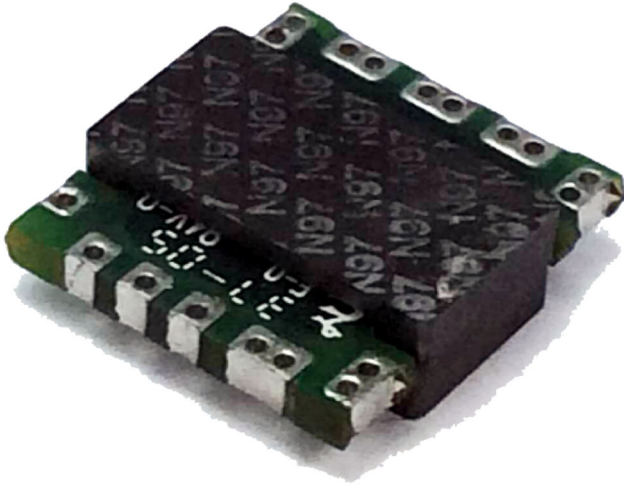


Champs 168R1 Series Active Clamp Forward Solutions LT3753



- Footprint: 16 x 16.2 x 7.6mm Height!!
- Low Profile: 5.0mm Height with Pad-to-Pad Mounting
- Proven in actual DC-DC converter using LT3753 IC.
- Optimized for Opto Isolated Active Clamp Forward & Synchronous FET Secondary Winding Drive
- 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

168R1 Series LT3753 Based ACF Catalog

1. This subset of Champs' 168R1 series is earmarked to function in Opto Isolated Active Clamp Forward circuits as described by the LT3753 IC from Analog Devices.

2. Direct Drive through Secondary winding ideal for Vin range 2:1

3. Wider Vin Range with LT8311 type Secondary Controller is also facilitated with same PN.

4. Integer Turns available from 1T to 16T. Can be used as Primary or Secondary.

LT3753 Product Page & DC2324A Ref Design:

<https://www.analog.com/en/design-center/evaluation-hardware-and-software/evaluation-boards-kits/dc2324a-b.html#eb-overview>

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

1. Input Voltage Range 36-72.

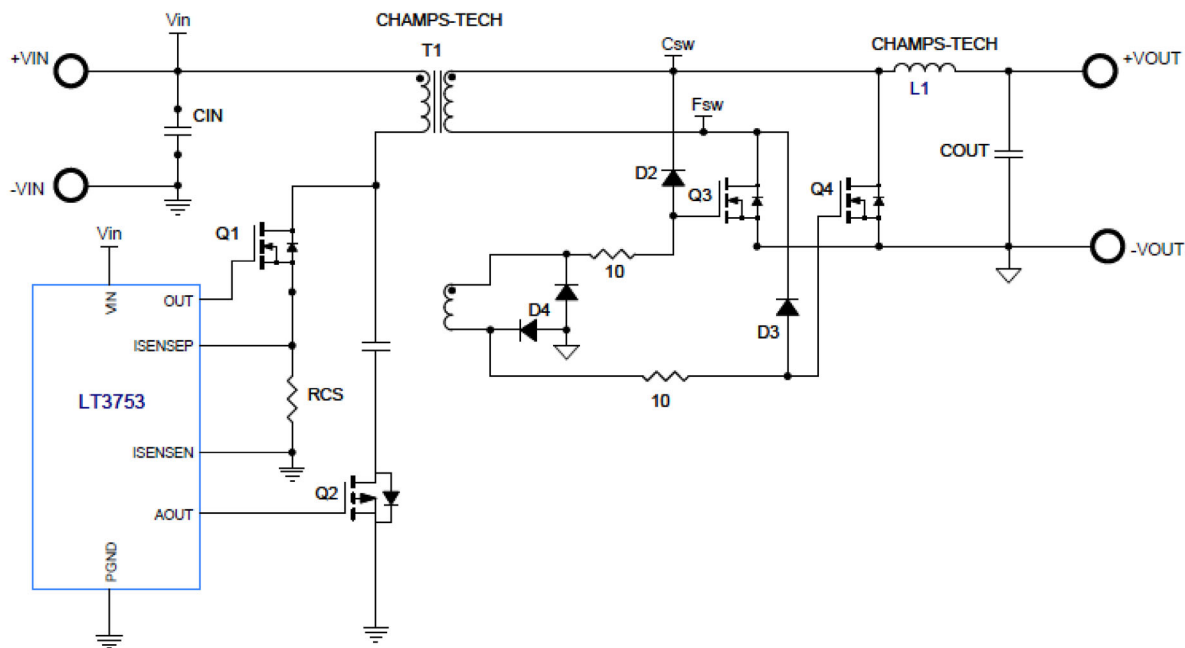
Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (A dc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
168R1-1403-S02	36	72	3.3	12.0	40	200	130	PQL2050-3R3-22-TH
168R1-1204-S02	36	72	5.0	8.0	40	200	110	PQL2050-7R8-9-TH
168R1-1208-S02	36	72	12.0	3.5	42	240	110	PQI2050-30R-TH-10m
168R1-1014-S02	36	72	24.0	1.75	42	300	90	PQI2050-100-6-LTC

