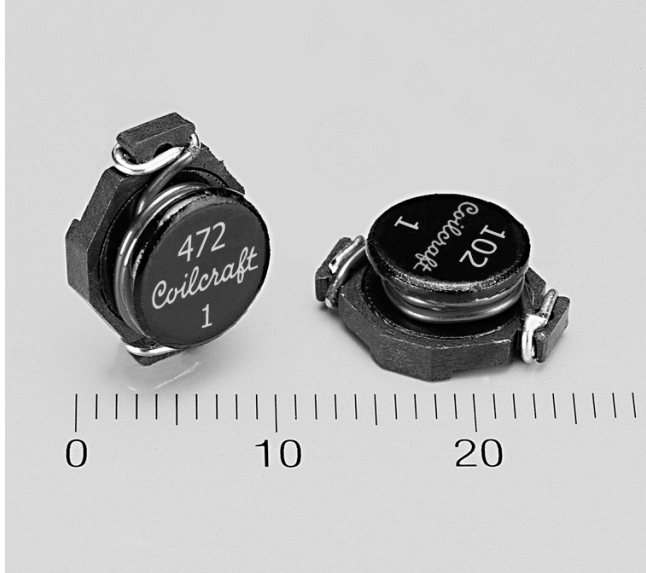




# HIGH TEMPERATURE

# SMT Power Inductors – DO3316T



- Designed for high temperature applications – over 125°C ambient
- AEC-Q200 qualified; ideal for many automotive applications
- Soldered self-leaded construction for excellent solderability
- 10% tolerance for most values
- Low DCR and high current handling

**Designer's Kit C396** contains 3 of each 20% value

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations** RoHS compliant tin-silver-copper over copper. Other terminations available at additional cost.

**Weight** 0.95 – 1.25 g

**Ambient temperature** –40°C to +155°C. See derating curve for Irms vs Temperature.

**Storage temperature** Component: –40°C to +155°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** 750/13" reel Plastic tape: 24 mm wide, 0.35 mm thick, 12 mm pocket spacing, 6.4 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)	% tol <sup>3</sup>	DCR max (Ohms)	SRF <sup>4</sup> typ (MHz)	Isat <sup>5</sup> (A)	Irms <sup>6</sup> (A)
DO3316T-331ML_	0.33	<b>20</b>	0.002	200	20	16
DO3316T-681ML_	0.68	<b>20</b>	0.005	200	13	12
DO3316T-102ML_	1.0	<b>20</b>	0.006	100	11	10
DO3316T-152ML_	1.5	<b>20</b>	0.008	90	9.0	9.0
DO3316T-222_L_	2.2	<b>20,10</b>	0.011	90	7.8	7.4
DO3316T-272_L_	2.7	<b>20,10</b>	0.012	65	7.0	6.6
DO3316T-332_L_	3.3	<b>20,10</b>	0.014	60	6.4	5.9
DO3316T-392_L_	3.9	<b>20,10</b>	0.015	50	5.9	5.3
DO3316T-472_L_	4.7	<b>20,10</b>	0.018	50	5.4	4.8
DO3316T-562_L_	5.6	<b>20,10</b>	0.021	45	4.7	4.65
DO3316T-682_L_	6.8	<b>20,10</b>	0.024	43	4.4	4.40
DO3316T-822_L_	8.2	<b>20,10</b>	0.032	34	4.0	4.15
DO3316T-103_L_	10	<b>20,10</b>	0.034	31	3.9	3.90
DO3316T-123_L_	12	<b>20,10</b>	0.036	27	3.4	3.50
DO3316T-153_L_	15	<b>20,10</b>	0.045	25	3.1	3.10
DO3316T-183_L_	18	<b>20,10</b>	0.050	22	2.8	2.90
DO3316T-223_L_	22	<b>20,10</b>	0.070	18	2.5	2.70
DO3316T-273_L_	27	<b>20,10</b>	0.085	18	2.3	2.30
DO3316T-333_L_	33	<b>20,10</b>	0.100	17	2.0	2.10
DO3316T-393_L_	39	<b>20,10</b>	0.120	15	1.8	1.95
DO3316T-473_L_	47	<b>20,10</b>	0.150	14	1.65	1.80
DO3316T-563_L_	56	<b>20,10</b>	0.165	12	1.45	1.65
DO3316T-683_L_	68	<b>20,10</b>	0.220	11	1.40	1.50
DO3316T-823_L_	82	<b>20,10</b>	0.250	10	1.30	1.40
DO3316T-104_L_	100	<b>20,10</b>	0.280	9.0	1.20	1.30
DO3316T-124_L_	120	<b>20,10</b>	0.400	8.0	1.00	1.00
DO3316T-154_L_	150	<b>20,10</b>	0.460	6.0	0.90	0.90
DO3316T-184_L_	180	<b>20,10</b>	0.520	6.0	0.85	0.85
DO3316T-224_L_	220	<b>20,10</b>	0.700	5.0	0.80	0.80
DO3316T-274_L_	270	<b>20,10</b>	0.800	5.0	0.75	0.70
DO3316T-334_L_	330	<b>20,10</b>	1.07	4.5	0.60	0.60
DO3316T-394_L_	390	<b>20,10</b>	1.14	4.0	0.62	0.55
DO3316T-474_L_	470	<b>20,10</b>	1.27	3.5	0.50	0.50

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

**DO3316T-474MLD**

**Tolerance:** **M** = 20%, **K** = 10% (Table shows stock tolerances in bold.)

**Termination:** **L** = RoHS compliant tin-silver over copper.

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 (750 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 **C** instead.

