

# SMT Power Inductors – DO5040H



- Heavy gauge wire and self-leaded terminations for low DCR
- Saturation current ratings as high as 33.4 A

**Core material** Ferrite

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

**Terminations** RoHS compliant tin-silver (96.5/3.5) over copper. Other terminations available at additional cost.

**Weight** 5.8 – 7.6 g (2.8 –12  $\mu$ H); 5.7 – 7.0 g (15 –1400  $\mu$ H)

**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** 175 per 13" reel

**2.8 –12  $\mu$ H parts** Plastic tape: 44 mm wide, 0.5 mm thick, 24 mm pocket spacing, 12.8 mm pocket depth

**15 –1400  $\mu$ H parts** Plastic tape: 32 mm wide, 0.4 mm thick, 24 mm pocket spacing, 12.1 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>	Inductance <sup>2</sup> ( $\mu$ H)	DCR max (mOhms)	SRF <sup>4</sup> typ (MHz)	Isat <sup>4</sup> (A)	Irms <sup>5</sup> (A)
DO5040H-282ML_	2.8 $\pm$ 20%	5.2	65	33.4	12.1
DO5040H-392ML_	3.9 $\pm$ 20%	6.0	40	26.8	11.2
DO5040H-682ML_	6.8 $\pm$ 20%	9.0	30	22.5	9.6
DO5040H-103ML_	10 $\pm$ 20%	11	22	17.8	8.6
DO5040H-123ML_	12 $\pm$ 20%	13	21	15.9	7.4
DO5040H-153ML_	15 $\pm$ 20%	20	18	13.8	6.5
DO5040H-183ML_	18 $\pm$ 20%	22	14	13.2	6.0
DO5040H-223ML_	22 $\pm$ 20%	24	13	11.8	5.7
DO5040H-333ML_	33 $\pm$ 20%	37	10	9.6	4.5
DO5040H-473ML_	47 $\pm$ 20%	52	8.0	7.8	3.7
DO5040H-683ML_	68 $\pm$ 20%	67	7.0	6.7	3.4
DO5040H-104ML_	100 $\pm$ 20%	115	6.0	5.6	2.8
DO5040H-334KL_	330 $\pm$ 10%	325	3.0	3.0	1.5
DO5040H-684KL_	680 $\pm$ 10%	780	1.6	2.0	1.1
DO5040H-145KL_	1400 $\pm$ 10%	1300	1.0	1.5	0.7

- When ordering, please specify **termination** and **packaging** codes:

**DO5040H-104MLD**

**Termination:** L = RoHS compliant tin-silver (96.5/3.5) 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 (175 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.

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in Agilent/HP 4284A impedance analyzer.
  - SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
  - 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.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



[www.coilcraft.com](http://www.coilcraft.com)

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)

