**ICD&C** **PRELIMINARY**

# POWER INDUCTOR – PRODUCT DATASHEET

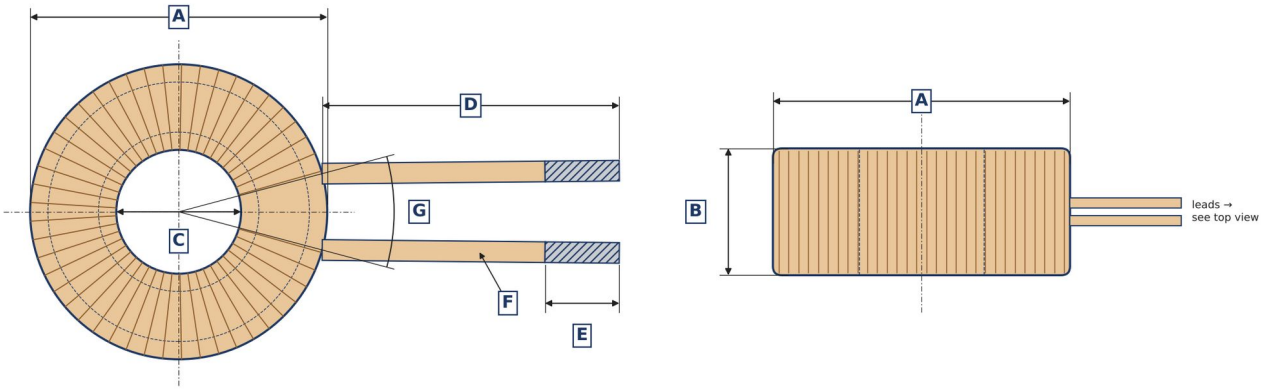
*150.0 µH · 30.0 A rms · 50.0 A sat · 20.0 kHz – powder-core toroidal inductor, flying leads*

| | |
|---|---|
| **Part number** | HPP030-20-151 |
| **Revision / date** | R1.0 · 2026-11-06 |
| **Customer** | ICD&C standard series (HPP) |
| **Application** | HPP030-20-151 – 150 µH / 30 A rms / 50 A sat – 20 kHz power inductor |
| **Description** | Powder-core toroidal power inductor, Litz-wire winding, flying leads |

## 1. ELECTRICAL CHARACTERISTICS

| Parameter | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|
| Inductance L0 | 138.0 | 150.0 | 162.0 | µH | 10 kHz, 1 V, 0 A DC bias (±8 %) |
| Inductance at rated peak current | | 136.0 | | µH | I = 34.5 A (Irms + ½ ripple) |
| Inductance at saturation current | 120.0 | | | µH | I = Isat = 50.0 A DC |
| Rated current Irms | | | 30.0 | A | continuous, Ta ≤ 85 °C, natural convection |
| Saturation current Isat | 50.0 | | | A | L ≥ 80 % of nominal L0 |
| Ripple current ΔI | | 9.0 | | A pk-pk | at 20.0 kHz |
| Operating frequency | | 20.0 | | kHz | ripple / switching frequency |
| DC resistance DCR | | 12.42 | | mΩ | 4-wire, 25 °C, at winding exit (leads excl.) |
| Power loss | | 16.0 | | W | Irms + ripple, Ta = 50 °C |
| Temperature rise ΔT | | 47 | | K | rated conditions, Ta = 50 °C, still air |
| Winding (hot-spot) temperature | | 135 | 155 | °C | rated conditions, Ta = 85 °C |
| Operating ambient temperature | -40 | | 85 | °C | at rated current |
| Insulation class | | F | | | winding system 155 °C |
| Dielectric test | | | | | Per agreement with customer |
| Power rating / max. bus voltage | | 1.5 kW | 98 V | | at D = 0.5 (buck / boost), ΔI = 9.0 A; P ≈ ½ · Vbus · Irms |

