



Shielded Power Inductors – DS3316P



Coilcraft will continue to manufacture and support the DS3316P indefinitely, however for new designs, consider the MSS1038 as an alternative. The MSS1038 series is more cost effective, features a smaller footprint, lower profile, lower DCR and better current handling.

Core material Ferrite

Terminations RoHS compliant electroplated gold (<50 µin) over nickel over phos bronze. Other terminations available at additional cost.

Weight 0.82–0.87 g

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +125°C (ambient + temp rise)

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 to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

| Part number ¹ | L ±20% ² (µH) | DCR max (Ohms) | SRF typ (MHz) | Isat ³ (A) | Irms ⁴ (A) |
|--------------------------|--------------------------------|----------------------|---------------------|--------------------------|--------------------------|
| DS3316P-102ML_ | 1.0 | 0.021 | 140 | 11.0 | 5.0 |
| DS3316P-152ML_ | 1.5 | 0.022 | 120 | 9.5 | 4.5 |
| DS3316P-222ML_ | 2.2 | 0.032 | 80 | 7.8 | 3.8 |
| DS3316P-332ML_ | 3.3 | 0.039 | 70 | 6.0 | 3.3 |
| DS3316P-472ML_ | 4.7 | 0.054 | 40 | 5.4 | 2.7 |
| DS3316P-682ML_ | 6.8 | 0.075 | 38 | 4.5 | 2.2 |
| DS3316P-822ML_ | 8.2 | 0.085 | 36 | 4.0 | 2.1 |
| DS3316P-103ML_ | 10 | 0.101 | 35 | 3.5 | 2.0 |
| DS3316P-153ML_ | 15 | 0.150 | 25 | 3.0 | 1.5 |
| DS3316P-223ML_ | 22 | 0.207 | 19 | 2.0 | 1.3 |
| DS3316P-333ML_ | 33 | 0.334 | 15 | 1.8 | 1.1 |
| DS3316P-473ML_ | 47 | 0.472 | 13 | 1.4 | 0.80 |
| DS3316P-683ML_ | 68 | 0.660 | 10 | 1.3 | 0.70 |
| DS3316P-104ML_ | 100 | 1.11 | 7 | 1.2 | 0.60 |
| DS3316P-154ML_ | 150 | 1.55 | 6 | 0.80 | 0.50 |
| DS3316P-224ML_ | 220 | 2.00 | 5 | 0.70 | 0.37 |
| DS3316P-105ML_ | 1000 | 8.30 | 2 | 0.32 | 0.17 |

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

DS3316P-105MLD

Termination: L = RoHS compliant electroplated gold (<50 µin) 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. Inductance tested at 0.1 Vrms, 100 kHz, 0 Adc.

3. DC current at 25°C that causes an inductance drop of 10% (typ) from its value without current. [Click for temperature derating information.](#)

4. Current that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information.](#)

5. Electrical specifications at 25°C.

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

SPICE models ON OUR WEB SITE



www.coilcraft.com

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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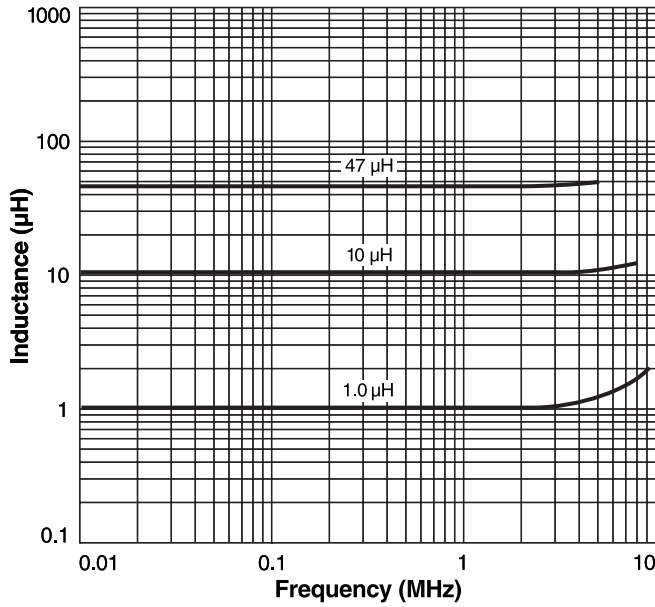
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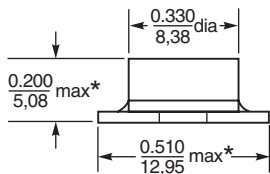
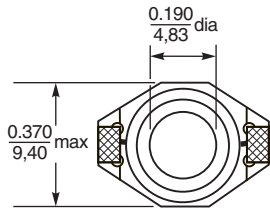
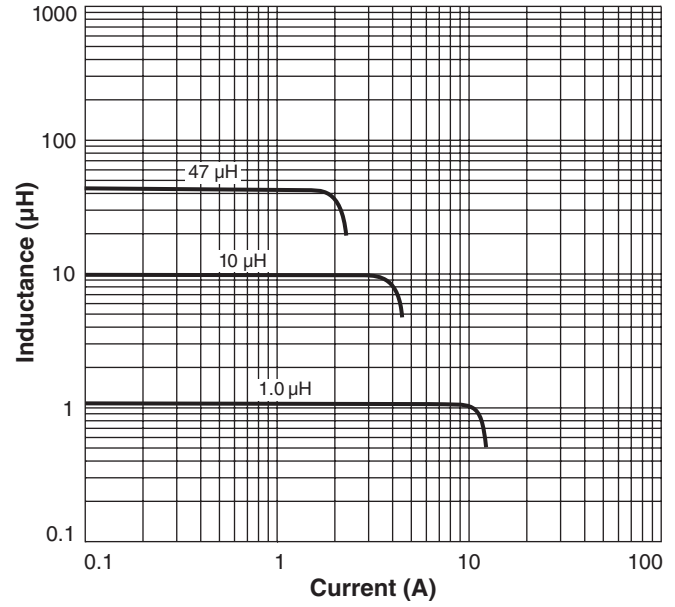


SMT Power Inductors - DS3316P Series

Typical L vs Frequency

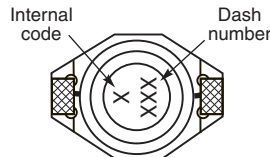
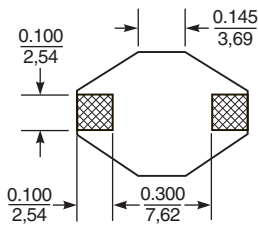
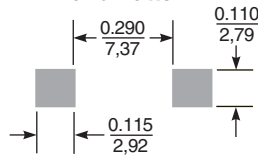


Typical L vs Current



* 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.

Recommended Land Pattern



Part marking since Feb. 2005. Parts manufactured prior to that date may have color dots. Visit www.coilcraft.com/coilpowr.cfm for color dot marking details.

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



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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