# MPL-SR7345-470

## Shielded Inductor, 47µH

## APPLICATIONS

- Battery-Powered Devices
- High-Efficiency SMPS
- DC/DC Converters

## FEATURES

- Size: 7.3mmx7.3mmx4.5mm
- Shielded Construction
- MnZn Core for Higher Saturation Current
- Max Operating Temp: +125°C
- RoHS/REACH-Compliant, Halogen-Free

## ELECTRICAL CHARACTERISTICS

| Parameter | | | Value | Unit |
|---|---|---|---|---|
| Inductance (1) | $L$ | ±20% | 47 | µH |
| Resistance | $R_{DC}$ | Typ | 190 | mΩ |
| Resistance MAX | $R_{DC\ MAX}$ | Max | 210 | mΩ |
| Rated Current (2) | $I_R$ | Typ | 1.4 | A |
| Saturation Current 25°C (3) | $I_{SAT\ 25°C}$ | Typ | 2.0 | A |
| Saturation Current 100°C (4) | $I_{SAT\ 100°C}$ | Typ | 1.4 | A |
| Resonance Frequency | $f_r$ | Typ | 11 | MHz |
| Operating Voltage | $V_{DC}$ | Max | 100 | V |

## GENERAL SPECIFICATIONS

| | |
|---|---|
| (1) Inductance | Measured at 100kHz, 100mA |
| (2) Rated Current | The rated current causes a coil temperature rise ΔT of 40K. $I_R$ is measured with the inductor soldered in a single-layer PCB, with a copper layer thickness of 35µm Cu, and a PCB size of 30mmx50mm. The temperature behavior is dependent on circuit design, PCB layout, proximity to other components, as well as trace dimensions and thickness. |
| (3) Saturation Current 25°C | Saturation current will cause L to drop from 30% at a 25°C ambient temperature. |
| (4) Saturation Current 100°C | Saturation current will cause L to drop from 30% at a 100°C ambient temperature. |
| Temperature Test Condition | Electrical specifications measured at 25°C, 35% RH if not given differently. |
| Operating Condition | Operating temperature: -40°C to +125°C (including temp rise)<br>Should not exceed +125°C under worst-case operation conditions. |
| Storage Condition | Tape and Reel packaging: -10°C to +40°C<br>Humidity: <50% RH |

All MPS parts are lead-free, halogen-free, and adhere to the RoHS directive. For MPS green status, please visit the MPS website under Quality Assurance. “MPS”, the MPS logo, and “Simple, Easy Solutions” are registered trademarks of Monolithic Power Systems, Inc. or its subsidiaries.


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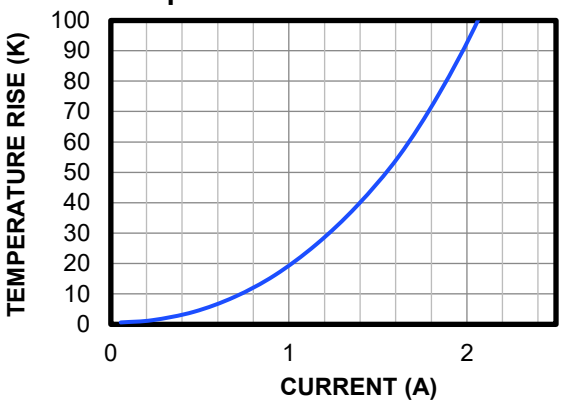
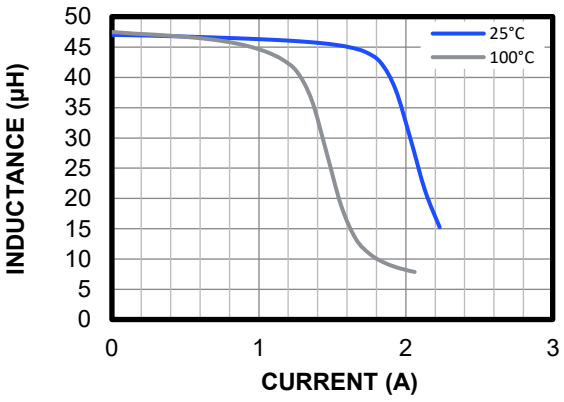
## TYPICAL PERFORMANCE CURVES

