

HIGH POWER INDUCTOR

P7601 Family

Features

- * High Current (to 20A rms)
- * Very Low DCR (to 1.5mΩ)
- * Low profile (5-8mm)
- * Surface Mount
- * Flat top for pick & place
- * Lead-free (Pb-free)
- * RoHS compliant

Applications

- * DC-DC Converters
- * High Current/Low Voltage Converters
- * Voltage Regulator Modules
- * Notebook and handheld equipment

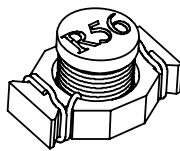
DESCRIPTION

The P7601 family comprises high current, unshielded power inductors.

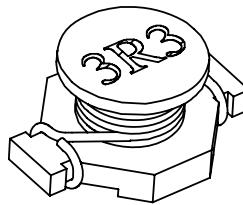
Components are available in three mechanical sizes, suitable for low-profile high current applications.

The miniature 1813 parts have very high current rating for their size; the 3316 and 5022 parts exhibit very low DCR.

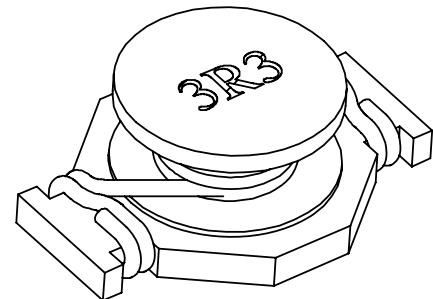
The family employs heavy gauge wire to minimize DCRs, and provides reliable self-leaded Pb-free terminations, compliant with RoHS Directive 2002/95/EC, and suitable for lead-free and conventional placement and reflow.



P7601-1813



P7601-3316



P7601-5022



RoHS
COMPLIANT

SPECIFICATIONS

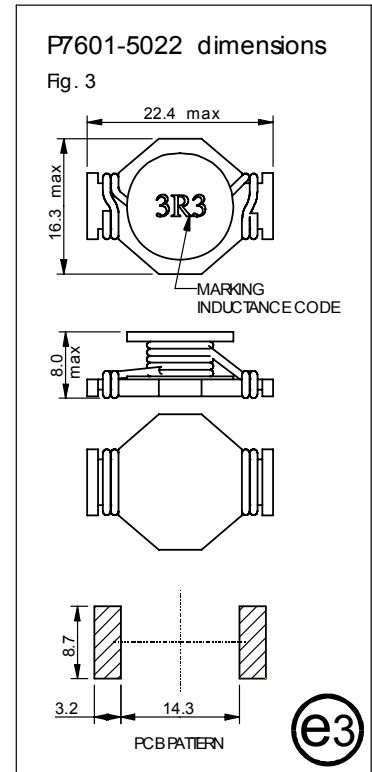
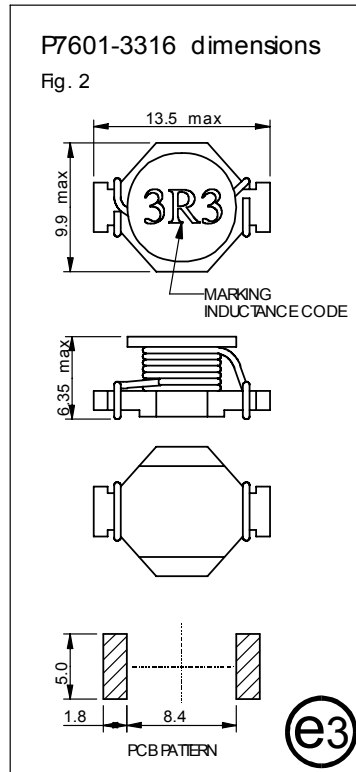
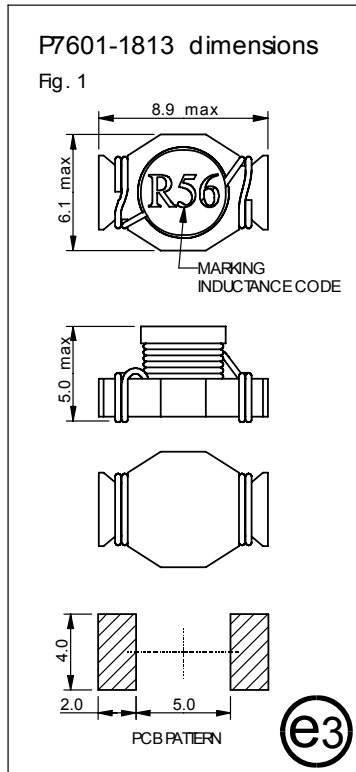
Electrical

