



# SMT Power Inductors – DO3316P Series



- High energy storage and very low resistance
- High inductance values are perfect for EL driver applications.

**Designer's Kit C378** contains 3 of each 20% part

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations** RoHS compliant gold over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 0.92 – 1.23 g

**Ambient temperature** –40°C to +85°C with I<sub>rms</sub> current, +85°C to +125°C with derated current

**Storage temperature** Component: –40°C to +125°C.  
Packaging: –40°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)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 1000 per 13" reel Plastic tape: 24 mm wide, 0.33 mm thick, 12 mm pocket spacing, 5.8 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

| Part number <sup>1</sup> | L <sup>2</sup><br>(μH) | Percent<br>tol <sup>3</sup> | DCR<br>max<br>(Ohms) | SRF<br>typ <sup>4</sup><br>(MHz) | Isat <sup>5</sup><br>(A) | Irms <sup>6</sup><br>(A) |
|--------------------------|------------------------|-----------------------------|----------------------|----------------------------------|--------------------------|--------------------------|
| DO3316P-102ML_           | 1.0                    | <b>20</b>                   | 0.009                | 100                              | 9.0                      | 6.8                      |
| DO3316P-152ML_           | 1.5                    | <b>20</b>                   | 0.010                | 90                               | 8.0                      | 6.4                      |
| DO3316P-222ML_           | 2.2                    | <b>20</b>                   | 0.012                | 80                               | 7.0                      | 6.1                      |
| DO3316P-332ML_           | 3.3                    | <b>20</b>                   | 0.015                | 65                               | 6.4                      | 5.4                      |
| DO3316P-472ML_           | 4.7                    | <b>20</b>                   | 0.018                | 45                               | 5.4                      | 4.8                      |
| DO3316P-682_L_           | 6.8                    | <b>20</b> ,10               | 0.027                | 38                               | 4.6                      | 4.4                      |
| DO3316P-103_L_           | 10                     | <b>20</b> ,10               | 0.038                | 30                               | 3.8                      | 3.9                      |
| DO3316P-153_L_           | 15                     | <b>20</b> ,10               | 0.046                | 27                               | 3.0                      | 3.1                      |
| DO3316P-223_L_           | 22                     | <b>20</b> ,10               | 0.085                | 19                               | 2.3                      | 2.7                      |
| DO3316P-333_L_           | 33                     | <b>20</b> ,10               | 0.10                 | 15                               | 2.0                      | 2.1                      |
| DO3316P-473_L_           | 47                     | <b>20</b> ,10               | 0.14                 | 12                               | 1.6                      | 1.8                      |
| DO3316P-683_L_           | 68                     | <b>20</b> ,10               | 0.20                 | 10                               | 1.4                      | 1.5                      |
| DO3316P-104_L_           | 100                    | <b>20</b> ,10               | 0.28                 | 9                                | 1.2                      | 1.3                      |
| DO3316P-154_L_           | 150                    | <b>20</b> ,10               | 0.40                 | 6                                | 1.0                      | 1.0                      |
| DO3316P-224_L_           | 220                    | <b>20</b> ,10               | 0.61                 | 5                                | 0.80                     | 0.80                     |
| DO3316P-334_L_           | 330                    | <b>20</b> ,10               | 1.02                 | 4.5                              | 0.60                     | 0.60                     |
| DO3316P-474_L_           | 470                    | <b>20</b> ,10               | 1.27                 | 3.5                              | 0.50                     | 0.50                     |
| DO3316P-684_L_           | 680                    | <b>20</b> ,10               | 2.02                 | 2.5                              | 0.40                     | 0.40                     |
| DO3316P-105_L_           | 1000                   | <b>20</b> ,10               | 3.00                 | 2.0                              | 0.30                     | 0.30                     |
| DO3316P-155_L_           | 1500                   | <b>20</b> ,10               | 4.49                 | 1.7                              | 0.29                     | 0.27                     |
| DO3316P-335_L_           | 3300                   | <b>20</b> ,10               | 8.97                 | 1.1                              | 0.19                     | 0.17                     |

1. When ordering, specify **tolerance**, **termination** and **packaging** codes:

DO3316P-105 M L D

**Tolerance:** M = 20%, K = 10% (Table shows stock tolerances in bold.)

**Termination:** L = RoHS compliant gold over nickel over phos bronze.  
Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or  
S = non-RoHS tin-lead (63/37).

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel).

B = Less than full reel. In tape, but not machine ready.  
To have a leader and trailer added (\$25 charge), use code letter D instead.

2. Tested at 100 kHz, 0.1 V<sub>rms</sub>, 0 A<sub>dc</sub> using an Agilent/HP 4263B LCR meter or equivalent.
3. Tolerances in bold are stocked for immediate shipment.
4. SRF >13 MHz measured using Agilent/HP 8753D network analyzer; <13 MHz using Agilent/HP 4192A.
5. DC current at which inductance drops 10% (typ) from its value without current.
6. Current that causes a 40°C temperature rise from 25°C ambient.
7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**SPICE models** ON OUR WEB SITE OR CD

**Coilcraft**®

Specifications subject to change without notice.  
Please check our website for latest information.

