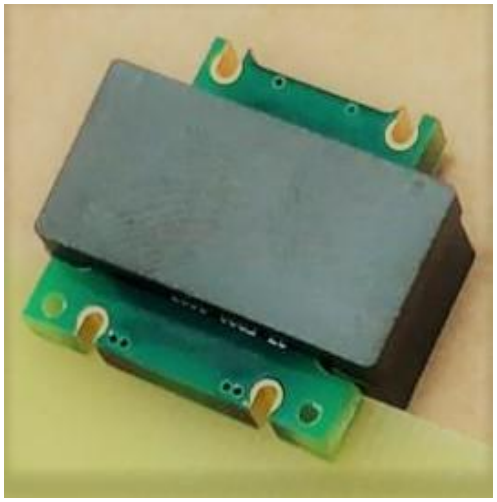
Champs 20N1 Series Active Clamp Forward Solutions LT3753



- Footprint: 17.8 x 21.0 mm
- Low Profile: 7.0mm Height
- Proven in actual DC-DC converter using LT3753 IC.
- Designs Available as Demonstration Boards.
- Optimized for Opto Isolated Active Clamp Forward & Synchronous Rectifier Converter Design
- Typical Efficiency 94%
- Aggressive Interleave planar construction -- lowest achievable Leakage Inductance.
- Multilayer PCB optimization for lowest AC resistance & Proximity Loss Effect.
- Wide variety of PNs, Designs and Turns Ratios in stock. If not listed, Contact Us.
- Integer Turns 1 thru 16 Available [Contact Us if Not Shown in Table].
- Surface Mount, Thru-Hole, Pad-to-Pad, Embedded Planar Windings as Options

20N1 Series LT3753 Based ACF Catalog

General Notes:

1. This subset of Champs' 20N1 series is earmarked to function in Opto Isolated Active Clamp Forward circuits as described by the LT3753 IC from Analog Devices.

2. In other applications the 20N1 Series can operate over a wider Vin range or configured for different Input & Output Voltage and Rated Power. Increased height allows increased power output due to higher current capability.

3. The Secondary Side SR FETs typically controlled by LT8311 Secondary Side IC. Direct Drive through Secondary winding ideal for Vin range 2:1

4. Integer Turns available from 1T to 16T. Can be used as Primary or Secondary. Mechanical configuration and outline allow for a "flex" arrangement. Contact factory for information on any power topology design.

5. All designs can be supplied with planar windings embedded in the pcb of the Main Module of the converter. Heat Sink and installed power components SM assembly and installation and incorporation into a module are also available.

1. Input Voltage Range 36-72.

Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (Adc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
20N1-1202-80R	36	72	3.3	18.0	60	240	100	PQL2050-3R3-22-TH
20N1-0802-80R	36	72	5.0	12.0	60	240	100	PQL2050-4R9-14-TH
20N1-1005	36	72	12.0	5.0	60	240	130	PQI2050-20HX-TH-10m
20N1-1012	36	60	24.0	2.55	60	240	130	PQI2050-100-6-LTC

2. Input Voltage Range 18-36.

Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (Adc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
20N1-0702-40R	18	36	3.3	18.0	60	240	90	PQL2050-3R3-22-TH
20N1-0603-40R	18	36	5.0	12.0	60	240	80	PQL2050-4R9-14-TH
20N1-0606-40R	18	36	12.0	5.0	60	240	80	PQI2050-20HX-TH-10m
20N1-0612-40R	18	36	24.0	2.5	60	240	80	PQI2050-100-6-LTC

