**SMT Power Inductors – DO5022P**

- Excellent current handling – up to 28.8 A\text{sat}.
- 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

**Terminations** RoHS compliant electroplated gold (<50 µin) 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

**Maximum part temperature** +125°C (ambient + temp rise)

**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 width, 0.38 mm thick, 24 mm pocket spacing, 7.8 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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**Table:**

<table>
<thead>
<tr>
<th>Part number</th>
<th>L² (µH)</th>
<th>Percent tol</th>
<th>DCR max (Ohms)</th>
<th>SRF typ (MHz)</th>
<th>Isat (A)</th>
<th>10% drop</th>
<th>20% drop</th>
<th>Irms (A)</th>
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<tr>
<td>DO5022P-102ML</td>
<td>1.0</td>
<td>20</td>
<td>0.009</td>
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<td>28.8</td>
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<td>20</td>
<td>0.014</td>
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<td>18.5</td>
<td>19.8</td>
<td>7.1</td>
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<tr>
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<td>20</td>
<td>0.018</td>
<td>60</td>
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<td>15.5</td>
<td>6.2</td>
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<td>0.020</td>
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<td>13.8</td>
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<td>DO5022P-103ML</td>
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<td>20</td>
<td>0.031</td>
<td>30</td>
<td>9.4</td>
<td>10.5</td>
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</table>

1. Specify tolerance, termination and packaging codes:

   **DO5022P-105ML**

   **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 ambient.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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**Coilcraft**

www.coilcraft.com

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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 – DO5022P Series**

**Typical L vs Current**

![Typical L vs Current Graph](image)

**Typical L vs Frequency**

![Typical L vs Frequency Graph](image)

*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.*

**Recommended Land Pattern**

![Recommended Land Pattern](image)

Dimensions are in inches or mm.

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**Part Marking**

- **Internal code**: XXX
- **Dash number**: Interim code
- **Start**: X
- **Finish**: XXX

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**RoHS Compliant**

**Specifications**

- **Inductance (µH)**: 1, 10, 100, 1000, 10000
- **Current (A)**: 0.1, 1, 10, 100
- **Frequency (MHz)**: 0.01, 0.1, 1, 10

**Notes**

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- Please check web site for latest information.