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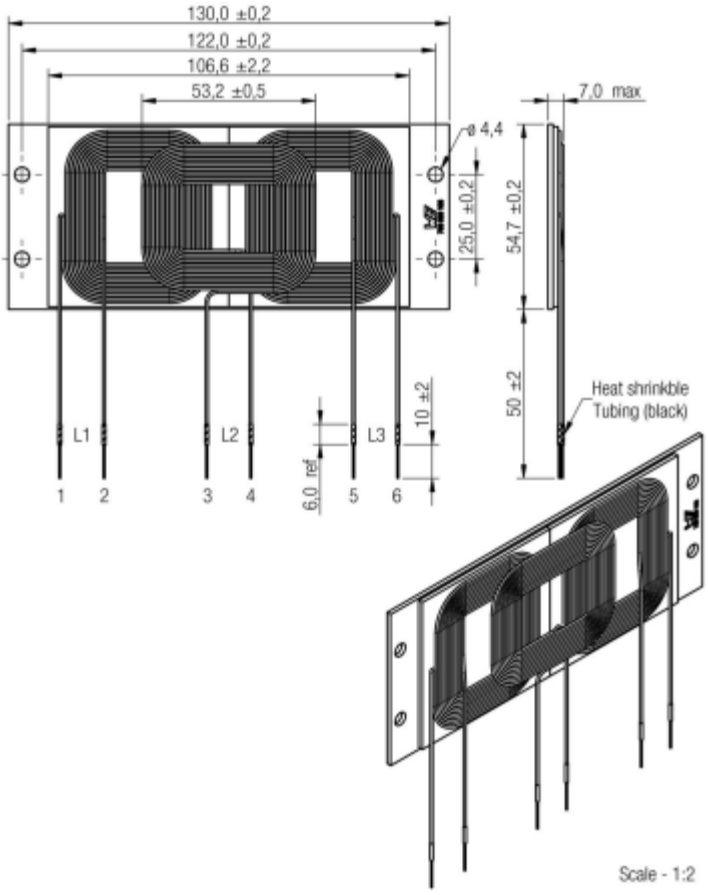
# Datasheet

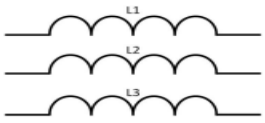
# Wurth 12.5 µH ±10% Ferrite Coil Inductor, Max SRF:10MHz, Q:140, 9A Idc, 0.065Ω Rdc WE-WPCC

**RS Stock number [782-3923]**

**Dimensions: (mm)**




**Schematic:**




## Description

- It is recommended that the temperature of the part does not exceed +105°C under worst case conditions.
- Storage Temperature: -20°C to 60°C
- Operating Temperature: -20°C to 105°C
- Test conditions of electrical properties: 20°C 33% RH if not specified differently

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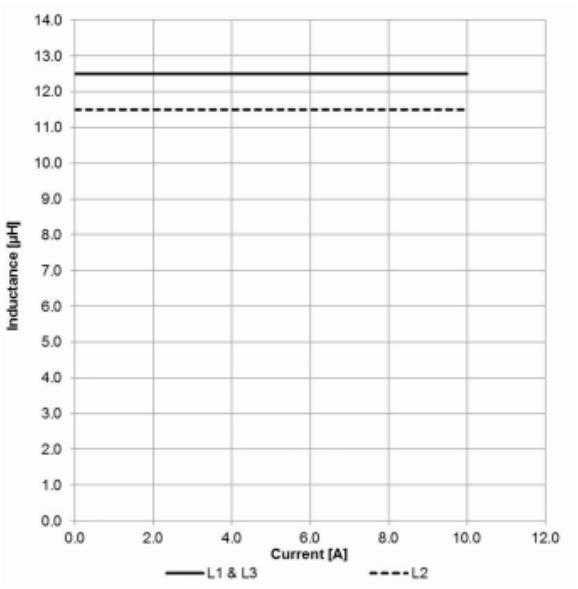
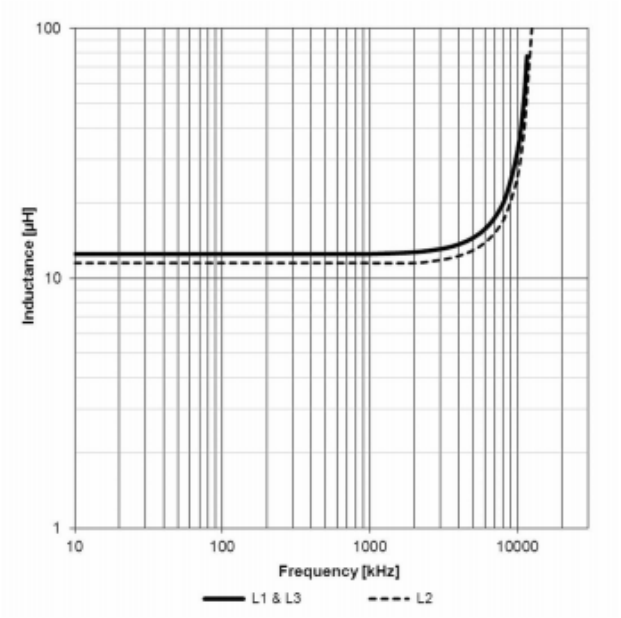
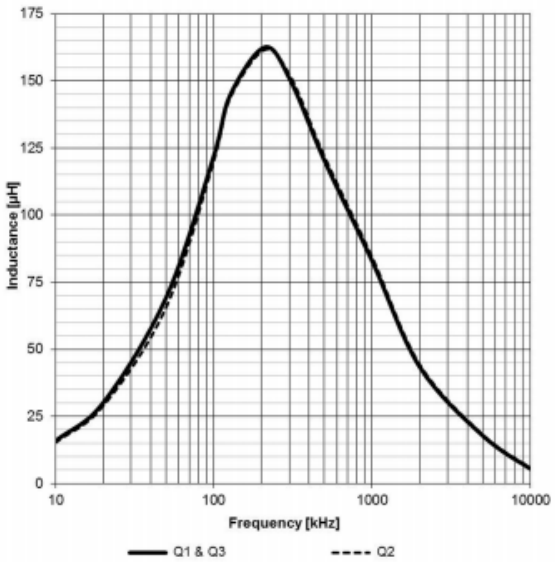
## Electrical Properties