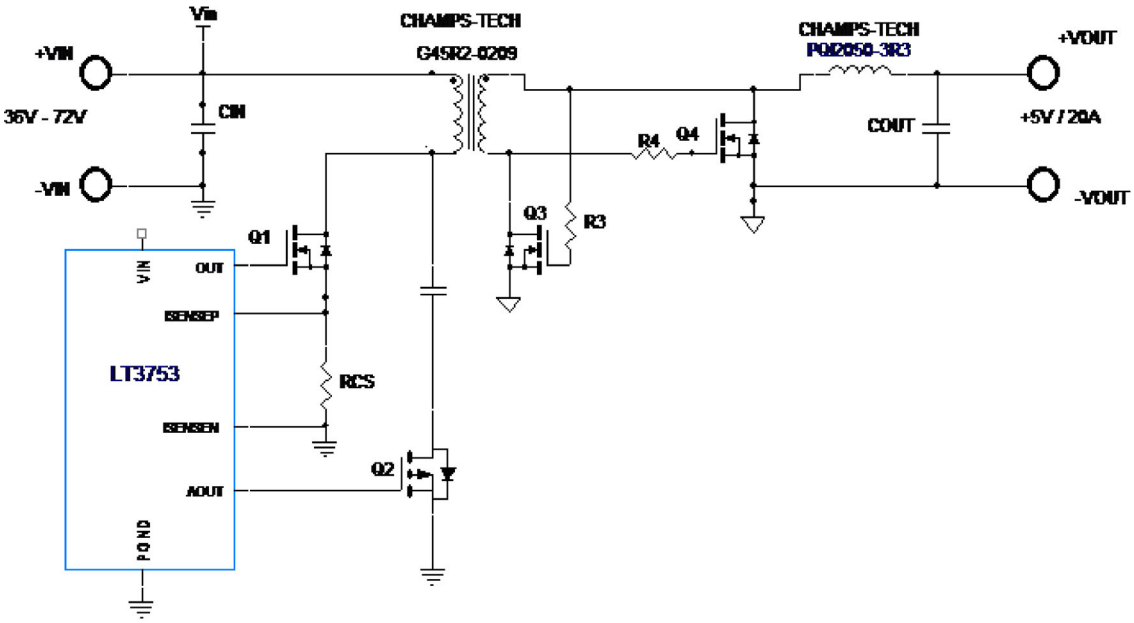
3. Input Voltage Range 9-18.

Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (Adc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
20N1-0302	9	18	3.3	18.0	60	240	40	PQL2050-3R3-22-TH
20N1-0303	9	18	5.0	12.0	60	240	40	PQL2050-4R9-14-TH
20N1-0306	9	18	12.0	5.0	60	240	40	PQI2050-20HX-TH-10m
20N1-0312	9	18	24.0	2.5	60	240	40	PQI2050-100-6-LTC

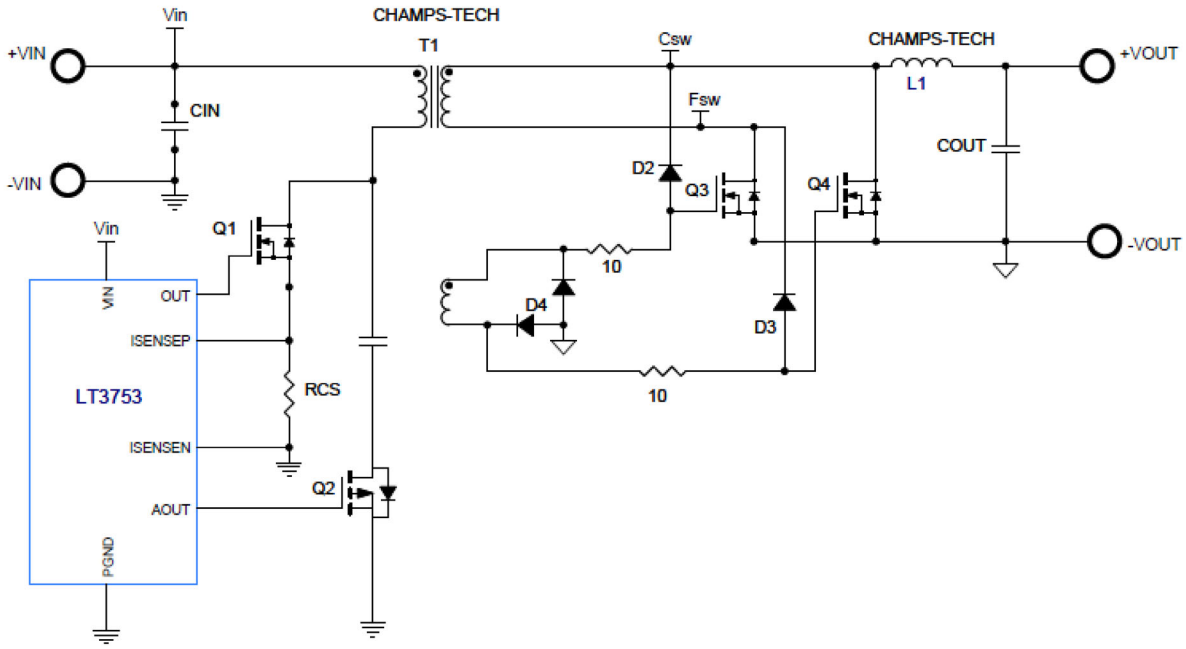
LT3753 Product Page & DC2050A Ref Design:

https://www.analog.com/en/design-center/evaluation-hardware-and-software/evaluation-boards-kits/dc2050a.html#eb-overview

