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 155°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)

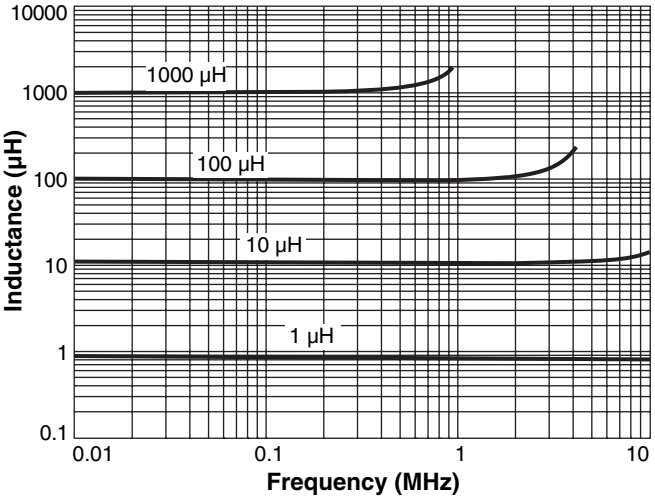
Storage temperature Component: –55C to +155°C. Packaging: –55°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

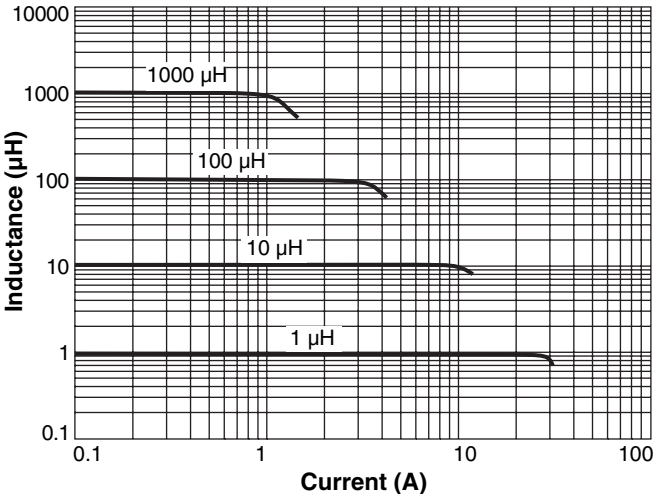
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

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

Typical L vs Frequency



Typical L vs Current



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AE612PNB Series

Part number[1]	Inductance[2] (µH)	DCR[3] (mOhms) typ	DCR[3] (mOhms) max	SRF[4] (MHz) min	SRF[4] (MHz) typ	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 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	0.6

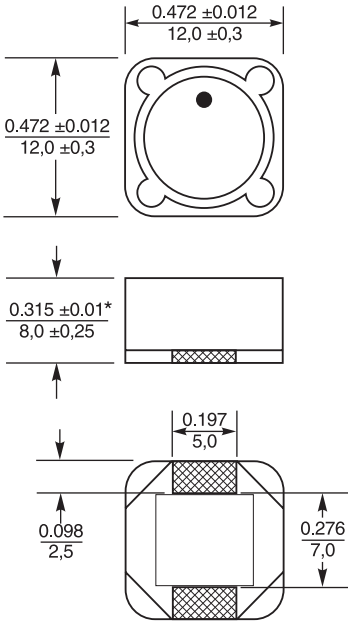
1.Please specify **screening** code:

AE612PNB105MSZ

Screening:
- **Z** = Unscreened
- **H** = Coilcraft CP-SA-10001 Group A
- **G** = Coilcraft CP-SA-10001 Group A (SLDC Option A)
- **D** = Coilcraft CP-SA-10001 Group A (SLDC Option B)
- **1/2/3** = EEE-INST-002 (Family 1) Level 1/2/3
- **4/5** = MIL-STD-981 (Family 04) Class B=4, Class S=5
- **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.

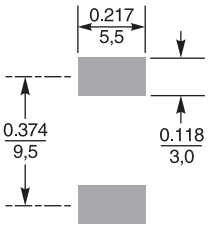
2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
3. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
4. SRF measured using an Agilent/HP 8753D network analyzer.
5. DC current at 25°C that causes the specified inductance drop from 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.



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

Suggested Land Pattern



Dimensions are in inches / mm

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