



# SMT Power Inductors – DS3316P Series



Magnetic shielding and high efficiency are features of the DS3316 family of power inductors. They are designed for high performance DC-DC converter applications, especially those requiring shielding.

The terminations wrap around the end of the base, ensuring a sound solder fillet and simplifying inspection.

Saturation current ratings up to 11 A and rms current ratings as high as 5 A are available. DC resistance as low as 0.021 Ohms keeps power losses to a minimum.

For new designs, consider the MSS1038 as an alternative to this series. The MSS1038 series is more cost effective, features a smaller footprint, lower profile, lower DCR and better current handling. We will continue to manufacture and support the DS3316 indefinitely.

## SPICE models ON OUR WEB SITE OR CD

Part number <sup>1</sup>	L ±20% <sup>2</sup> (μH)	DCR max (Ohms)	SRF typ (MHz)	Isat <sup>3</sup> (A)	Irms <sup>4</sup> (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-105ML D

**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.

- Inductance tested at 0.1 Vrms, 100 kHz, 0 Adc.
  - DC current at which the inductance drops 10% (typ) from its value without current.
  - Current that causes a 40°C temperature rise from 25°C ambient.
  - Ambient temperature range:** -40°C to +85°C with Irms current  
+85°C to +125°C with derated current
  - Storage temperature range:** Component: -40°C to +125°C  
Packaging: -55°C to +80°C
  - Resistance to soldering heat:** Three reflows at >217°C for 90 seconds (+260°C ±5°C for 20 – 40 seconds), allowing parts to cool to room temperature between.
  - Electrical specifications at 25°C.
- See Qualification Standards section for environmental and test data.  
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# Coilcraft®

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

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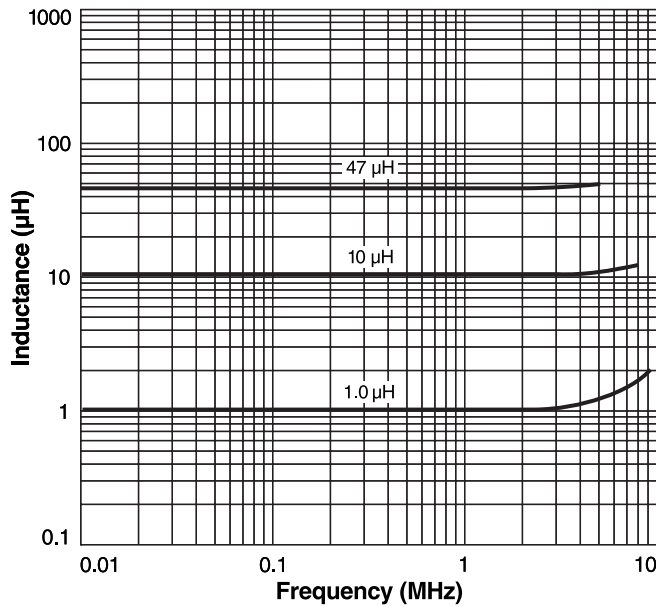
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E-mail [info@coilcraft.com](mailto:info@coilcraft.com) Web <http://www.coilcraft.com>

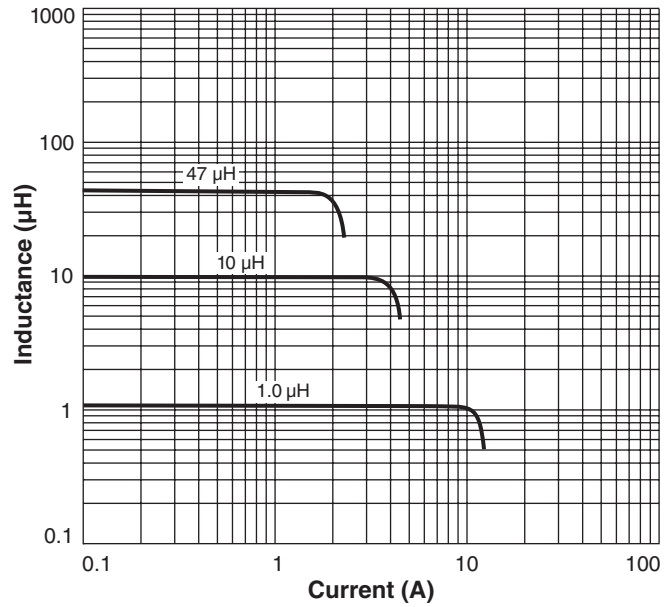


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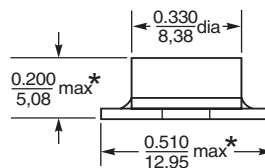
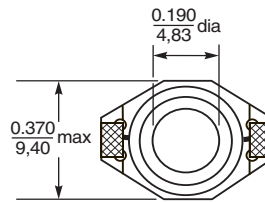
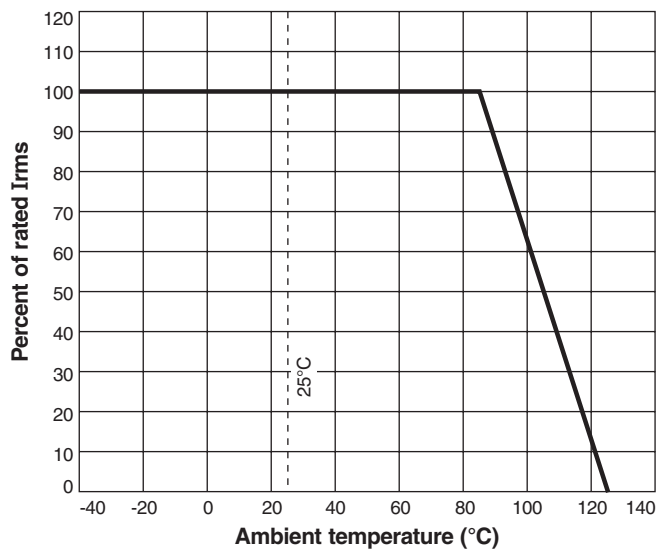
## Typical L vs Frequency



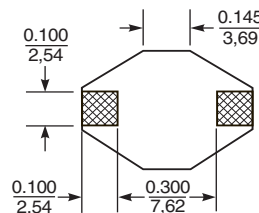
## Typical L vs Current



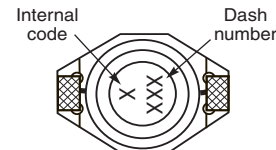
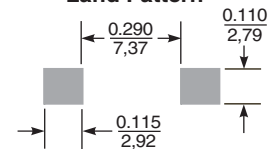
## Irms Derating



\*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.



### Recommended Land Pattern



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.

**Weight:** 0.82 – 0.87 g  
**Tape and reel:** 1000/13" reel 24 mm tape width  
 For packaging data see Tape and Reel Specifications section.



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