temperature materials allow operation in ambient temperatures up to 165°C.
- Tin-lead (Sn-Pb) terminations for the best possible board adhesion

Core material Ferrite

Terminations Tin-lead (63/37) over tin over nickel over phos bronze.

Weight: 3.8 g – 4.6 g

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.

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 ¹	Inductance ² (µH)	DCR ³ (mOhms)		SRF ⁴ (MHz)		Isat (A) ⁵			Irms (A) ⁶	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
AE612PNB102NSZ	1.0 ±30%	6.3	7.0	80	115	31.84	35.04	36.84	7.1	10.1
AE612PNB142NSZ	1.4 ±30%	8.8	9.8	60	85	25.04	27.76	29.52	6.8	9.8
AE612PNB222NSZ	2.2 ±30%	9.4	10.5	42	60	22.56	24.80	25.96	6.3	9.2
AE612PNB272NSZ	2.7 ±30%	10.1	11.3	28	40	18.76	20.72	22.04	6.1	8.6
AE612PNB392NSZ	3.9 ±30%	11.7	13.0	25	35	16.52	18.24	19.20	5.7	7.7
AE612PNB472MSZ	4.7 ±20%	13.9	15.5	23	33	15.30	16.90	17.76	4.3	6.2
AE612PNB562MSZ	5.6 ±20%	15.7	17.5	21	30	13.38	14.86	15.74	4.3	6.2
AE612PNB682MSZ	6.8 ±20%	19.1	21.3	16	23	12.10	13.56	14.20	4.2	6.0
AE612PNB822MSZ	8.2 ±20%	20.3	22.6	14	20	11.38	12.60	13.28	4.1	5.9
AE612PNB103MSZ	10 ±20%	21.8	24.3	12	17	10.62	11.82	12.48	4.0	5.7

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1. Please specify **termination** and **screening** codes:

AE612PNB103MSZ

- Termination:** L = Matte tin over nickel over phos bronze
S = Tin-lead (63/37) over tin over nickel over phos bronze
- Screening:** Z = Unscreened
H = Coilcraft CP-SA-10001 Group A
1 = EEE-INST-002 (Family 1) Level 1
2 = EEE-INST-002 (Family 1) Level 2
3 = EEE-INST-002 (Family 1) Level 3
4 = MIL-STD-981 (Family 04) Class B
5 = MIL-STD-981 (Family 04) Class S
F = ESCC3201 (F4 operational life performed at 105°C)
- Screening performed to the document's latest revision.
 - Lot qualification (Group B) available.
 - Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
 - Country of origin restrictions available; prefix options G or F.

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
 3. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
 4. SRF measured using an Agilent/HP 8753D network analyzer.
 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.

AE612PNB Series

Part number ¹	Inductance ² (μ H)	DCR ³ (mOhms)		SRF ⁴ (MHz)		Isat (A) ⁵			Irms (A) ⁶	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
AE612PNB123MSZ	12 \pm 20%	23.2	25.8	11	15	8.90	9.88	10.44	3.7	5.2
AE612PNB153MSZ	15 \pm 20%	27.9	31.0	9.0	13	8.36	9.32	9.94	3.5	4.9
AE612PNB183MSZ	18 \pm 20%	30.8	34.3	8.4	12	8.00	8.88	9.36	3.0	4.5
AE612PNB223MSZ	22 \pm 20%	35.5	39.5	7.7	11	7.08	7.88	8.34	2.9	4.0
AE612PNB273MSZ	27 \pm 20%	45.0	50.0	7.0	10	6.32	7.08	7.54	2.6	3.6
AE612PNB333MSZ	33 \pm 20%	61.9	68.8	6.6	9.5	5.96	6.56	6.98	2.3	3.1
AE612PNB393MSZ	39 \pm 20%	69.1	76.8	6.0	8.5	5.38	5.94	6.28	2.1	3.0
AE612PNB473MSZ	47 \pm 20%	72.3	80.4	5.3	7.5	4.76	5.40	5.66	2.0	2.9
AE612PNB563MSZ	56 \pm 20%	80.2	89.2	4.9	7.0	4.40	4.98	5.30	1.9	2.7
AE612PNB683MSZ	68 \pm 20%	91.3	101.5	4.6	6.5	3.92	4.46	4.74	1.8	2.6
AE612PNB823MSZ	82 \pm 20%	125.9	139.9	3.5	5.0	3.66	4.08	4.38	1.6	2.3
AE612PNB104MSZ	100 \pm 20%	135.1	150.2	3.1	4.5	3.12	3.56	3.78	1.5	2.2
AE612PNB124KSZ	120 \pm 10%	182.3	202.6	3.0	4.3	3.02	3.36	3.58	1.4	1.9
AE612PNB154KSZ	150 \pm 10%	216.5	240.6	2.9	4.1	2.60	2.94	3.10	1.3	1.8
AE612PNB184KSZ	180 \pm 10%	229.0	254.5	2.8	4.0	2.36	2.68	2.84	1.2	1.7
AE612PNB224KSZ	220 \pm 10%	323.6	359.6	2.4	3.4	2.24	2.50	2.62	1.0	1.6
AE612PNB274KSZ	270 \pm 10%	415.6	461.8	2.2	3.1	1.94	2.18	2.34	0.90	1.2
AE612PNB334KSZ	330 \pm 10%	487.3	541.5	2.0	2.9	1.72	1.92	2.06	0.80	1.0
AE612PNB394KSZ	390 \pm 10%	533.6	592.9	1.9	2.7	1.62	1.82	1.92	0.75	1.0
AE612PNB474KSZ	470 \pm 10%	707.5	786.2	1.6	2.2	1.44	1.64	1.74	0.66	0.90
AE612PNB564KSZ	560 \pm 10%	777.4	863.8	1.4	2.0	1.40	1.54	1.66	0.60	0.80
AE612PNB684KSZ	680 \pm 10%	1045	1162	1.2	1.7	1.24	1.32	1.46	0.55	0.75
AE612PNB824KSZ	820 \pm 10%	1166	1296	1.0	1.4	1.14	1.28	1.42	0.50	0.70
AE612PNB105KSZ	1000 \pm 10%	1334	1482	0.90	1.3	0.982	1.08	1.18	0.48	0.68