| Part Number | Inductance (μH) ⁽¹⁾ | DCR (m Ω) Max | SRF (MHz) ⁽²⁾ | Rated Current I_{RMS} (A) ⁽³⁾ | I_{sat} (A) ⁽⁴⁾ |
|-----------------|---|-----------------------|--------------------------|---|-------------------------------------|
| P7601-1813-R56M | 0.56±20% | 10 | 200 | 6.0 | 7.7 |
| P7601-1813-1R2M | 1.2±20% | 17 | 140 | 4.4 | 5.3 |
| P7601-1813-2R2M | 2.2±20% | 35 | 100 | 3.1 | 3.5 |
| P7601-1813-4R7M | 4.7±20% | 54 | 50 | 2.2 | 2.6 |
| P7601-1813-100M | 10±20% | 111 | 40 | 1.5 | 1.9 |
| P7601-1813-150M | 15±20% | 170 | 30 | 1.2 | 1.5 |
| P7601-1813-220M | 22±20% | 250 | 25 | 1.0 | 1.2 |
| P7601-1813-330M | 33±20% | 350 | 20 | 0.8 | 1.0 |
| P7601-1813-470M | 47±20% | 470 | 15 | 0.7 | 0.9 |
| P7601-3316-R12M | 0.12±20% | 1.5 | 350 | 20 | 20 |
| P7601-3316-R33M | 0.33±20% | 2 | 300 | 16 | 20 |
| P7601-3316-R68M | 0.68±20% | 5 | 200 | 12 | 13 |
| P7601-3316-1R0M | 1.0±20% | 6 | 100 | 10 | 11 |
| P7601-3316-1R5M | 1.5±20% | 8 | 90 | 9 | 9 |
| P7601-3316-2R2M | 2.2±20% | 11 | 90 | 7.4 | 7.8 |
| P7601-3316-2R7M | 2.7±20% | 12 | 65 | 6.6 | 7.0 |
| P7601-3316-3R3M | 3.3±20% | 14 | 65 | 5.9 | 6.4 |
| P7601-3316-4R7M | 4.7±20% | 18 | 45 | 4.8 | 5.9 |
| P7601-3316-5R6M | 5.6±20% | 22 | 40 | 4.6 | 5.0 |
| P7601-3316-6R8M | 6.8±20% | 27 | 36 | 4.4 | 4.6 |
| P7601-3316-8R2M | 8.2±20% | 32 | 28 | 4.0 | 4.0 |
| P7601-3316-100M | 10±20% | 38 | 25 | 3.9 | 3.8 |
| P7601-5022-R78M | 0.78±20% | 2.6 | 156 | 15 | 30 |
| P7601-5022-1R5M | 1.5±20% | 4 | 100 | 15 | 25 |
| P7601-5022-2R2M | 2.2±20% | 6 | 75 | 12 | 20 |
| P7601-5022-3R3M | 3.3±20% | 8 | 60 | 10 | 17 |
| P7601-5022-3R9M | 3.9±20% | 10 | 55 | 9 | 15 |
| P7601-5022-4R7M | 4.7±20% | 14 | 40 | 8.4 | 13 |
| P7601-5022-6R0M | 6.0±20% | 17 | 35 | 7.5 | 12 |
| P7601-5022-7R8M | 7.8±20% | 18 | 35 | 7.5 | 11 |
| P7601-5022-100M | 10±20% | 26 | 28 | 6.0 | 10 |
| P7601-5022-150M | 15±20% | 32 | 20 | 4.4 | 8 |

Notes

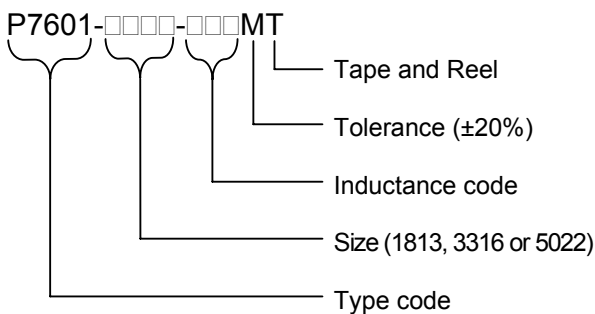
1. Inductance measured at 100kHz, 100mV (P7601-1813 and P7601-3316-R12M 100kHz, 250mV).
2. SRF (Self Resonant Frequency) is typical and for reference only.
3. Rated current is the current at which the temperature rise is 40°C. (max).
4. Saturation current, I_{sat} , is the DC current at which the zero-current inductance drops by 10% (typ).
5. Operating temperature -40°C to +85°C.
6. For non-standard inductance values, please contact Profec.

CONSTRUCTION



Dimensions shown are in millimetres
Terminal JESD97 category = e3.
Recommended reflow solder profile: 2 minutes @ 150-200°C, 10 seconds @ 260°C; time above 217°C 60 seconds maximum.

ORDERING CODE



ABSOLUTE MAXIMUM RATINGS

| | |
|-------------------------------|-----------------|
| Storage temperature | -40°C to +125°C |
| Operating temperature | -40°C to +85°C |
| Soldering temperature profile | 260°C 10s peak |

Handle in accordance with IPC/JEDEC J-STD-033 procedure for components classified as IPC/JEDEC J-STD-020 Moisture Sensitivity Level 2.