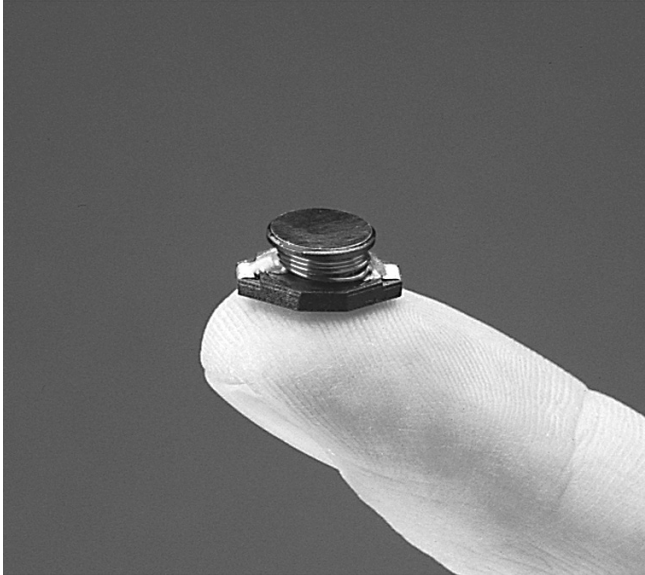




# SMT Power Inductors—DO3316P Series



- 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 Irms current, +85°C to +125°C with derated current

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

Tape and reel 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** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

| 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-222_L_           | 2.2                 | <b>20,10</b>             | 0.012          | 80                         | 7.0                   | 6.1                   |
| DO3316P-332_L_           | 3.3                 | <b>20,10</b>             | 0.015          | 65                         | 6.4                   | 5.4                   |
| DO3316P-472_L_           | 4.7                 | <b>20,10</b>             | 0.018          | 45                         | 5.4                   | 4.8                   |
| DO3316P-682_L_           | 6.8                 | <b>20,10</b>             | 0.027          | 38                         | 4.6                   | 4.4                   |
| DO3316P-103_L_           | 10                  | <b>20,10</b>             | 0.038          | 30                         | 3.8                   | 3.9                   |
| DO3316P-153_L_           | 15                  | <b>20,10</b>             | 0.046          | 27                         | 3.0                   | 3.1                   |
| DO3316P-223_L_           | 22                  | <b>20,10</b>             | 0.085          | 19                         | 2.3                   | 2.7                   |
| DO3316P-333_L_           | 33                  | <b>20,10</b>             | 0.10           | 15                         | 2.0                   | 2.1                   |
| DO3316P-473_L_           | 47                  | <b>20,10</b>             | 0.14           | 12                         | 1.6                   | 1.8                   |
| DO3316P-683_L_           | 68                  | <b>20,10</b>             | 0.20           | 10                         | 1.4                   | 1.5                   |
| DO3316P-104_L_           | 100                 | <b>20,10</b>             | 0.28           | 9                          | 1.2                   | 1.3                   |
| DO3316P-154_L_           | 150                 | <b>20,10</b>             | 0.40           | 6                          | 1.0                   | 1.0                   |
| DO3316P-224_L_           | 220                 | <b>20,10</b>             | 0.61           | 5                          | 0.80                  | 0.80                  |
| DO3316P-334_L_           | 330                 | <b>20,10</b>             | 1.02           | 4.5                        | 0.60                  | 0.60                  |
| DO3316P-474_L_           | 470                 | <b>20,10</b>             | 1.27           | 3.5                        | 0.50                  | 0.50                  |
| DO3316P-684_L_           | 680                 | <b>20,10</b>             | 2.02           | 2.5                        | 0.40                  | 0.40                  |
| DO3316P-105_L_           | 1000                | <b>20,10</b>             | 3.00           | 2.0                        | 0.30                  | 0.30                  |
| DO3316P-155_L_           | 1500                | <b>20,10</b>             | 4.49           | 1.7                        | 0.29                  | 0.27                  |
| DO3316P-335_L_           | 3300                | <b>20,10</b>             | 8.97           | 1.1                        | 0.19                  | 0.17                  |

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

DO3316P-105MLD

**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 Vrms, 0 Adc 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



[www.coilcraft.com](http://www.coilcraft.com)

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)

