Shielded Power Inductors - LPS4040

- Very low DCR; excellent current handling
- 4.0 x 4.0 mm footprint; less than 4 mm tall
- AEC-Q200 Grade 1 (~40°C to +125°C)

Core material: Ferrite
Core and winding loss: See www.coilcraft.com/coreloss
Environmental: RoHS compliant, halogen free
Terminations: RoHS compliant matte tin over nickel over silver.
Other terminations available at additional cost.
Weight: 200 mg
Ambient temperature: ~40°C to +125°C with (40°C rise) Irms current.
Maximum part temperature: +165°C (ambient + temp rise). Derating.
Storage temperature: Component: ~40°C to +165°C.
Tape and reel packaging: ~40°C to +80°C
Resistance to soldering heat: Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles
Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)
Packaging: 500/7” reel; 1500/13” reel Plastic tape: 12 mm wide, 0.30 mm thick, 8 mm pocket spacing, 4.32 mm pocket depth
Recommended pick and place nozzle: OD: 4 mm; ID: ≤ 2 mm

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance</th>
<th>DCR max</th>
<th>SRF typ</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPS4040-223MR_</td>
<td>22</td>
<td>0.210</td>
<td>24.0</td>
<td>0.620</td>
<td>0.820</td>
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<tr>
<td>LPS4040-683MR_</td>
<td>68</td>
<td>0.410</td>
<td>9.50</td>
<td>0.440</td>
<td>0.510</td>
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<tr>
<td>LPS4040-823MR_</td>
<td>82</td>
<td>0.465</td>
<td>8.90</td>
<td>0.370</td>
<td>0.440</td>
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<td>LPS4040-104MR_</td>
<td>100</td>
<td>0.475</td>
<td>8.60</td>
<td>0.350</td>
<td>0.400</td>
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<tr>
<td>LPS4040-124MR_</td>
<td>120</td>
<td>0.530</td>
<td>7.30</td>
<td>0.330</td>
<td>0.380</td>
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<tr>
<td>LPS4040-154MR_</td>
<td>150</td>
<td>0.680</td>
<td>6.10</td>
<td>0.275</td>
<td>0.305</td>
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<tr>
<td>LPS4040-224MR_</td>
<td>220</td>
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<td>LPS4040-334MR_</td>
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<td>4.10</td>
<td>0.190</td>
<td>0.205</td>
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<td>LPS4040-474MR_</td>
<td>470</td>
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<td>2.90</td>
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<td>0.170</td>
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<td>LPS4040-564MR_</td>
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<td>2.35</td>
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<td>0.160</td>
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<tr>
<td>LPS4040-684MR_</td>
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<td>2.60</td>
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<td>0.145</td>
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<td>LPS4040-105MR_</td>
<td>1000</td>
<td>4.02</td>
<td>2.00</td>
<td>0.105</td>
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<td>LPS4040-155MR_</td>
<td>1500</td>
<td>6.23</td>
<td>1.65</td>
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<td>LPS4040-185MR_</td>
<td>1800</td>
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<td>LPS4040-225MR_</td>
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<td>LPS4040-475MR_</td>
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<td>LPS4040-565MR_</td>
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<td>30.0</td>
<td>0.770</td>
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</table>

1. Please specify termination and packaging codes:
LPS4040-565MRC
Termination: R= RoHS compliant matte tin over nickel over silver.
Special order, added cost: "Q = RoHS tin-silver-copper (95.5/4/0.5) or P = non-RoHS tin-lead (63/37).
Packaging: C= 7” machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
D= 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1500 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A.
Inductance at 1 MHz is the same for parts with SRF ≥ 10 MHz.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using Agilent/HP 8753ES or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current.
Click for temperature derating information.
6. Current that causes the specified temperature rise from 25°C ambient.
This information is for reference only and does not represent absolute maximum ratings.
Click for temperature derating information.
7. Electrical specifications at 25°C.
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.
Shielded SMT Power Inductors – LPS4040 Series

Typical L vs Current

![Typical L vs Current graph]

Typical L vs Frequency

![Typical L vs Frequency graph]

Dimensions are in inches

- Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.
- For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0.13 mm.

* Dash number

** Internal code

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Coilcraft

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