

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

AE612PNB105KSZ

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, 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.

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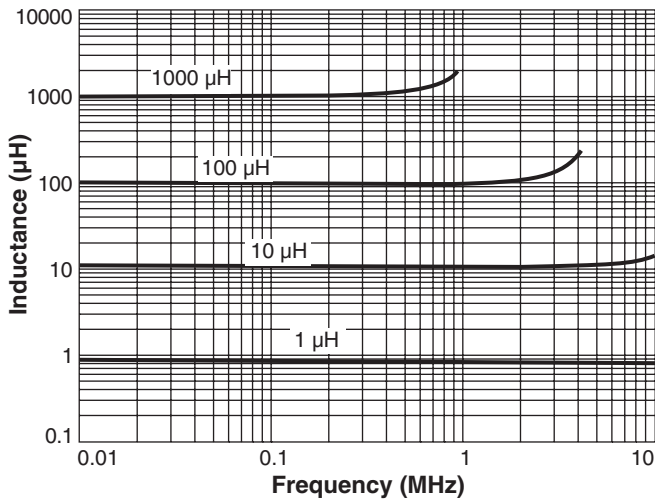
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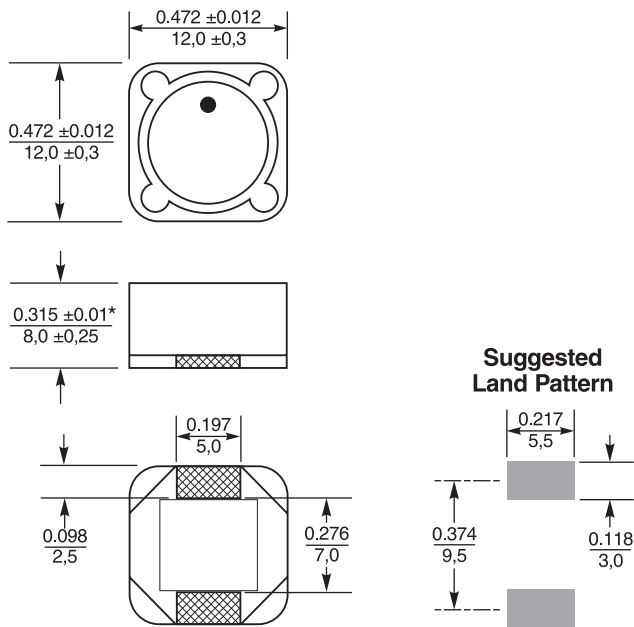
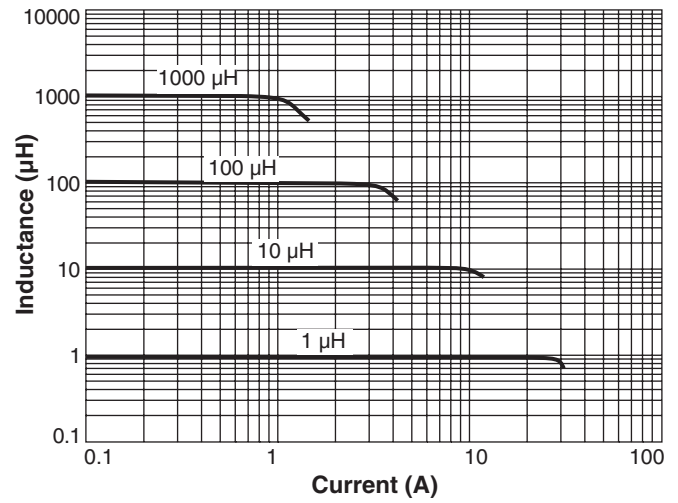
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

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