

# MPI4040 Power Magnetics Inductor Design Kit



MPI4040 High Current, High Frequency, Miniature Power Inductors

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# MPI4040 Series

## High Current, High Frequency Miniature Power Inductors

- Composite core material and construction
- Provides optimum efficiency and power density with reduced losses over -40°C to 125°C operating range
- Completely encloses flux lines for “best-in-class” EMI shielding without the gaps found in “shielded” drum inductors and without exposed wires as with toroidal inductors
- Rugged, flexible construction is highly resistant to shock and vibration environments
- Handles high transient inrush current spikes
- Provides superior EMI shielding
- Substantially lower core loss than iron powder over the operating temperature range



### Applications:

- Handheld/mobile devices
- Notebook/netbook
- Portable media players
- Tablets/smartbooks
- GPS/PDAs
- LCD Displays
- Battery operated devices
- LED Drivers
- POL Converters

### Resources

- Datasheets: [www.eaton.com/elx-datasheets](http://www.eaton.com/elx-datasheets)
- Samples: [www.eaton.com/elx-samples](http://www.eaton.com/elx-samples)
- Eaton Tech Support: [InductorTech@eaton.com](mailto:InductorTech@eaton.com)
- Digi-Key Tech Support: [Techs@digkey.com](mailto:Techs@digkey.com)



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### Product Specifications

Part Number	Inductance (μH)	Part Marking Designator	I <sub>rms</sub> (Amps)	I <sub>sat</sub> (Amps)	DCR (mΩ)
<b>R1 — 1.2mm height</b>					
<a href="#">MPI4040R1-R10-R</a>	0.09	A	8.00	32.0	8.50
<a href="#">MPI4040R1-R15-R</a>	0.15	B	7.00	26.0	11.0
<a href="#">MPI4040R1-R22-R</a>	0.23	C	5.50	21.0	18.0
<a href="#">MPI4040R1-R33-R</a>	0.33	D	4.40	17.0	28.0
<a href="#">MPI4040R1-R47-R</a>	0.47	E	5.20	11.5	20.0
<a href="#">MPI4040R1-R68-R</a>	0.68	F	3.30	9.00	51.0
<a href="#">MPI4040R1-1R0-R</a>	1.0	G	3.70	7.70	40.0
<a href="#">MPI4040R1-1R5-R</a>	1.5	H	3.00	6.50	60.0
<a href="#">MPI4040R1-2R2-R</a>	2.2	I	2.60	5.90	80.0
<a href="#">MPI4040R1-3R3-R</a>	3.3	J	2.20	5.10	115
<a href="#">MPI4040R1-4R7-R</a>	4.7	K	1.80	3.80	180
<a href="#">MPI4040R1-6R8-R</a>	6.8	L	1.50	3.20	250
<a href="#">MPI4040R1-100-R</a>	10	M	1.20	2.80	370
<b>R2 — 1.5mm height</b>					
<a href="#">MPI4040R2-R47-R</a>	0.47	A	6.40	12.2	13.0
<a href="#">MPI4040R2-1R0-R</a>	1.0	B	4.60	8.90	25.0
<a href="#">MPI4040R2-1R5-R</a>	1.5	C	3.80	7.60	37.0
<a href="#">MPI4040R2-2R2-R</a>	2.2	D	3.20	5.70	58.0
<a href="#">MPI4040R2-3R3-R</a>	3.3	E	2.60	5.40	76.0
<a href="#">MPI4040R2-4R7-R</a>	4.7	F	2.20	4.30	105
<a href="#">MPI4040R2-6R8-R</a>	6.8	G	1.80	3.40	158
<a href="#">MPI4040R2-100-R</a>	10.0	H	1.50	3.10	240
<b>R3 — 1.85mm height</b>					
<a href="#">MPI4040R3-R22-R</a>	0.22	A	8.00	20.0	5.8
<a href="#">MPI4040R3-R47-R</a>	0.47	B	5.80	17.0	10.3
<a href="#">MPI4040R3-1R2-R</a>	1.2	C	4.00	9.40	32.0
<a href="#">MPI4040R3-1R5-R</a>	1.5	D	3.80	8.20	36.0
<a href="#">MPI4040R3-2R2-R</a>	2.2	E	3.40	7.90	48.0
<a href="#">MPI4040R3-3R3-R</a>	3.3	F	3.00	6.60	60.0
<a href="#">MPI4040R3-4R7-R</a>	4.7	G	2.30	4.80	92.0
<a href="#">MPI4040R3-6R8-R</a>	6.8	H	2.00	4.50	120
<a href="#">MPI4040R3-100-R</a>	10.0	I	1.50	3.80	213
<a href="#">MPI4040R3-150-R</a>	15.0	J	1.30	3.00	285
<a href="#">MPI4040R3-220-R</a>	22.0	K	1.10	2.20	408
<b>R4 — 2.0mm height</b>					
<a href="#">MPI4040R4-R22-R</a>	0.22	A	10.1	15.0	5.3
<a href="#">MPI4040R4-R33-R</a>	0.33	B	9.50	12.8	6.0
<a href="#">MPI4040R4-R47-R</a>	0.45	C	8.10	11.5	8.2
<a href="#">MPI4040R4-1R0-R</a>	1.0	D	5.70	8.20	17.0
<a href="#">MPI4040R4-1R5-R</a>	1.5	E	4.90	6.90	23.0
<a href="#">MPI4040R4-2R2-R</a>	2.2	F	3.90	5.70	35.0
<a href="#">MPI4040R4-3R3-R</a>	3.3	G	3.30	4.50	49.0
<a href="#">MPI4040R4-4R7-R</a>	4.7	H	2.90	3.90	67.0
<a href="#">MPI4040R4-6R8-R</a>	6.8	I	2.40	3.20	91.0
<a href="#">MPI4040R4-100-R</a>	10.0	J	1.90	2.60	148
<a href="#">MPI4040R4-220-R</a>	22.0	K	1.30	1.80	316