

# 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

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>( $\mu$ H) | DCR<br>max<br>(mOhms) | SRF <sup>4</sup><br>typ<br>(MHz) | Isat <sup>4</sup><br>(A) | Irms <sup>5</sup><br>(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                      |

1. 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.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in Agilent/HP 4284A impedance analyzer.

3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.

4. DC current at which the inductance drops 10% (typ) from its value without current.

5. Current that causes a 40°C temperature rise from 25°C ambient.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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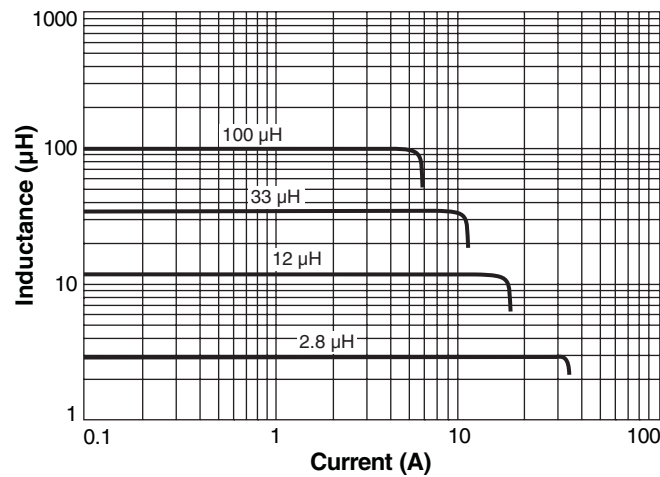
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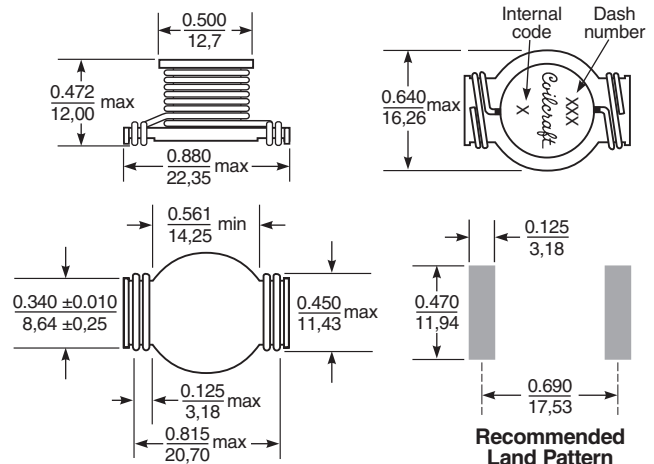


# SMT Power Inductors - DO5040H Series

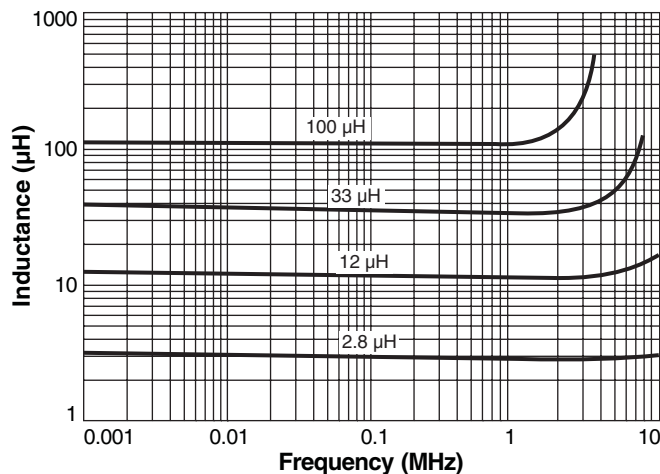
## Typical L vs Current



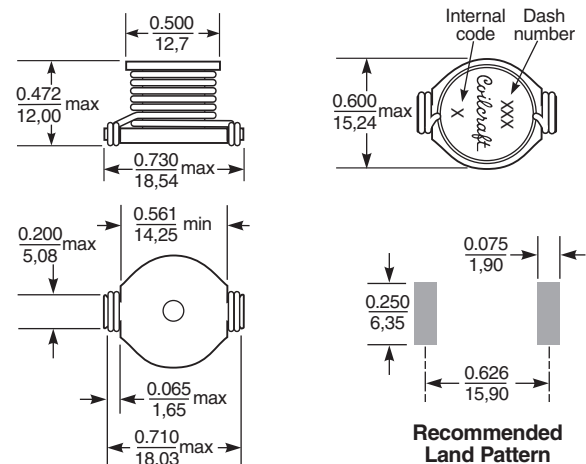
## 2.8 μH – 12 μH



## Typical L vs Frequency



## 15 μH – 1400 μH



| Dash number | Number of wire wraps |
|-------------|----------------------|
| -282        | 2                    |
| -392        | 2                    |
| -682        | 2                    |
| -103        | 2                    |
| -123        | 2                    |

| Dash number | Number of wire wraps |
|-------------|----------------------|
| -153        | 1                    |
| -183        | 1                    |
| -223        | 1                    |
| -333        | 1                    |
| -473        | 1                    |
| -683        | 1                    |
| -104        | 1                    |
| -334        | 2                    |
| -684        | 3                    |
| -145        | 4                    |

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

**Packaging** 175 per 13" reel

**2.8 – 12 μH parts** Plastic tape: 44 mm wide, 0.5 mm thick, 24 mm pocket spacing, 12.8 mm pocket depth

**15 – 1400 μH parts** Plastic tape: 32 mm wide, 0.4 mm thick, 24 mm pocket spacing, 12.1 mm pocket depth



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