SMT Power Inductors–DT3316P Series

These magnetically shielded inductors are designed for a wide variety of applications, including board mounted DC-DC converters, miniature power supplies and voltage multiplying circuits. They function equally well in filter and smoothing circuit applications.

The Coilcraft DT Series is specially designed to provide the low-loss benefit of ferrite, with a soft saturation characteristic, allowing best performance at both light load and high peak current conditions.

For new designs, consider the MSS7341, MSS1038 or MSS1260 as alternatives to this series. These series are more cost effective and offer better current handling. In addition, the MSS7341 is a significantly smaller part. We will continue to manufacture and support the DT3316P indefinitely.

Part number[1]	Inductance[2] ±20% (µH)	DCR max (Ohms)	SRF typ (MHz)	Isat (A)[3] 20% drop	Isat (A)[3] 30% drop	Irms[4] (A)	Energy storage max (µJoules)	Switching frequency max
DT3316P-102ML_	1.0	0.025	60	4.5	8.0	4.0	9	1 MHz
DT3316P-152ML_	1.5	0.030	55	4.0	5.5	4.0	12	1 MHz
DT3316P-222ML_	2.2	0.035	55	1.9	3.0	4.0	15	1 MHz
DT3316P-332ML_	3.3	0.040	50	1.6	2.8	4.0	16	1 MHz
DT3316P-472ML_	4.7	0.045	45	1.5	2.4	3.0	10	1 MHz
DT3316P-682ML_	6.8	0.050	40	1.3	2.2	2.5	14	1 MHz
DT3316P-103ML_	10	0.055	35	0.80	1.2	2.0	11	1 MHz
DT3316P-153ML_	15	0.060	25	0.65	1.1	1.8	12	1 MHz
DT3316P-223ML_	22	0.084	22	0.60	1.0	1.5	11	1 MHz
DT3316P-333ML_	33	0.090	18	0.55	0.90	1.3	13	1 MHz
DT3316P-473ML_	47	0.11	16	0.32	0.50	1.0	13	1 MHz
DT3316P-683ML_	68	0.15	12	0.28	0.45	0.90	17	1 MHz
DT3316P-104ML_	100	0.29	9.0	0.28	0.40	0.80	15	1 MHz
DT3316P-154ML_	150	0.36	8.0	0.21	0.35	0.60	15	500 kHz
DT3316P-224ML_	220	0.39	6.0	0.17	0.26	0.50	10	500 kHz
DT3316P-334ML_	330	0.73	5.0	0.13	0.20	0.40	13	500 kHz
DT3316P-474ML_	470	0.88	4.0	0.11	0.18	0.35	13	500 kHz
DT3316P-684ML_	680	1.15	3.0	0.09	0.14	0.30	13	500 kHz
DT3316P-105ML_	1000	1.45	2.5	0.085	0.14	0.25	13	500 kHz

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

DT3316P-105M L 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.

2. Inductance tested at 0.1 Vrms, 100 kHz, 0 Adc.
3. DC current at which the inductance drops from its value without current.
4. Current that causes a 10°C temperature rise from 25°C ambient.
5. **Ambient temperature range:** –40°C to +85°C with Irms current
   +85°C to +95°C with derated current
6. **Storage temperature range:** Component: –40°C to +85°C
   Packaging: –40°C to +80°C
7. **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.
8. Electrical specifications at 25°C.

See Qualification Standards section for environmental and test data.
See Color Coding section for part marking information.
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Specifications subject to change without notice.
Please check our website for latest information. Document 180-1 Revised 01/26/09

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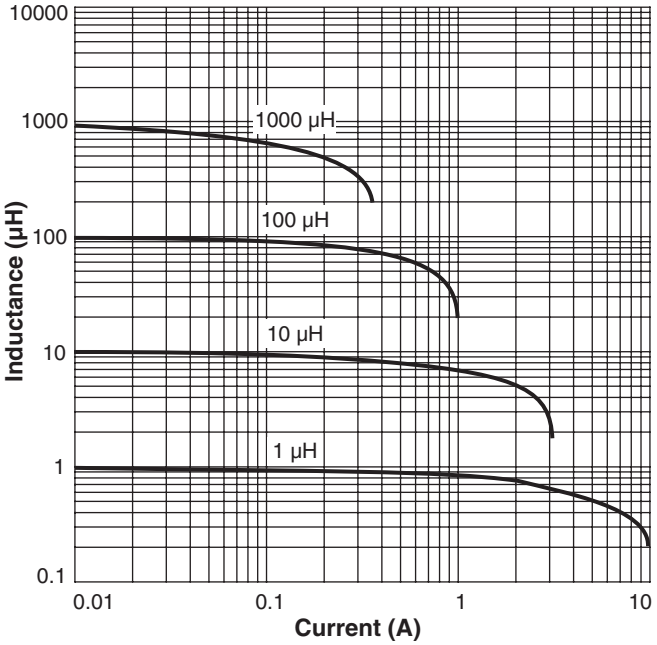
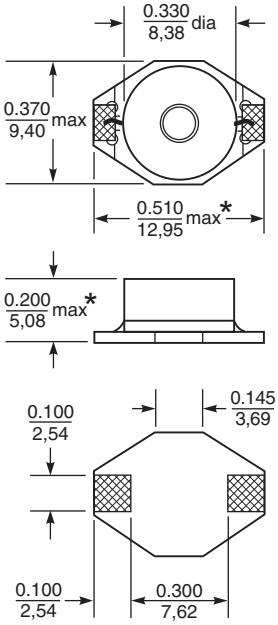
SPICE models ON OUR WEB SITE OR CD

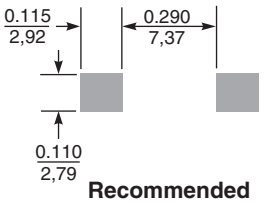
SMT Power Inductors – DT3316P Series

Typical L vs Current



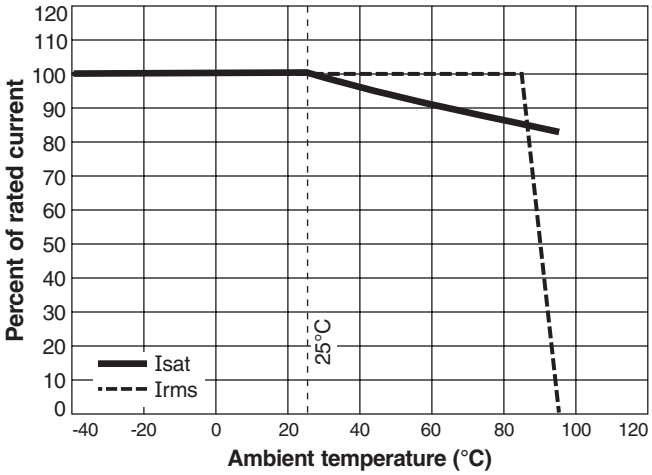


*Allow an additional 0.02/0,508 in width and 0.01/0,254 in height for optional tin-lead and tin-silver-copper application.

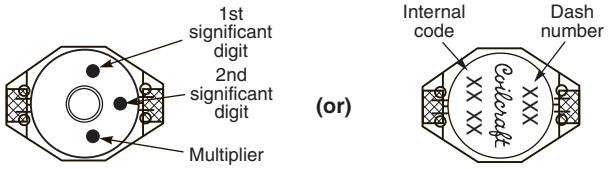


Recommended Land Pattern

Current Derating



Part Marking



Weight: 0.86 – 1.06 g
Tape and reel: 1000/13″ reel 24 mm tape width
For packaging data see Tape and Reel Specifications section.

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