## 2. MECHANICAL – GENERAL ARRANGEMENT, Flying leads only (dimensions in mm)

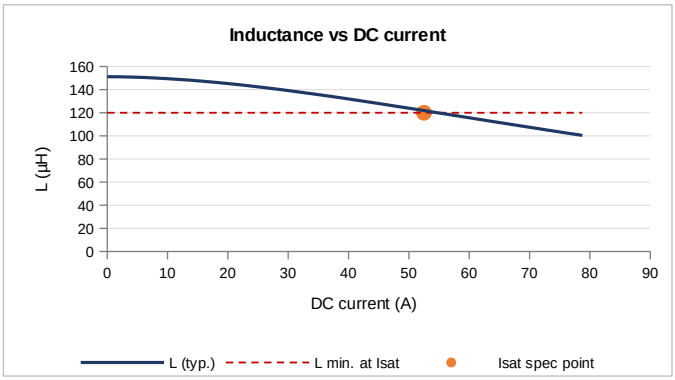


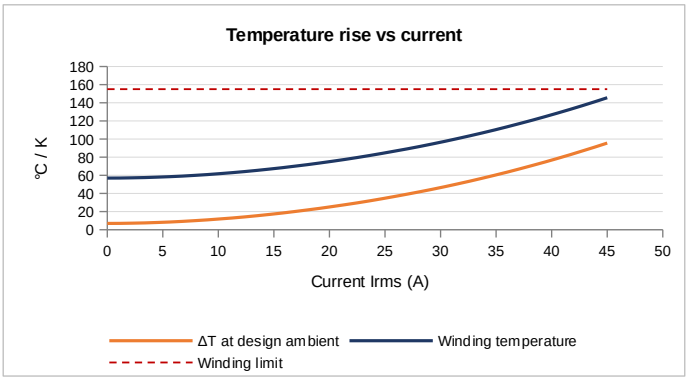

| Dimension | Nominal | Min. | Max. | Unit | Note |
|---|---|---|---|---|---|
| **A – Wound outer Ø** | 86.2 | | 89 | mm | incl. winding |
| **B – Wound height** | 25.1 | | 28 | mm | incl. winding |
| **C – Free inner bore Ø** | 33.4 | 31 | | mm | available for mounting bolt / clamp |
| **D – Lead free length (each)** | 150 | 145 | 155 | mm | measured from winding body |
| **E – Strip & tin length** | 15 | 13 | 17 | mm | stripped and solder-tinned, no sleeving |
| **F – Lead conductor Ø** | 3.8 | | | mm | copper Litz wire, reference, over insulation |
| **G – Lead exit angle** | 30 | 20 | 40 | ° | both leads on the same side |
| **Weight** | 600 | | | g | approx. |

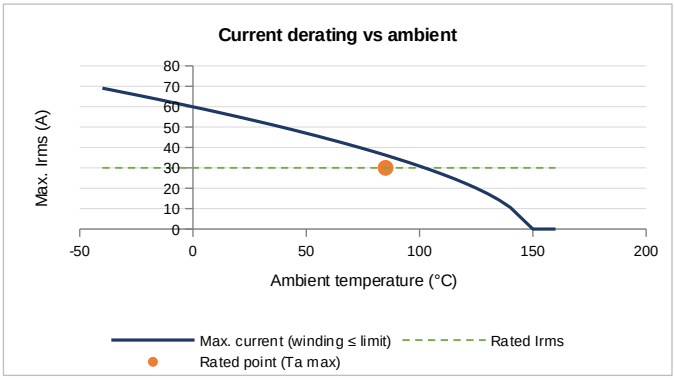
## 2b. MOUNTING – none (flying leads only)

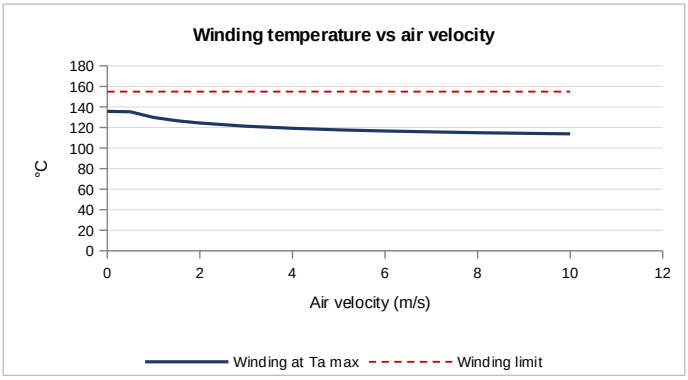
| Dimension | Nominal | Min. | Max. | Unit | Note |
|---|---|---|---|---|---|
| **H – Centre / overall height** | – | | – | mm | foot underside to toroid axis |
| **J – Bracket height** | – | | | mm | – |
| **K – Plate width** | – | | | mm | |
| **L – Foot / base depth** | – | | | mm | |
| **M – Fixing pitch** | – | | | mm | – |
| **N – Fixing hole / slot** | – | | | mm | – |
| **P – Centre bolt** | – | | | | – |
| **Q – Pressure disc Ø** | – | | | mm | – |
| **R – Plate thickness** | – | | | mm | – |
| **S – Slot position** | – | | | mm | – |
| **T – Centring boss / bush Ø** | – | | | mm | – |
| **Mounting notes** | No mounting hardware supplied. Fix through bore C with an insulated clamp; do not form a closed metal loop through the bore. | | | | |

## 2c. CHARACTERISTIC CURVES (typical, still air)



| 3. CONSTRUCTION | |
|---|---|
| **Core** | Distributed-gap powder toroid, coated |
| **Winding** | Copper Litz wire, insulation class F (155 °C); protective tape over the winding (Polyimide 180 °C) |
| **Terminations** | Flying leads, stripped and solder-tinned, no sleeving |
| **Mounting** | none |
| **Marking** | Label with part number, revision and date code |
| **Compliance** | RoHS / REACH – to be confirmed |

| 4. ROUTINE TESTS (100 %) | | |
|---|---|---|
| **Test** | **Method** | **Acceptance** |
| Inductance | LCR meter, 10 kHz, 1 V, 0 A | 150.0 µH ± 8 % |
| DC resistance | 4-wire, corrected to 25 °C | record value (typ. 12.42 mΩ) |
| Dielectric | Per agreement with customer | no breakdown or flashover |
| Visual & dimensions | GA dimensions A–G | within the limits of section 2 |

| 5. DOCUMENT | |
|---|---|
| **Prepared by** | ICD&C |
| **Revision / date** | R1.0 · 2026-11-06 |

*Typ. = calculated design values for reference; Min./Max. = specified limits. Thermal data for natural convection in still air – actual values depend on mounting and cooling. Status: PRELIMINARY. Subject to change without notice.*