https://www.analog.com/en/products/lt3753.html

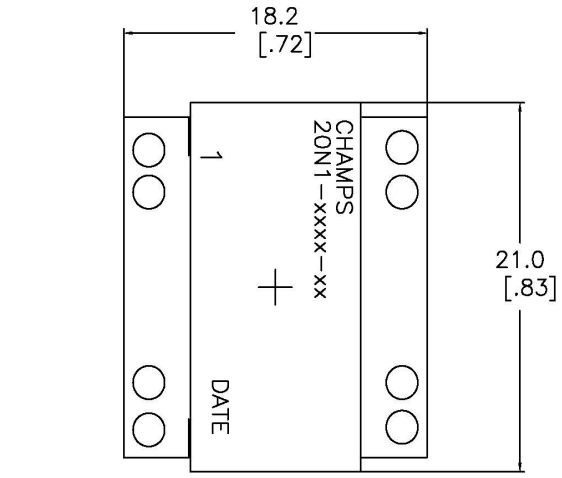


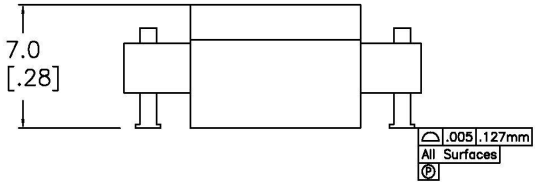
20N1 Series LT3753 Schematic -- [Optional LT8311 Secondary Side IC]



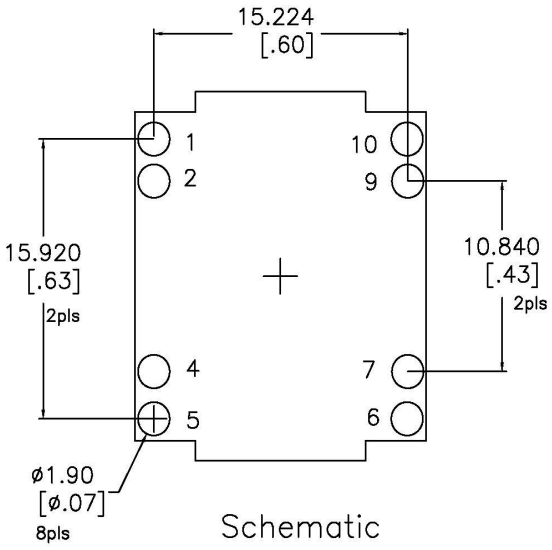
20N1 Series LT3753 SR FET Secondary Winding Schematic

MECHANICAL DIMENSIONS [TOP VIEW]

