

# High-Reliability Power Inductors ML566PNB



- 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:** 2.3 g – 2.5 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.  
Tape and reel 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** 200/7" reel

Plastic tape: 24 mm wide, 0.35 mm thick, 16 mm pocket spacing, 4.7mm pocket depth

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>( $\mu$ H) | DCR <sup>3</sup><br>(mOhms) |       | SRF<br>(MHz) <sup>4</sup> |      | Isat (A) <sup>5</sup> |             |             | Irms (A) <sup>6</sup> |              |
|--------------------------|---------------------------------------|-----------------------------|-------|---------------------------|------|-----------------------|-------------|-------------|-----------------------|--------------|
|                          |                                       | typ                         | max   | min                       | typ  | 10%<br>drop           | 20%<br>drop | 30%<br>drop | 20°C<br>rise          | 40°C<br>rise |
| ML566PNB102MLZ           | 1.0±20%                               | 5.6                         | 6.3   | 70.0                      | 100  | 18.14                 | 20.64       | 22.24       | 6.00                  | 8.00         |
| ML566PNB152MLZ           | 1.5±20%                               | 8.7                         | 9.7   | 60.0                      | 85.0 | 14.06                 | 15.90       | 17.08       | 5.80                  | 7.80         |
| ML566PNB272MLZ           | 2.7±20%                               | 10.3                        | 11.5  | 49.0                      | 70.0 | 11.66                 | 13.16       | 14.16       | 5.00                  | 6.80         |
| ML566PNB332MLZ           | 3.3±20%                               | 15.1                        | 16.8  | 46.0                      | 65.0 | 9.74                  | 11.08       | 11.98       | 4.50                  | 6.30         |
| ML566PNB472MLZ           | 4.7±20%                               | 19.1                        | 21.3  | 30.0                      | 42.0 | 8.62                  | 9.70        | 10.42       | 4.40                  | 6.00         |
| ML566PNB562MLZ           | 5.6±20%                               | 22.1                        | 24.6  | 26.0                      | 37.0 | 7.62                  | 8.74        | 9.44        | 3.95                  | 5.75         |
| ML566PNB682MLZ           | 6.8±20%                               | 24.9                        | 27.7  | 23.0                      | 33.0 | 7.38                  | 8.36        | 9.00        | 3.70                  | 5.20         |
| ML566PNB822MLZ           | 8.2±20%                               | 27.4                        | 30.5  | 22.0                      | 31.0 | 6.84                  | 7.70        | 8.32        | 3.35                  | 4.67         |
| ML566PNB103MLZ           | 10±20%                                | 36.8                        | 40.9  | 19.0                      | 27.0 | 5.88                  | 6.66        | 7.18        | 2.85                  | 3.90         |
| ML566PNB123MLZ           | 12±20%                                | 38.9                        | 43.3  | 17.0                      | 24.0 | 5.34                  | 6.04        | 6.52        | 2.69                  | 3.65         |
| ML566PNB153MLZ           | 15±20%                                | 48.6                        | 54.1  | 15.0                      | 22.0 | 4.68                  | 5.36        | 5.78        | 2.50                  | 3.40         |
| ML566PNB183MLZ           | 18±20%                                | 51.0                        | 56.7  | 13.0                      | 19.0 | 4.32                  | 4.92        | 5.32        | 2.41                  | 3.19         |
| ML566PNB223MLZ           | 22±20%                                | 60.3                        | 67.0  | 12.6                      | 18.0 | 3.84                  | 4.34        | 4.75        | 2.30                  | 3.14         |
| ML566PNB273MLZ           | 27±20%                                | 67.5                        | 75.0  | 11.2                      | 16.0 | 3.54                  | 4.02        | 4.32        | 2.06                  | 2.86         |
| ML566PNB333MLZ           | 33±20%                                | 81.7                        | 90.8  | 10.5                      | 15.0 | 3.24                  | 3.66        | 3.96        | 1.90                  | 2.60         |
| ML566PNB393MLZ           | 39±20%                                | 95.2                        | 105.8 | 9.3                       | 13.3 | 3.04                  | 3.46        | 3.72        | 1.73                  | 2.39         |
| ML566PNB473MLZ           | 47±20%                                | 120.6                       | 134.0 | 8.4                       | 12.0 | 2.70                  | 3.08        | 3.34        | 1.50                  | 2.10         |
| ML566PNB563MLZ           | 56±20%                                | 133.8                       | 148.7 | 7.4                       | 10.6 | 2.46                  | 2.80        | 3.02        | 1.44                  | 2.01         |
| ML566PNB683MLZ           | 68±20%                                | 167.3                       | 185.9 | 6.8                       | 9.7  | 2.26                  | 2.54        | 2.74        | 1.30                  | 1.80         |
| ML566PNB823MLZ           | 82±20%                                | 188.5                       | 209.5 | 6.2                       | 8.8  | 1.98                  | 2.26        | 2.46        | 1.24                  | 1.72         |
| ML566PNB104MLZ           | 100±20%                               | 216.8                       | 240.9 | 5.6                       | 8.0  | 1.84                  | 2.08        | 2.24        | 1.19                  | 1.65         |
| ML566PNB124KLZ           | 120±10%                               | 287.2                       | 319.2 | 5.0                       | 7.2  | 1.62                  | 1.86        | 2.04        | 1.03                  | 1.42         |
| ML566PNB154KLZ           | 150±10%                               | 326.7                       | 363.0 | 4.6                       | 6.6  | 1.48                  | 1.70        | 1.82        | 0.95                  | 1.30         |
| ML566PNB184KLZ           | 180±10%                               | 379.5                       | 421.7 | 4.1                       | 5.9  | 1.36                  | 1.56        | 1.68        | 0.89                  | 1.21         |
| ML566PNB224KLZ           | 220±10%                               | 488.2                       | 542.5 | 3.7                       | 5.3  | 1.22                  | 1.38        | 1.50        | 0.76                  | 1.00         |
| ML566PNB274KLZ           | 270±10%                               | 560.1                       | 622.4 | 3.3                       | 4.7  | 1.12                  | 1.26        | 1.36        | 0.72                  | 0.95         |
| ML566PNB334KLZ           | 330±10%                               | 731.4                       | 812.7 | 2.9                       | 4.1  | 1.00                  | 1.10        | 1.20        | 0.65                  | 0.87         |
| ML566PNB394KLZ           | 390±10%                               | 813.7                       | 904.2 | 2.7                       | 3.8  | 0.946                 | 1.00        | 1.10        | 0.59                  | 0.79         |
| ML566PNB474KLZ           | 470±10%                               | 935.1                       | 1039  | 2.5                       | 3.5  | 0.864                 | 0.978       | 1.00        | 0.56                  | 0.76         |
| ML566PNB564KLZ           | 560±10%                               | 1193                        | 1326  | 2.1                       | 3.0  | 0.776                 | 0.884       | 0.956       | 0.50                  | 0.67         |
| ML566PNB684KLZ           | 680±10%                               | 1370                        | 1523  | 2.0                       | 2.8  | 0.720                 | 0.818       | 0.882       | 0.46                  | 0.62         |
| ML566PNB824KLZ           | 820±10%                               | 1590                        | 1767  | 1.8                       | 2.6  | 0.634                 | 0.728       | 0.792       | 0.43                  | 0.58         |
| ML566PNB105KLZ           | 1000±10%                              | 2090                        | 2323  | 1.7                       | 2.4  | 0.594                 | 0.676       | 0.728       | 0.36                  | 0.50         |