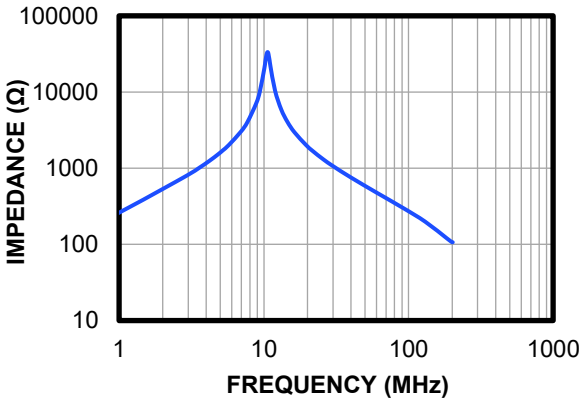
### Temperature Rise vs. Current



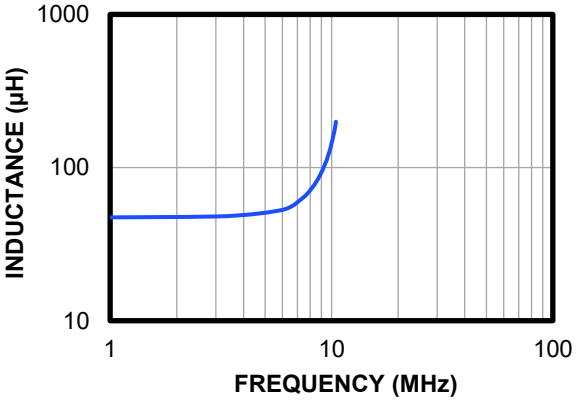

### Inductance vs. Current



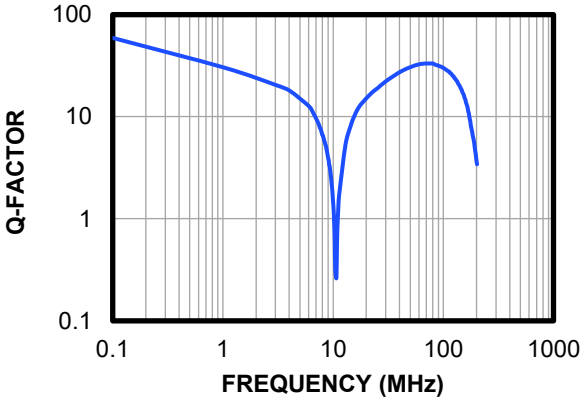

### Impedance vs. Frequency



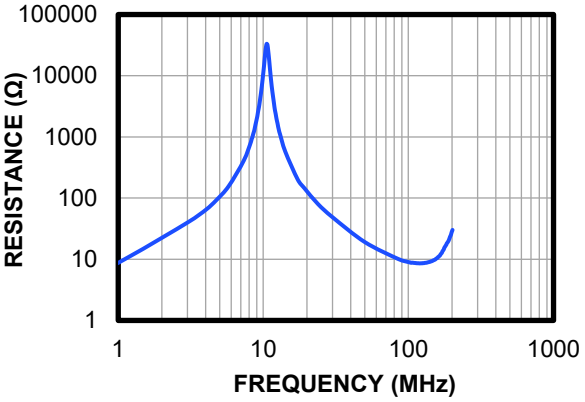

### Inductance vs. Frequency




### Quality Factor vs. Frequency




### AC Resistance vs. Frequency





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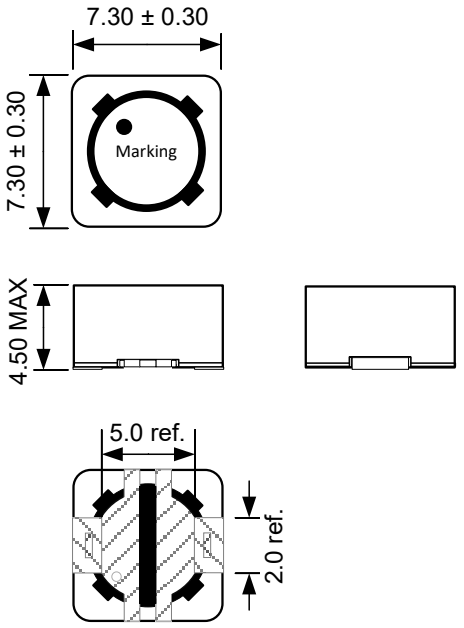
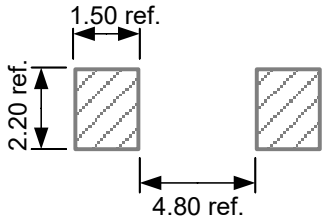
## DIMENSIONS

### PRODUCT PACKAGE




(units in mm)

### RECOMMENDED LAND PATTERN




(units in mm)

### TOP MARKING

| Marking | |
|---|---|
| Start of Winding | . (dot) |
| Inductance Code | 470 |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## ORDERING INFORMATION

| Part Number | $L$ (1) (µH) | $R_{DC}$ Typ (mΩ) | $I_R$ (2) Typ (A) | $I_{SAT\ 25°C}$ (3) Typ (A) | $I_{SAT\ 100°C}$ (4) Typ (A) |
|---|---|---|---|---|---|
| MPL-SR7345-1R0 | 1.0 | 11 | 7.5 | 11.2 | 8.8 |
| MPL-SR7345-1R5 | 1.5 | 12 | 7.1 | 10 | 7.9 |
| MPL-SR7345-2R2 | 2.2 | 14 | 6.5 | 8.8 | 6.6 |
| MPL-SR7345-3R3 | 3.3 | 22 | 5.1 | 7.5 | 5.6 |
| MPL-SR7345-4R7 | 4.7 | 24 | 4.8 | 6.4 | 4.7 |
| MPL-SR7345-6R8 | 6.8 | 36 | 4.0 | 5.3 | 4.0 |
| MPL-SR7345-100 | 10 | 47 | 3.3 | 4.6 | 3.3 |
| MPL-SR7345-150 | 15 | 66 | 2.7 | 3.6 | 2.6 |
| MPL-SR7345-220 | 22 | 90 | 2.3 | 2.7 | 2.0 |
| MPL-SR7345-330 | 33 | 135 | 1.7 | 2.4 | 1.8 |
| MPL-SR7345-470 | 47 | 190 | 1.4 | 2.0 | 1.4 |
| MPL-SR7345-101 | 100 | 390 | 1.0 | 1.2 | 0.9 |


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## REVISION HISTORY

| Revision # | Revision Date | Description | Pages Updated |
|---|---|---|---|
| 1.0 | 6/11/2026 | Initial Release | - |

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