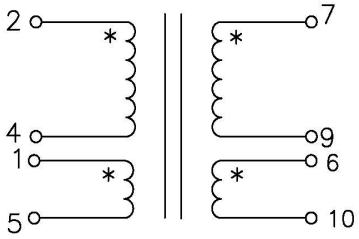




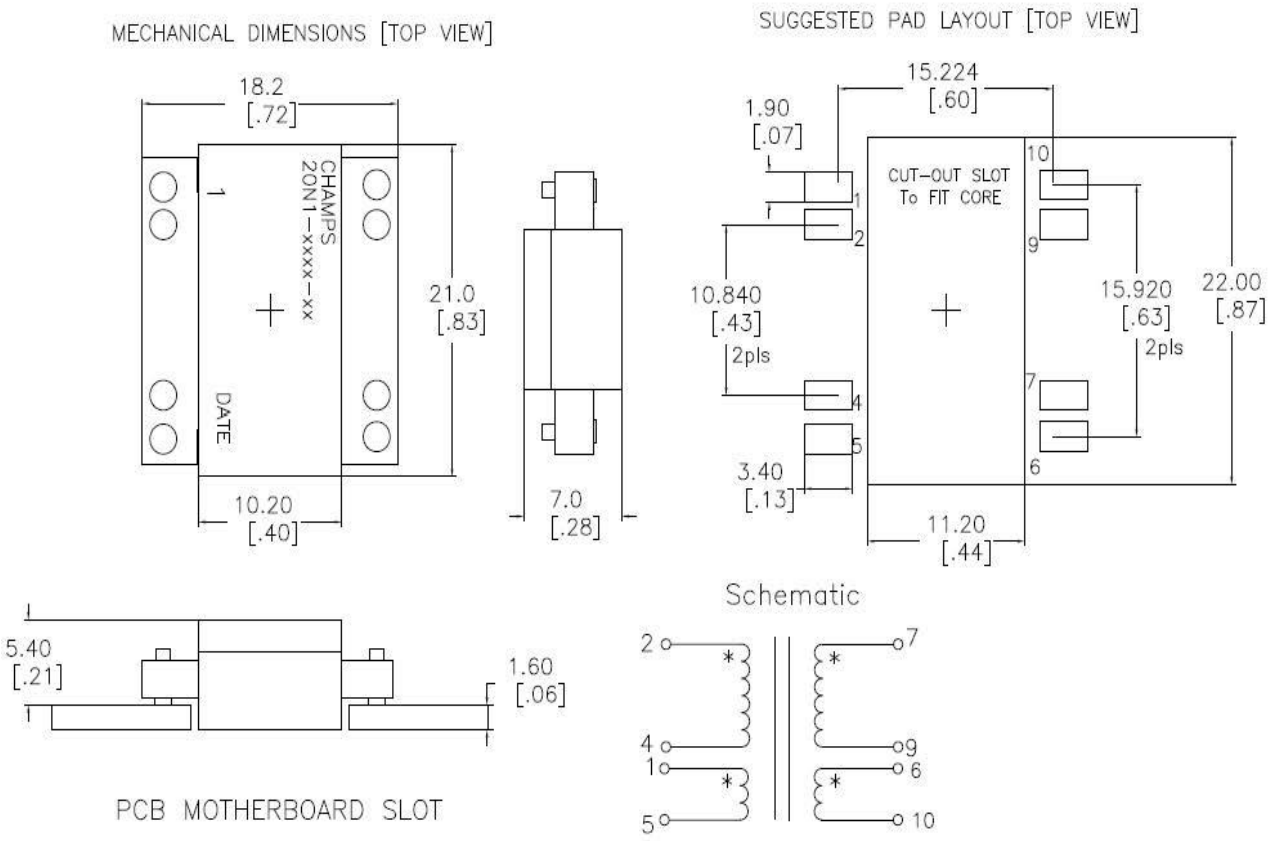
SUGGESTED PAD LAYOUT [TOP VIEW]



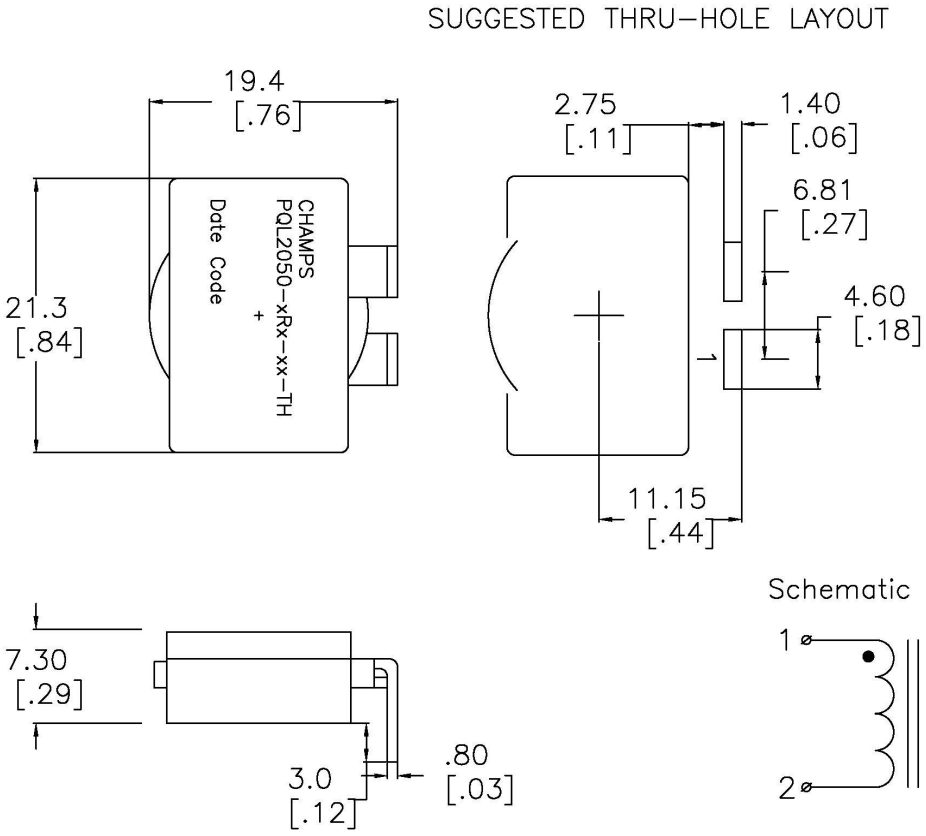
Schematic



Mechanical Design Drawing 20N1 Surface Mount



Mechanical Design Drawing 20N1 Pad-to-Pad



Mechanical Design Drawing PQL2050-TH Output Inductor