



# SMT Power Inductors – DO5022P



- Excellent current handling – up to 28.8 Asat.
- Low dc resistance keeps power losses to a minimum

**Designer's Kit C311** contains 3 of each 20% tolerance 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** 2.8– 3.9 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** 250 per 13" reel Plastic tape: 32 mm wide, 0.38 mm thick, 24 mm pocket spacing, 7.8 mm pocket depth

**PCB washing** Only pure water or alcohol recommended

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 (A) <sup>5</sup>		Irms <sup>6</sup> (A)
					10% drop	20% drop	
DO5022P-102ML_	1.0	<b>20</b>	0.009	80	27.6	28.8	8.6
DO5022P-222ML_	2.2	<b>20</b>	0.014	80	18.5	19.8	7.1
DO5022P-332ML_	3.3	<b>20</b>	0.018	60	14.5	15.5	6.2
DO5022P-562ML_	5.6	<b>20</b>	0.020	40	12.5	13.8	5.3
DO5022P-822ML_	8.2	<b>20</b>	0.029	30	10.3	11.5	4.8
DO5022P-103ML_	10	<b>20</b>	0.031	30	9.4	10.5	4.3
DO5022P-153ML_	15	<b>20</b>	0.036	22	7.5	8.2	4.0
DO5022P-223ML_	22	<b>20</b>	0.047	20	6.5	7.2	3.5
DO5022P-333ML_	33	<b>20</b>	0.066	15	5.2	6.1	3.0
DO5022P-473ML_	47	<b>20</b>	0.086	9	4.2	4.7	2.6
DO5022P-683_L_	68	<b>20,10</b>	0.13	8	3.7	4.1	2.3
DO5022P-104_L_	100	<b>20,10</b>	0.19	7	3.0	3.4	1.8
DO5022P-154_L_	150	<b>20,10</b>	0.25	6	2.5	2.8	1.5
DO5022P-224_L_	220	<b>20,10</b>	0.38	5	2.0	2.3	1.2
DO5022P-334_L_	330	<b>20,10</b>	0.56	4	1.7	1.9	1.0
DO5022P-474_L_	470	<b>20,10</b>	0.85	3	1.5	1.7	0.82
DO5022P-684_L_	680	<b>20,10</b>	1.1	2.5	1.2	1.3	0.72
DO5022P-105_L_	1000	<b>20,10</b>	1.8	2.0	0.95	1.1	0.56

1. Specify **tolerance, termination and packaging** codes:

DO5022P-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 (250 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 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 the specified amount 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**  
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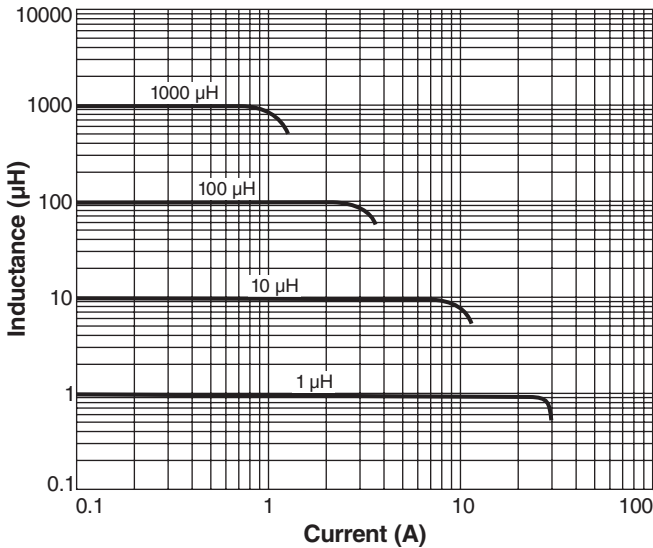
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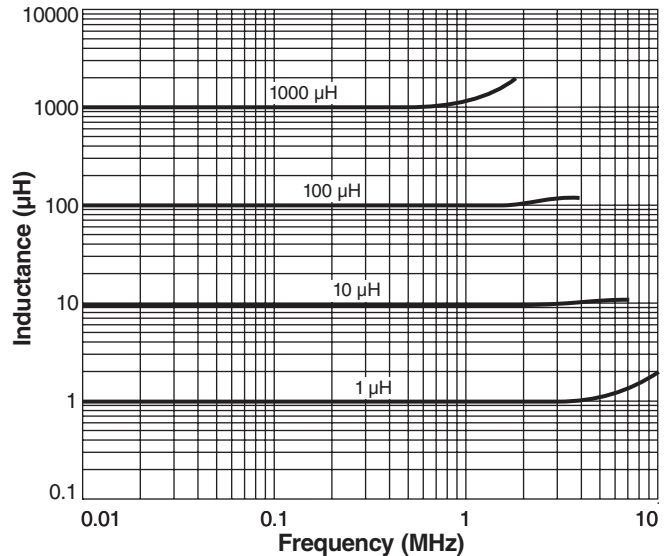


