

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, +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 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 = 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
CRITICAL PRODUCTS & SERVICES

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Please check our website for latest information.

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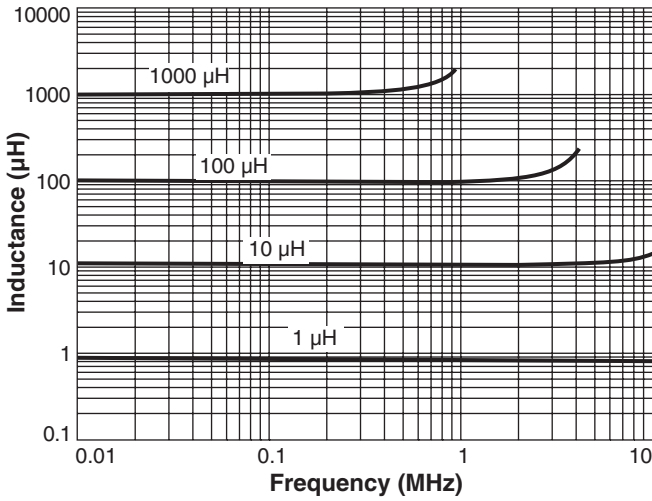
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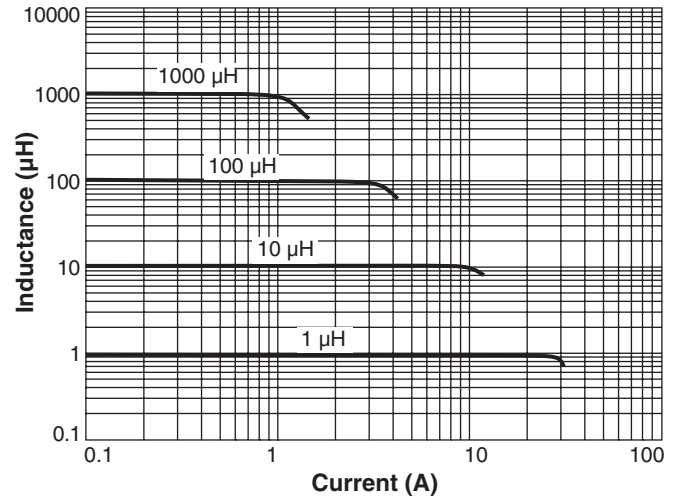
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AE612PNB Series

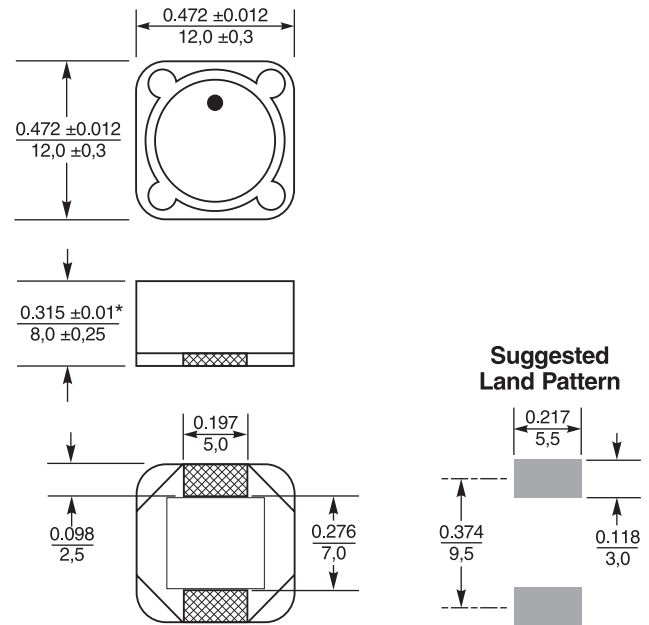
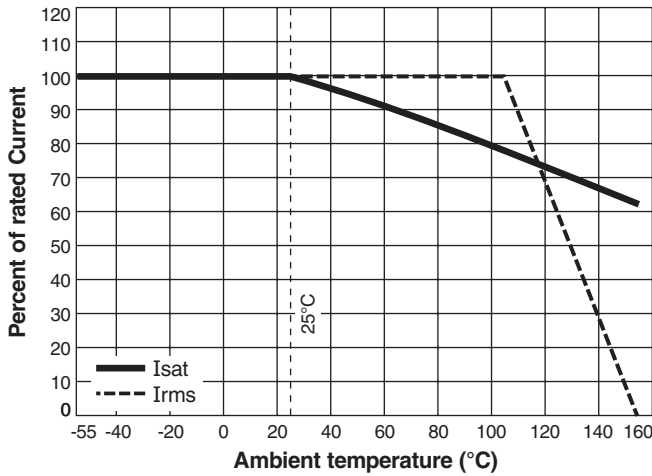
Typical L vs Frequency



Typical L vs Current



Current Derating



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

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