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

ML566PNB105KLZ

**Testing:** Z = COTS

H = Screening per Coilcraft  
CP-SA-10001

N = Screening per Coilcraft  
CP-SA-10004

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in 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 which the inductance drops the specified amount from its value without current.
6. Current that causes the specified temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.  
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Coilcraft** CPS  
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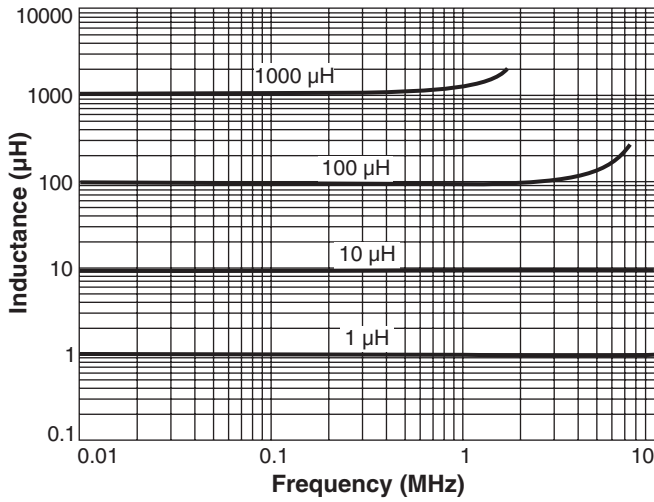
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Document ML540-1 Revised 12/05/12

