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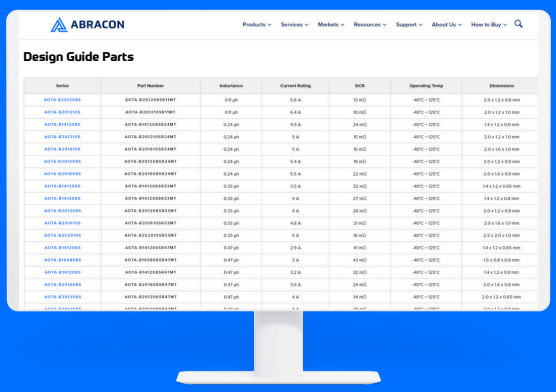
Power Inductor Design Guides



How to utilize guides from the following list for DC-DC conversion circuits:

1. Determine current rating requirement (max current the inductor will see including ripple of typically 20%-40%).
2. Within Technical Data Column, locate guide(s) in which current rating requirement is within range.
3. Identify inductance utilizing preferred equation or the equations to the right.
4. Review description and optimize design to cost, efficiency or size.
5. If guide variety does not meet your needs, contact Abracon for specialized support.

$$L_{BOOST} > \frac{V_{IN(MIN)} \cdot (V_{OUT} - V_{IN(MIN)})}{f \cdot \Delta I_L \cdot V_{OUT}} \text{ H}$$

$$L_{BUCK} > \frac{V_{OUT} \cdot (V_{IN(MAX)} - V_{OUT})}{f \cdot \Delta I_L \cdot V_{IN(MAX)}} \text{ H}$$

Design Guide Information

Guide Name	Current Rating Range	Inductance Range	DCR Range
ADG-PL-01	0.06 A - 0.7 A	0.100 µH - 10 µH	100 mΩ - 5000 mΩ
ADG-PL-02	0.06 A - 0.7 A	12 µH - 68 µH	110 mΩ - 3510 mΩ
ADG-PL-03	0.06 A - 0.7 A	100 µH - 680 µH	480 mΩ - 15000 mΩ
ADG-PL-04	0.7 A - 1.6 A	0.100 µH - 10 µH	40 mΩ - 570 mΩ
ADG-PL-05	0.7 A - 1.6 A	12 µH - 47 µH	70 mΩ - 1050 mΩ
ADG-PL-06	0.7 A - 1.6 A	68 µH - 470 µH	200 mΩ - 980 mΩ
ADG-PL-07	1.6 A - 5 A	0.240 µH - 4.7 µH	15 mΩ - 180 mΩ
ADG-PL-08	1.6 A - 5 A	10 µH - 15 µH	24 mΩ - 290 mΩ

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Guide Name	Current Rating Range	Inductance Range	DCR Range
ADG-PL-09	1.6 A - 5 A	22 µH - 100 µH	43 mΩ - 363 mΩ
ADG-PL-10	5 A - 10 A	0.110 µH - 1.0 µH	7.6 mΩ - 43 mΩ
ADG-PL-11	5 A - 10 A	1.5 µH - 4.7 µH	12 mΩ - 41 mΩ
ADG-PL-12	5 A - 10 A	6.8 µH - 100 µH	16.5 mΩ - 90 mΩ
ADG-PL-13	10 A - 15 A	0.100 µH - 1.0 µH	2.3 mΩ - 14.5 mΩ
ADG-PL-14	10 A - 15 A	1.5 µH - 4.7 µH	6.3 mΩ - 18 mΩ
ADG-PL-15	10 A - 15 A	5.6 µH - 47 µH	10 mΩ - 15 mΩ
ADG-PL-16	15 A - 25 A	0.100 µH - 1.0 µH	1.35 mΩ - 6.5 mΩ
ADG-PL-17	15 A - 25 A	1.2 µH - 4.7 µH	2.53 mΩ - 9.13 mΩ
ADG-PL-18	15 A - 25 A	5.6 µH - 22 µH	4.1 mΩ - 15.8 mΩ
ADG-PL-19	25 A - 45 A	0.100 µH - 1.0 µH	0.100 mΩ - 2.75 mΩ
ADG-PL-20	25 A - 45 A	1.5 µH - 8.2 µH	1.25 mΩ - 5.7 mΩ
ADG-PL-21	45 A - 80 A	0.070 µH - 1.5 µH	0.100 mΩ - 2.5 mΩ