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.
3. Tolerances in bold are stocked for immediate shipment.
4. SRF measured using Agilent/HP 8753D network analyzer.
5. DC current at which the 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.



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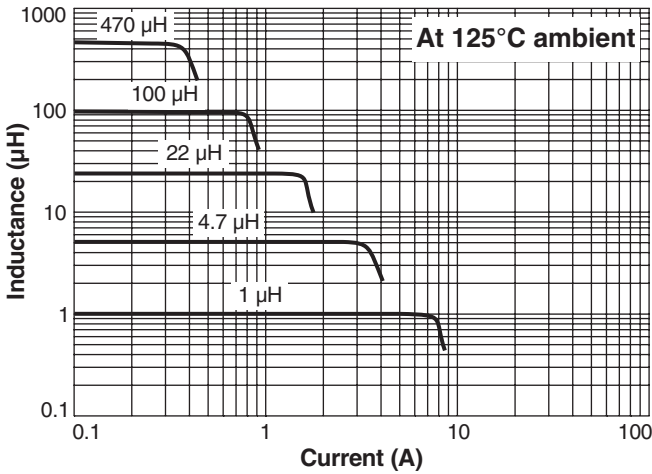
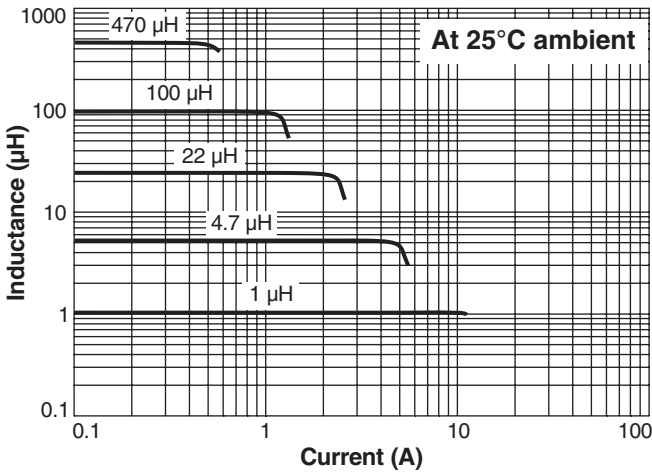
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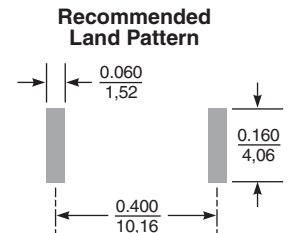
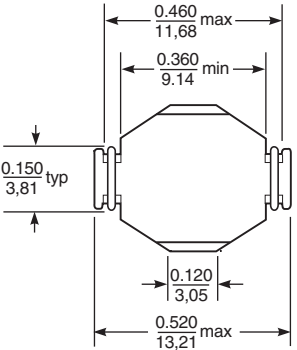
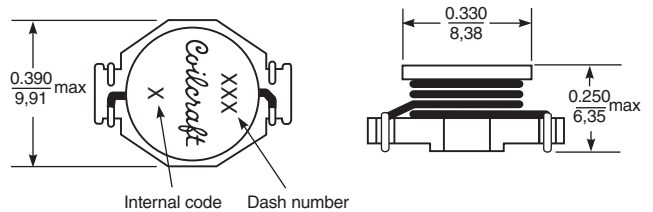
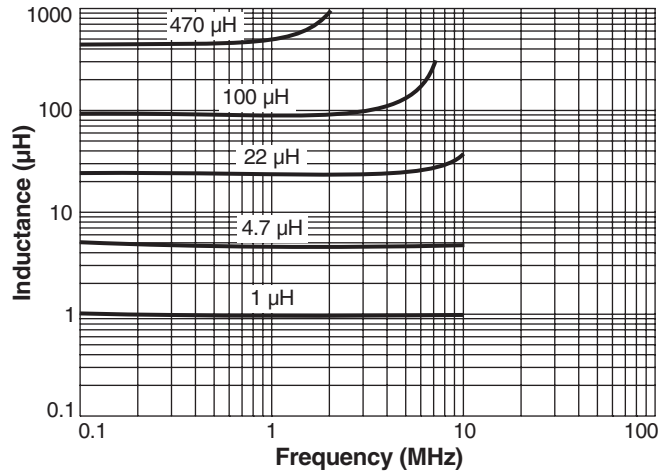
# HIGH TEMPERATURE

## SMT Power Inductors – DO3316T Series

### Typical L vs Current

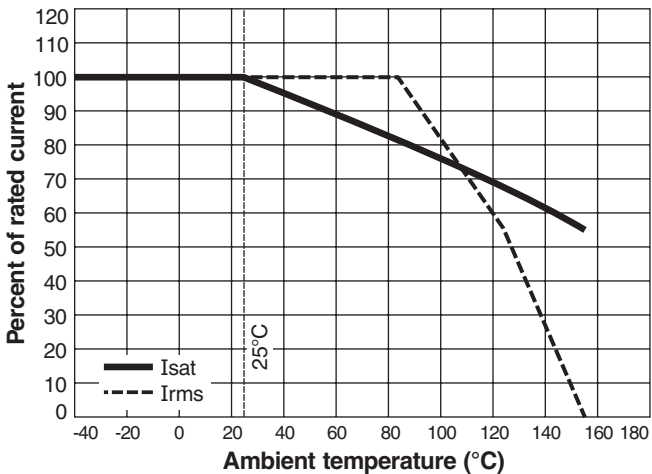


### Typical L vs Frequency



Dimensions are in inches/mm

### Current Derating



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