How to search for electronic material on the Internet without dying in the attempt

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Blog post: https://soceame.wordpress.com/2025/03/09/how-to-search-for-electronic-material-on-the-internet-without-dying-in-the-attempt/

Blog: https://soceame.wordpress.com/

GitHub: https://github.com/DRubioG

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It has always happened to us that when developing an electronic project we have found ourselves in the position of looking for electronic material and for this we resorted to Saint Google to show us the electronic material because we did not know the tools that would facilitate its search. Well, this post comes to solve this problem, for this we are going to expose the two key words that will help you to locate any electronic material belonging to the same type of electronics.

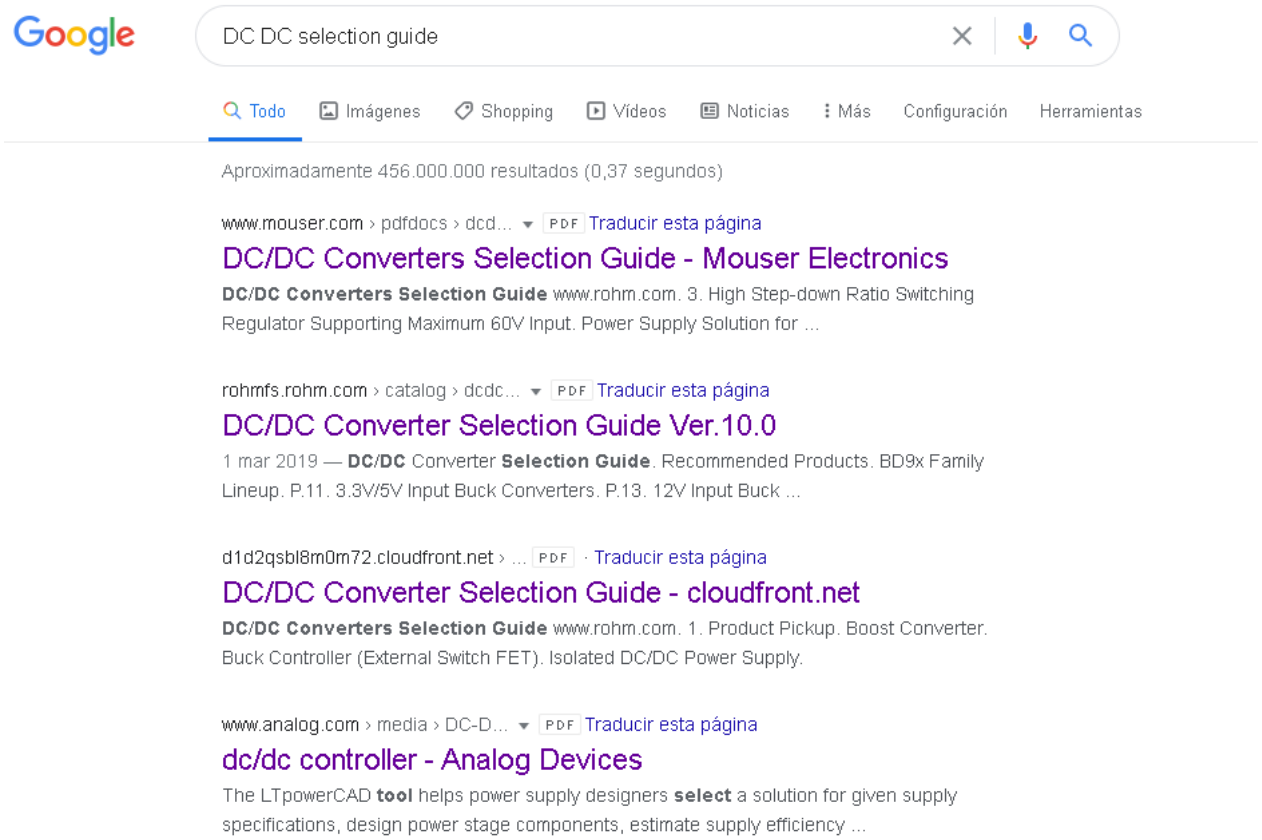
The key words are:

> «<material to search> selection guide«

These two words allow you to access the explanatory document of the manufacturer in which it is detailed with tables, examples and descriptive images of the types of components that are needed.

Example

You want to locate a DC DC converter that allows you to raise the voltage from 3.6V to 5V. Well, to do this, in Google you type «*DC DC selection guide*»



Among these searches, pdfs of manufacturers, sellers, distributors, etc. will appear. That will allow you to locate the exact component. We choose a search to find the following document.

Boost

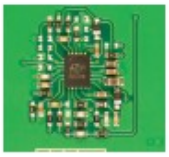
ADI offers both synchronous and nonsynchronous boost controllers. Features include optional sense resistor, onboard LDO, multiphase operation, high power gate driver, programmable fixed switching frequency and low quiescent current. Efficiencies up to 97 % can be achieved with synchronous rectification.