1. Please specify **termination** and **screening** codes:

AE612PNB105MSZ

- Termination:** L = Matte tin over nickel over phos bronze
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CRITICAL PRODUCTS & SERVICES

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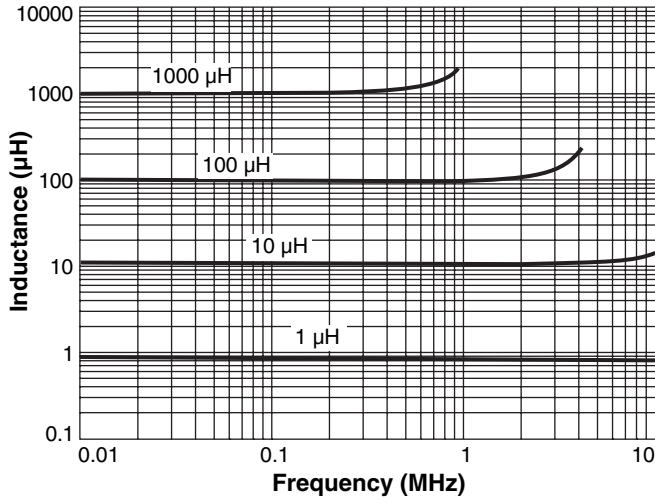
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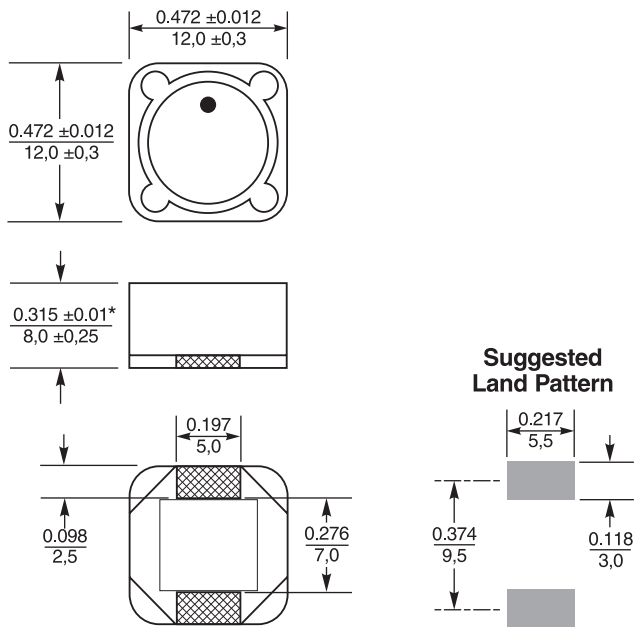
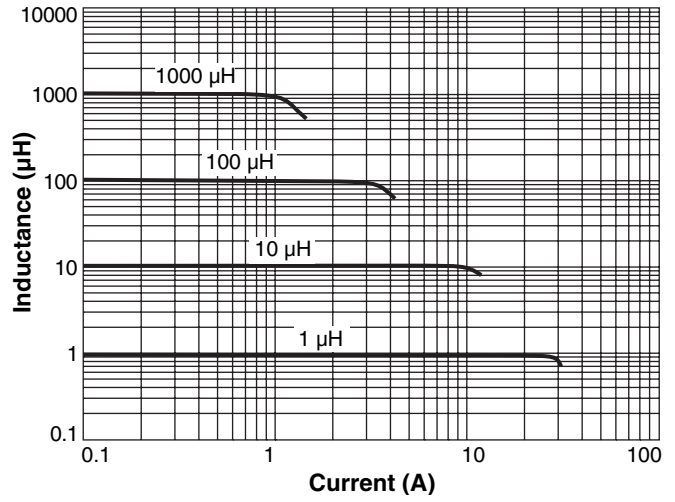
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AE612PNB Series

Typical L vs Frequency



Typical L vs Current



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

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



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