| Properties | Test conditions | | Value | Unit | Tol. |
|---|---|---|---|---|---|
| **Inductance** | 125 kHz | L | 10 | µH | ±5% |
| **Q-factor** | 125 kHz | Q | 50 | | min. |
| **Rated Current** | ΔT = 40 K | $I_R$ | 4.5 | A | max. |
| **Saturation Current** | | $I_{sat}$ | 8.0 | A | typ. |
| **DC Resistance** | | $R_{DC}$ | 0.16 | Ω | typ. |
| **DC Resistance** | | $R_{DC}$ | 0.2 | Ω | max. |

## Typical Inductance vs. Current Characteristics



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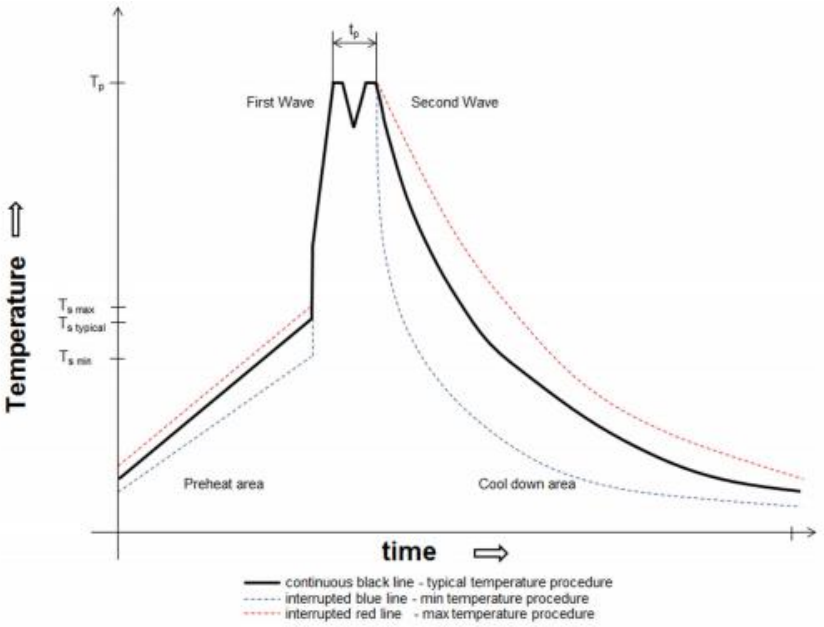
# Datasheet

## Soldering Specifications




| Profile Feature | Pb-Free Assembly | Sn-Pb Assembly |
|---|---|---|
| Preheat<br>- Temperature Min ($T_{smin}$)<br>- Temperature Typical ($T_{stypical}$)<br>- Temperature Max ($T_{smax}$)<br>- Time ($t_s$) from ($T_{smin}$ to $T_{smax}$) | <br>100°C<br>120°C<br>130°C<br>70 seconds | <br>100°C<br>120°C<br>130°C<br>70 seconds |
| Δ preheat to max Temperature | 150°C max. | 150°C max. |
| Peak temperature ($T_p$) | 250°C - 260°C | 235°C - 260°C |
| Time of actual peak temperature ($t_p$) | max. 10 seconds<br>max. 5 second each wave | max. 10 seconds<br>max. 5 second each wave |
| Ramp-down rate<br>- Min<br>- Typical<br>- Max | <br>~ 2 K/s<br>~ 3.5 K/s<br>~ 5 K/s | <br>~ 2 K/s<br>~ 3.5 K/s<br>~ 5 K/s |
| Time 25°C to 25°C | 4 minutes | 4 minutes |

refer to EN 61760-1:2006

**General:**
All recommendations according to the general technical specifications of the data sheet have to be complied with.

The disposal and operation of the product within ambient conditions which probably alloy or harm the wire isolation has to be avoided.

If the product is potted in customer applications, the potting material might shrink during and after hardening. Accordingly to this the product is exposed to the pressure of the potting material with the effect that the core, wire and termination is possibly damaged by this pressure and so the electrical as well as the mechanical characteristics are endanger to be affected. After the potting material is cured, the core, wire and termination of the product have to be checked if any reduced electrical or mechanical functions or destructions have occurred.

The responsibility for the applicability of customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products do also apply for customer specific products.

Washing varnish agent that is used during the production to clean the application might damage or change the characteristics of the wire insulation, the marking or the plating. The washing varnish agent could have a negative effect on the long turn function of the product.

Direct mechanical impact to the product shall be prevented as the ferrite material of the core could flake or in the worst case it could break.

**Product specific:**
Follow all instructions mentioned in the datasheet, especially:

- The soldering profile has to be complied with according to the technical wave soldering specification, otherwise no warranty will be sustained.
- Reflow soldering is not applicable. Wave soldering is recommended.
- All products are supposed to be used before the end of the period of 12 months based on the transfer of title, if not a 100% solderability can´t be warranted.
- Violation of the technical product specifications such as exceeding the nominal rated current will result in the loss of warranty.
- Due to heavy weight of the component, strong forces and high accelerations might have the effect to damage the electrical connection or to harm the circuit board and will result in the loss of warranty.