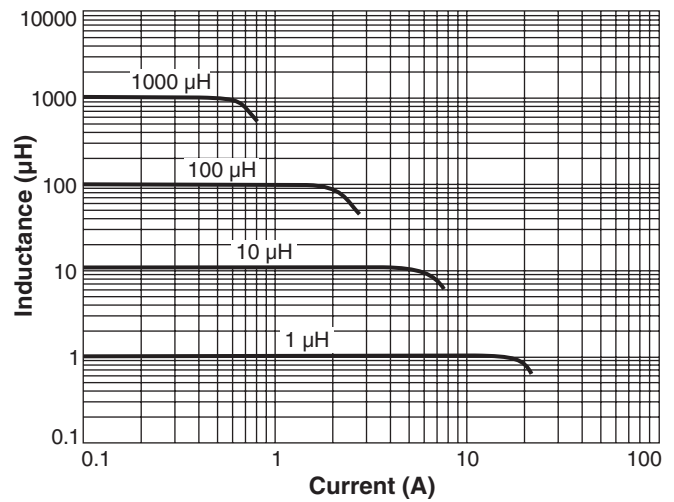
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# ML566PNB Series

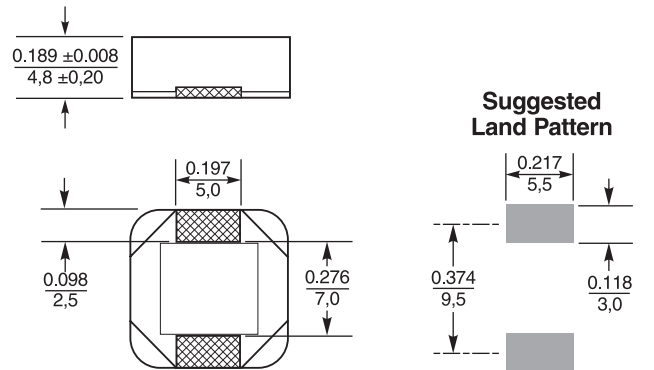
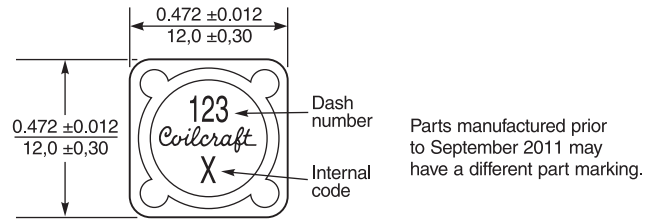
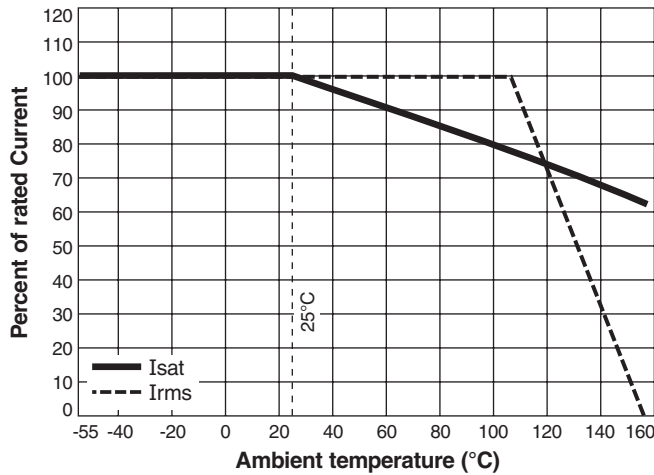
## Typical L vs Frequency



## Typical L vs Current



## Current Derating



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



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