# SMT Power Inductors – DO5022P Series

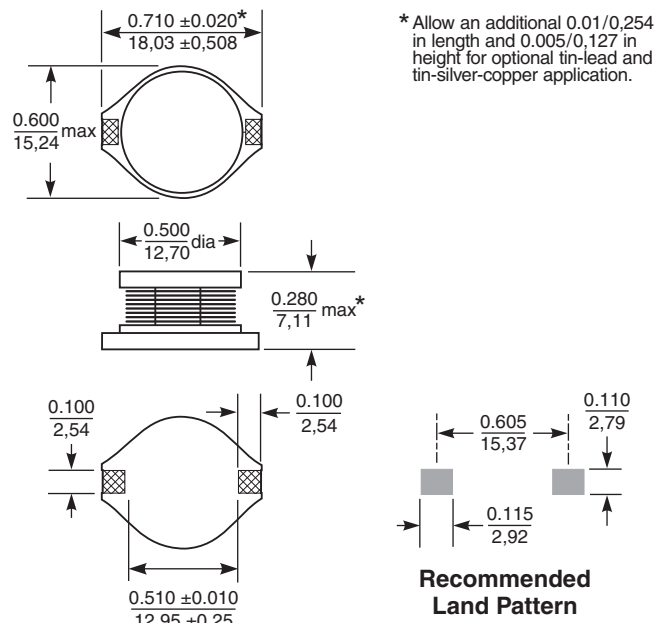
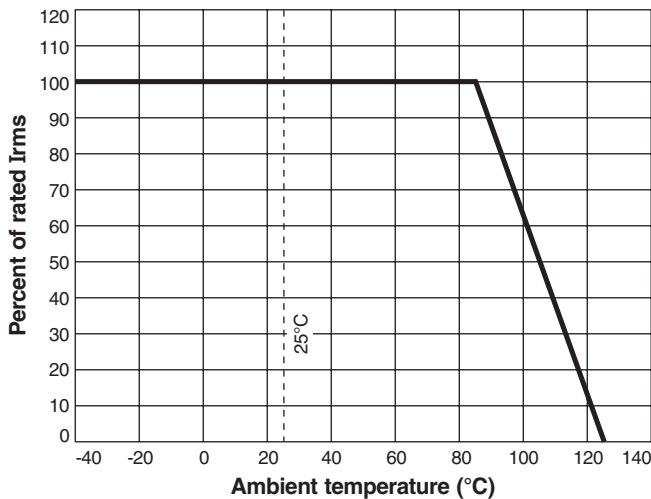
## Typical L vs Current



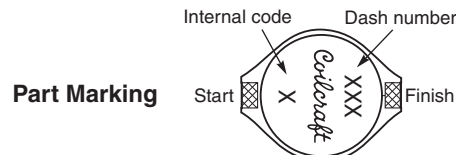
## Typical L vs Frequency



## 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.



Part marking since Feb. 2005. Parts manufactured prior to that date may have color dots. Visit [www.coilcraft.com/colpowr.cfm](http://www.coilcraft.com/colpowr.cfm) for color dot marking details.

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



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