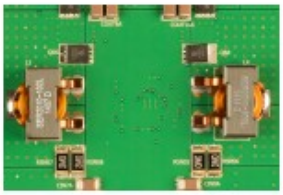
LTC3787

Features

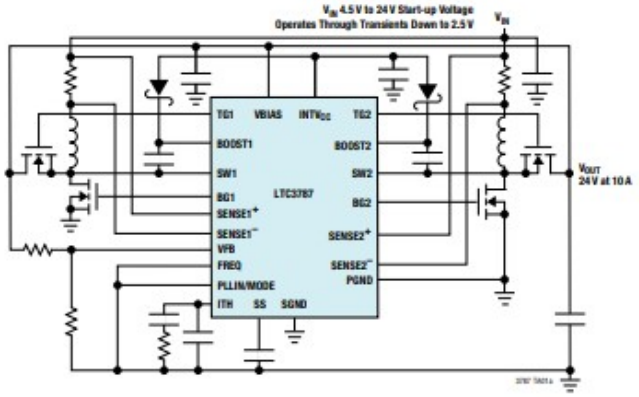
- 2-Phase Operation Reduces Required Input and Output Capacitance and Power Supply Induced Noise
- Synchronous Operation for Highest Efficiency and Reduced Heat Dissipation
- Wide V_{IN} Range: 4.5 V to 38 V (40 V Abs Max) and Operates Down to 2.5 V After Start-Up
- Output Voltage Up to 60 V
- ±1 % 1.200 V Reference Voltage
- R_{SENSE} or Inductor DCR Current Sensing
- 100 % Duty Cycle Capability for Synchronous MOSFET
- Low Quiescent Current: 135 µA
- Phase-Lockable Frequency (75 kHz to 850 kHz)

Demonstration Board





12 V to 24 V/10 A 2-Phase Synchronous Boost Converter



Part Number	V_{IN} Range (V)	V_{OUT}[1] Range (V)	I_{OUT}[1] Max (A)	I_Q (SUPPLY)	Operating Frequency[2]	Package
Automotive—Low Quiescent Current						
Single Phase/Single Output Synchronous Boost						
LTC7804	4.5 to 40	Up to 60	10	15 µA	100 kHz to 3 MHz	Releasing in 2019
LTC3786	4.5 to 38	Up to 60	10	55 µA	50 kHz to 900 kHz	3x3 QFN-16, MSOP-16E
LTC3769	4.5 to 60	Up to 60	10	28 µA	50 kHz to 900 kHz	4x4 QFN-24, TSSOP-20
Multiphase Synchronous Boost						
LTC3787	4.5 to 38	Up to 60	10 (120)	135 µA	50 kHz to 900 kHz	4x5 QFN-28, T/SSOP-28
LTC3788/LTC3788-1	4.5 to 38	Up to 60	10/10 Dual V_{OUT}	125 µA	50 kHz to 900 kHz	5x5 QFN-32, SSOP-28
LTC3784	4.5 to 60	Up to 60	20	28 µA	50 kHz to 900 kHz	4x5 QFN-28, SSOP-28
LTC3897/LTC3897-1	4.5 to 65	Up to 60	20	555 µA	100 kHz to 1 MHz	5x7 QFN-38, TSSOP-38
LTC7841	2-Phase PSM	Releasing in 2019				Releasing in 2019
Single Output Multiphase Nonsynchronous Boost						
LTC3862/LTC3862-1/LTC3862-2	4 to 36	5 and Higher	5 (60)	1.8 mA	75 kHz to 500 kHz	5x5 QFN-24, SSOP-24
Dual Output Multiphase Nonsynchronous Boost						
LTC7840	5.5 to 60	6 V and Higher	3/3	3 mA	50 kHz to 450 kHz	4x5 QFN-28, SSOP-28
Single Output Nonsynchronous Boost						
LTC1872/LTC1872B	2.5 to 9.8	3.3 and Higher	3	270 µA	550 kHz	SOT-23
LTC3872/LTC3872-1	2.75 to 9.8	Up to 60 w/o R_{SENSE} and Higher w/R_{SENSE}	3	250 µA	550 kHz	SOT-23, 2x3 DFN-8
LT3757A	2.9 to 40	3.3 and Higher	3	1.6 mA	100 kHz to 1 MHz	3x3 DFN-10, MSOP-10
LT3758A	5.5 to 100	6 and Higher	3	1.75 mA	100 kHz to 1 MHz	3x3 DFN-10, MSOP-10
LT3759	1.6 to 42	2.2 and Higher	3	350 µA	100 kHz to 1 MHz	3x3 DFN-10, MSOP-10
LTC1871/LTC1871X/LTC1871-1	2.5 to 36	3.3 and Higher	3	250 µA	50 kHz to 1 MHz	MSOP-10
LTC1871-7	6 to 36	7 and Higher	3	280 µA	50 kHz to 1 MHz	MSOP-10

[1] The maximum voltage and current depend on the choice of external components.
[2] The operating frequency can be selected within the range indicated.

So, among all the devices that appear now, you should choose the most suitable one for the application you want to develop.