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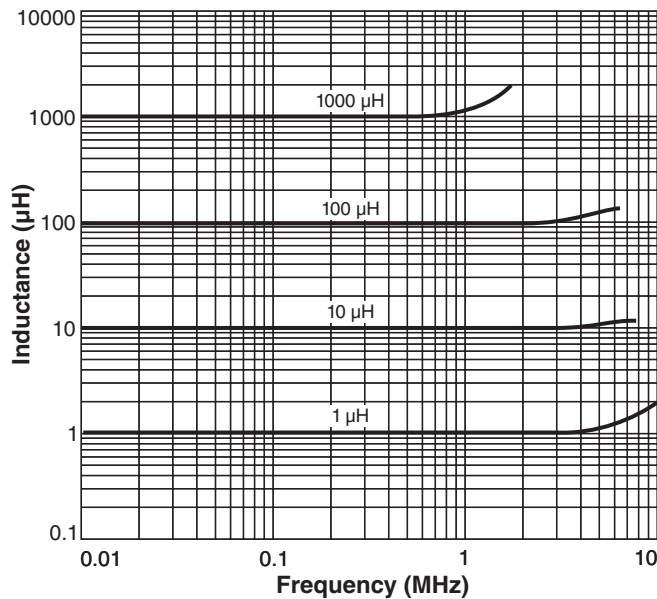
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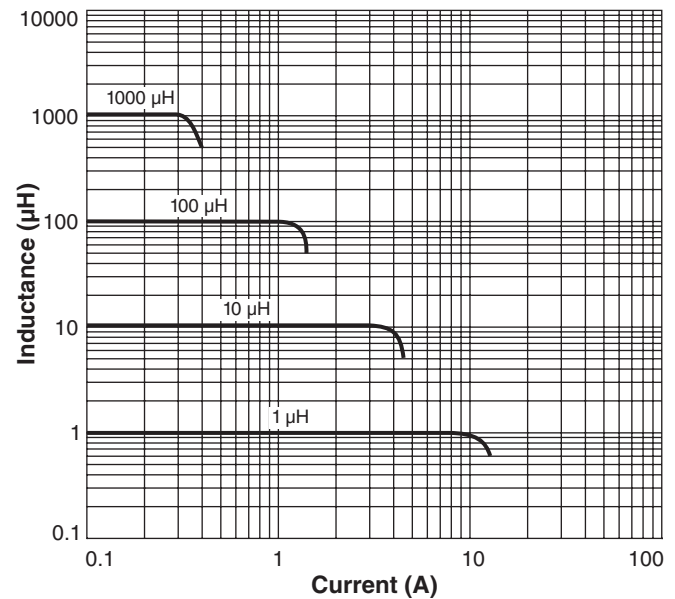


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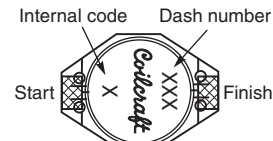
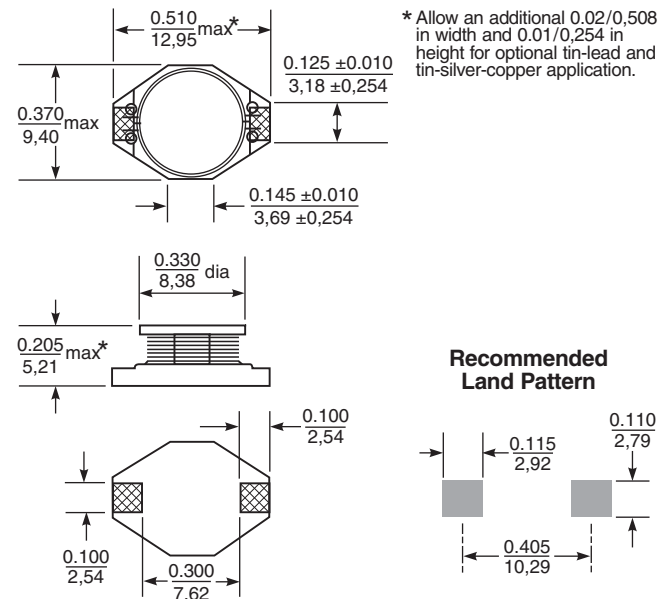
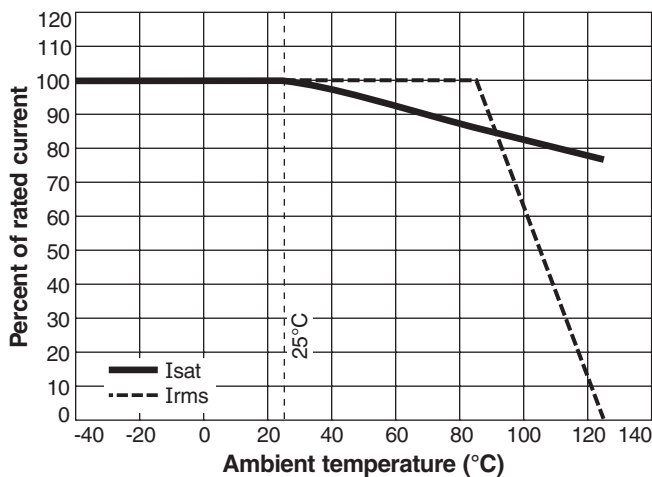
## Typical L vs Frequency



## Typical L vs Current



## Current Derating



Part marking since Feb. 2005. Parts manufactured prior to that date may have color dots.  
Visit [www.coilcraft.com/colrpowr.cfm](http://www.coilcraft.com/colrpowr.cfm) for details.

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

# Coilcraft®

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Please check our website for latest information.

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