**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)

**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)

**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)

**Singapore** + 65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

Document 479-1 Revised 10/14/08

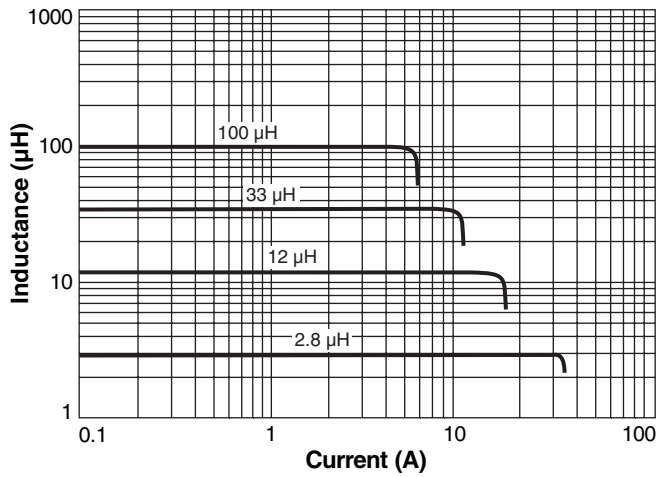
© Coilcraft Inc. 2013

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

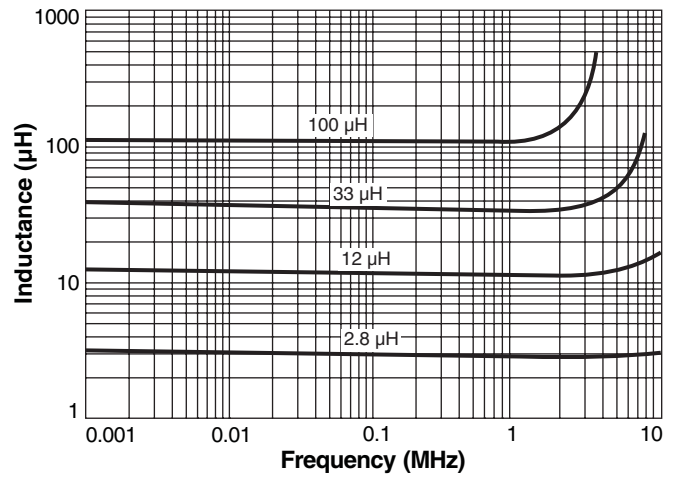


# SMT Power Inductors - DO5040H Series

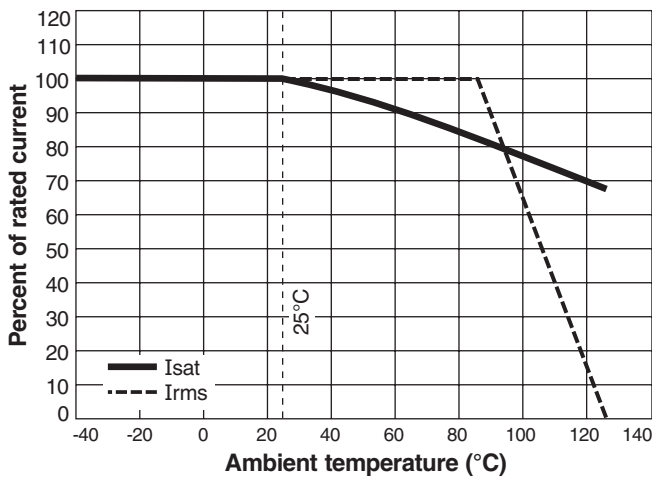
## Typical L vs Current



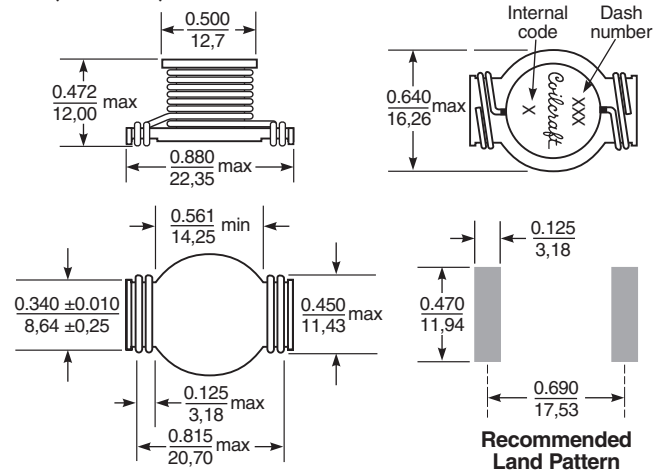
## Typical L vs Frequency



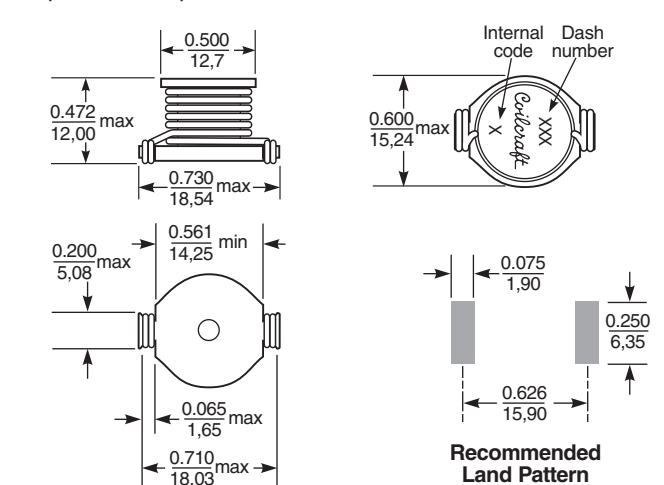
## Current Derating



### 2.8 µH – 12 µH



### 15 µH – 1400 µH



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

Document 479-2 Revised 10/14/08  
 © Coilcraft Inc. 2013  
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.