



# 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> (µH) | Percent tol <sup>3</sup> | DCR max (Ohms) | SRF typ <sup>4</sup> (MHz) | Isat <sup>5</sup> (A) | Irms <sup>6</sup> (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                  |

- 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.

- Tested at 100 kHz, 0.1 V<sub>rms</sub>, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
  - Tolerances in bold are stocked for immediate shipment.
  - SRF >13 MHz measured using Agilent/HP 8753D network analyzer; <13 MHz using Agilent/HP 4192A.
  - DC current at which inductance drops 10% (typ) from its value without current.
  - Current that causes a 40°C temperature rise from 25°C ambient.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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

**Coilcraft**<sup>®</sup>

Specifications subject to change without notice.

Please check our website for latest information.

Document 179-1 Revised 10/14/08

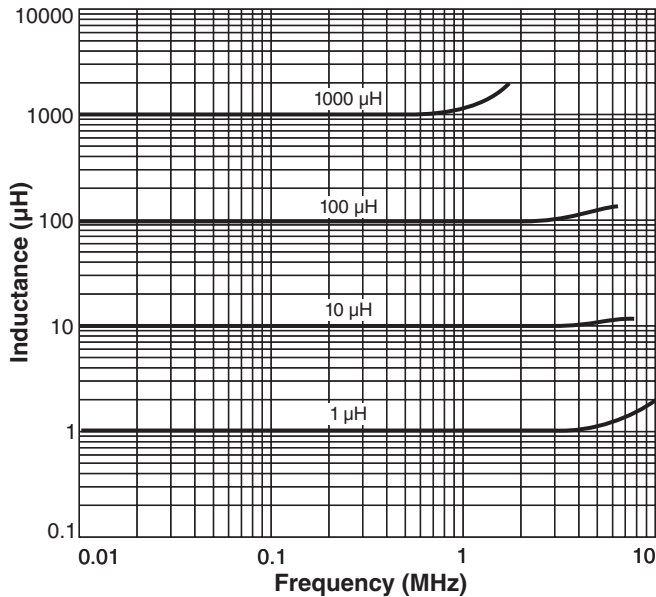
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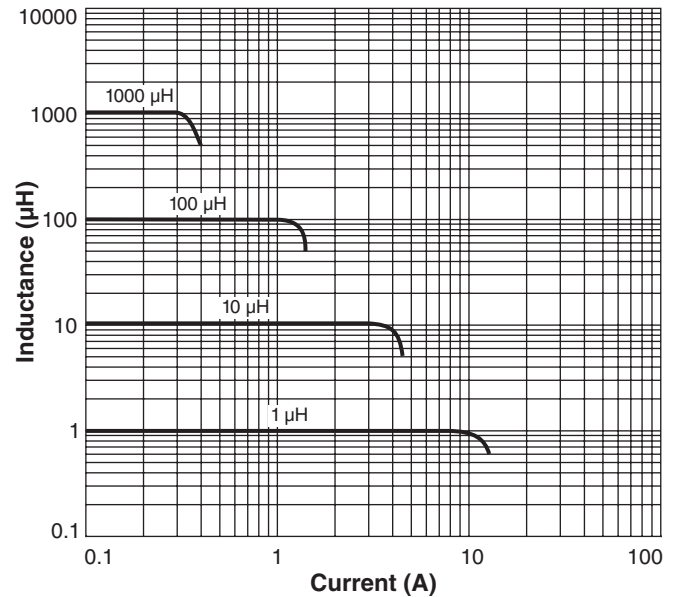


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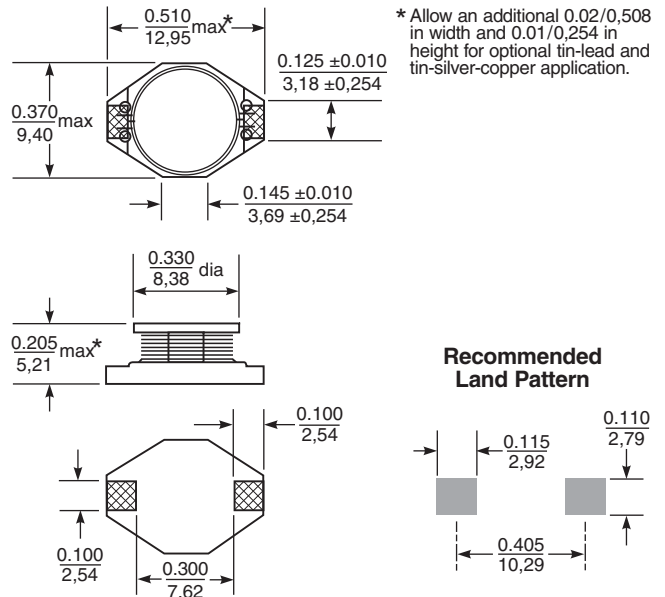
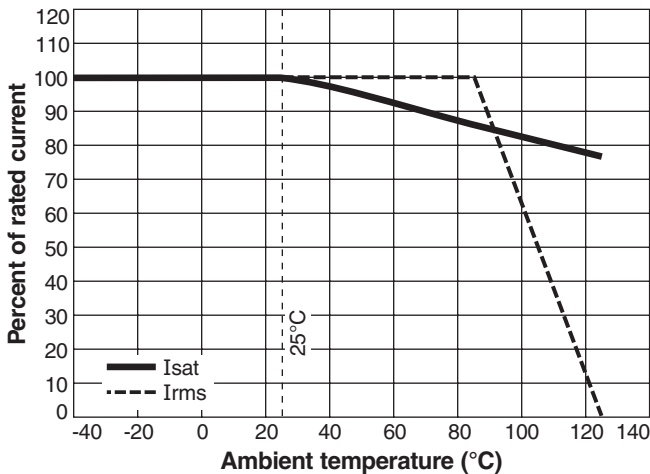
## Typical L vs Frequency



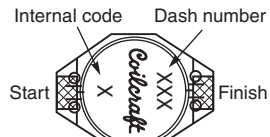
## Typical L vs Current



## Current Derating



\* Allow an additional 0.02/0,508 in width and 0.01/0,254 in height for optional tin-lead and tin-silver-copper application.



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



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Document 179-2 Revised 10/14/08

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