**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)

**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)

**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)

**Singapore** + 65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

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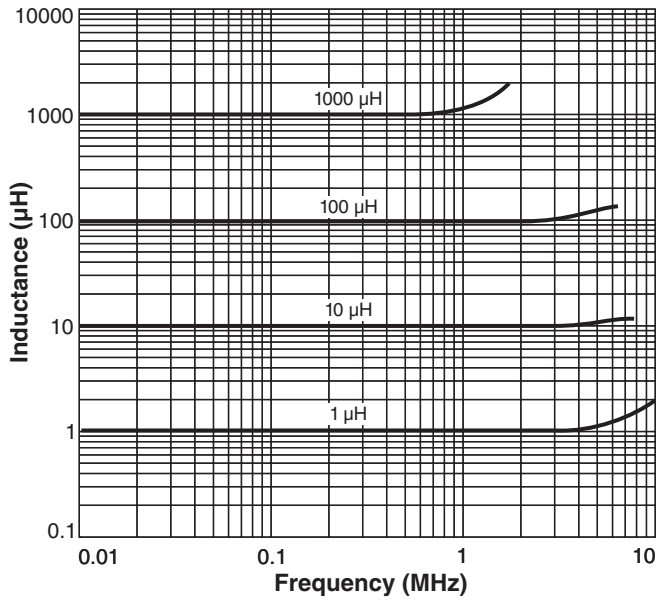
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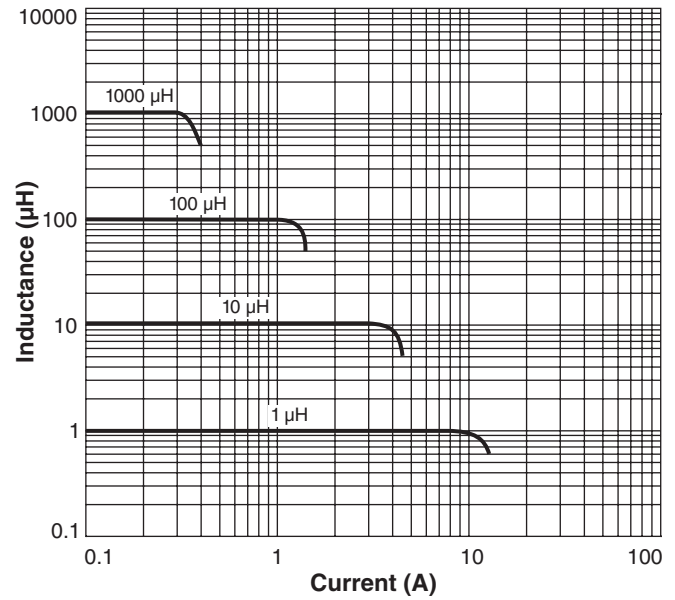


# SMT Power Inductors – DO3316P Series

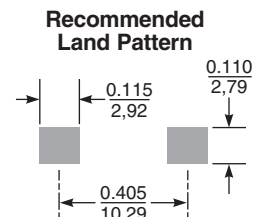
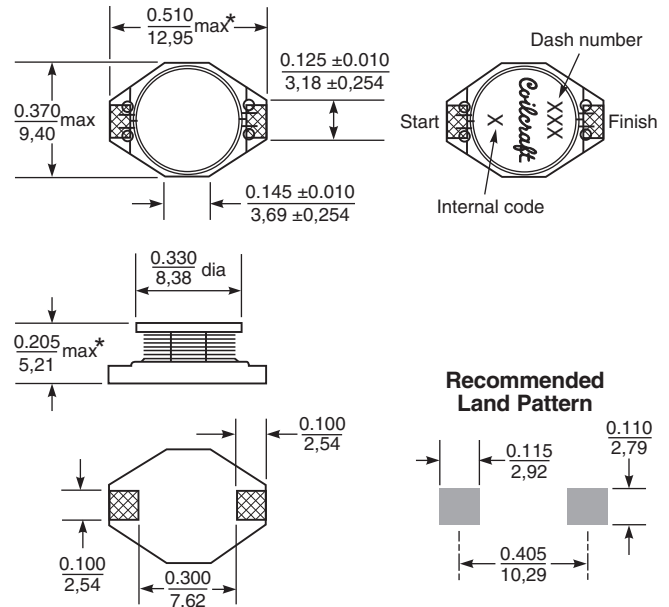
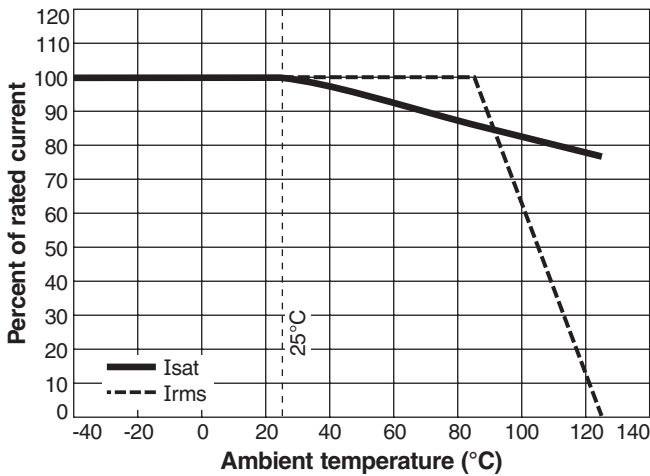
## Typical L vs Frequency



## Typical L vs Current



## Current Derating



\* Allow an additional 0.01/0.254 in length and 0.005/0.127 in height for optional tin-lead and tin-silver-copper application.

Dimensions are in inches/mm



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

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