



PRODUCT SPECIFICATION · INDUCTOR

LC-461RS31-YC

460 μH Output Inductor — Flat Wire, High-Frequency, RS31 Core

This document is provided as buyer evidence of product structure, electrical specification, and material list. Project-specific values must be confirmed via approved sample record and drawing.

1. Document Information

| | |
|---------------------|--|
| Manufacturer P/N | LC-461RS31-YC |
| Version | A01 |
| Date | 2026-03-09 |
| Product Description | Output Inductor — 460 μH (Flat Wire) |
| Manufacturer | Shenzhen PROMAGTECH Co., Ltd. www.promagtech.com |
| Contact | zyong@promagtech.cn +86 135 3765 8938 |
| Address | No. 22 Dongda Road, Dongkeng, Fenghuang St., Guangming District, Shenzhen, China |
| RoHS Compliance | Yes — all materials comply with RoHS and applicable environmental requirements |

Evidence Note: This product specification is published as buyer review evidence for initial parameter screening and engineering review. Current rating, DCR, temperature rise, insulation structure, and qualification documents must be confirmed against the approved sample record and project-specific drawing before production release.

2. Electrical Specifications

| No. | Parameter | Terminals | Specification | Test Condition | Test Instrument |
|-----|---------------------|-----------|--|---------------------------------|------------------------|
| 1 | Inductance L | 1-2 | 460 μH ± 7% | 100 kHz / 0.3 V | HP42381A or equivalent |
| 2 | DC Bias Inductance | 1-2 | $L_{dc} \geq L_0 \times 90\%$ (at rated DC bias) | 100 kHz / 0.3 V 120°C or 25°C | HP42381A or equivalent |
| 3 | Q Value | 1-2 | Reference only | 1 kHz / 0.3 V | HP42381A or equivalent |
| 4 | DC Resistance (DCR) | 1-2 | Per project spec @ 25°C | 25°C ambient | CH502 or equivalent |
| 5 | Inter-turn Test | 1-2 | AC 1000 V / 5 pulses — no anomaly | TH9201S procedure | TH9201S or equivalent |
| 6 | Hi-Pot Test | Core-Coil | AC 500 V / 2 mA / 60 s — no breakdown | — | TH9201S or equivalent |

| No. | Parameter | Terminals | Specification | Test Condition | Test Instrument |
|-----|-----------------------|-----------|---------------------|----------------|-----------------------|
| 7 | Insulation Resistance | Core-Coil | ≥ 100 MΩ @ DC 500 V | — | TH9201S or equivalent |

3. Winding Structure

| Winding | Start | End | Wire Gauge | Turns | Winding | Notes |
|---------------------|-------|-------|---------------------------------|----------|------------------|---------------------------------|
| N1 (Primary) | Pin 1 | Pin 2 | Flat wire AIW T0.35 mm × 2.0 mm | 66 turns | Close-wound (密绕) | Multi-layer flat copper winding |

3.1 Production Process Requirements

3.1 Winding direction: clockwise.

3.2 Horizontal (lying flat) mounting on baseplate; lead pin length: 3.5 ± 0.5 mm.

3.3 Adhesive fixation applied at lead exit points, between core and baseplate, and between core halves.

3.4 Solder joints must be smooth and fully filled (no cold joints or bridging).

3.5 Label positioned on the bottom face as shown in product drawing.

4. Operating Conditions

| | |
|-----------------------|---|
| Operating Temperature | -40°C to +125°C |
| Storage Temperature | -40°C to +125°C |
| Operating Humidity | 5% – 80% RH (non-condensing; confirm for specific installation) |

5. Material List

| Item | Material / Grade | Spec / Model | Temp. Class | Manufacturer | UL File | RoHS |
|------------------|-------------------------------|----------------|-------------|--|---------|------|
| Core | Iron powder — Grade 90 | 310V055008A C | N/A | STODA TECHNOLOGY (SHANTOU) CO., LTD | N/A | Yes |
| Flat Wire | Enamelled Flat Cu (AIW class) | T0.35 × 2.0 mm | 220°C | Shanghai Yutuo Magnetwire Co., Ltd. | E338133 | Yes |
| Flat Wire | (Alt. source) | T0.35 × 2.0 mm | 220°C | Well Ascent Electronic (Ganzhou) Co., Ltd. | E318511 | Yes |

| Item | Material / Grade | Spec / Model | Temp. Class | Manufacturer | UL File | RoHS |
|-------------------------|------------------|--|-------------|--|---------|------|
| Base / Bobbin | PPS resin | A504X90 / A504X95 / A504FG1 / A504(R) | 130°C | Toray Industries Inc. | E41797 | Yes |
| Adhesive / Epoxy | Epoxy compound | 3300 | 130°C | Dongguan Eatto Electronic Material Co., Ltd. | E218090 | Yes |

6. Applicable Standards

| | |
|---------------|--|
| GB/T 15290-94 | General specifications for power transformers and filter chokes for electronic equipment |
| GB 2423 | Basic environmental testing procedures for electronic products |
| GB 8554 | Test methods for transformers and inductors for electronic / communication equipment |
| IEC 1007 | Transformers and inductors — measuring methods and test procedures |
| UL 1446 | Standard for insulation systems certification |
| IPC 9592 | Performance parameters for power conversion devices |
| RoHS / REACH | Compliant — all materials meet applicable environmental regulations |

7. Contact and Engineering Review

To initiate an engineering review for a custom inductor based on this product family, send your converter topology, rated current, target inductance, DCR limit, switching frequency, temperature rise limit, insulation requirement, and package envelope to:

| | |
|----------|---------------------------------|
| Email | zyong@promagtech.cn |
| WhatsApp | +86 135 3765 8938 |
| Website | www.promagtech.com/contact.html |

Response Commitment: Preliminary design assessment within 24 hours of complete specification. Formal quotation within 3 business days. Sample delivery: 5–7 business days for standard custom designs.