2. Input Voltage Range 18-36.

Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (A dc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
168R1-0803-S02-40R	18	36	3.3	12.0	40	240	70	PQL2050-3R3-22-TH
168R1-0804-S02-40R	18	36	5.0	8.0	40	240	70	PQL2050-6R8-11-TH
168R1-0808-S02-60R	18	36	12.0	3.0	36	250	70	PQI2050-30R-TH-10m
168R1-0614-S02	18	36	24.0	1.5	36	300	55	PQI2050-100-6-LTC

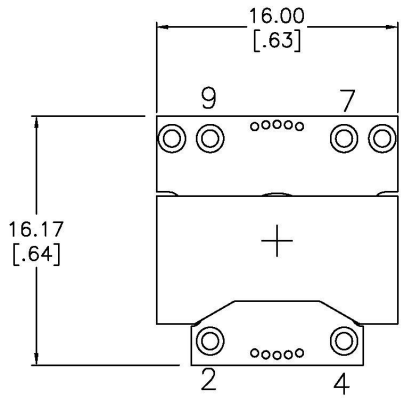
3. Input Voltage Range 9-18.

Champs PN	Vin (Min)	Vin (Max)	Vout	Iout (A dc)	Pout (Watts)	Freq (KHz)	Volt-uSec [Rated]	Output Inductor PN
168R1-0503-S02	9	18	3.3	11.0	33	240	46	PQL2050-3R3-22-TH
168R1-0404-S02	9	18	5.0	8.0	40	240	36	PQL2050-6R8-11-TH
168R1-0408-S02	9	18	12.0	3.0	36	250	36	PQI2050-30R-TH-10m
168R1-0312-S02	9	18	24.0	1.5	36	300	36	PQI2050-100-6-LTC

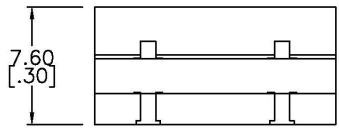
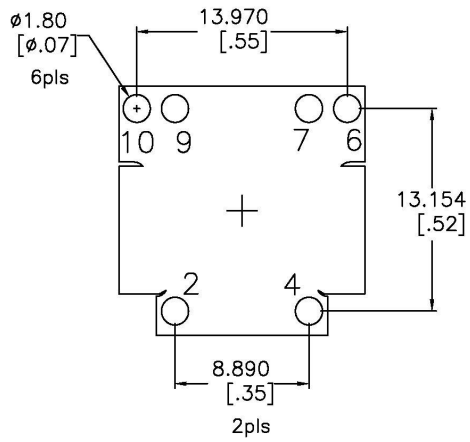


168R1 Series LT3753 Schematic -- SR Drive via Secondary Winding

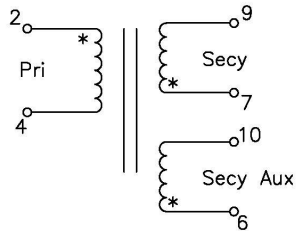
MECHANICAL [TOP VIEW]



SUGGESTED PAD LAYOUT

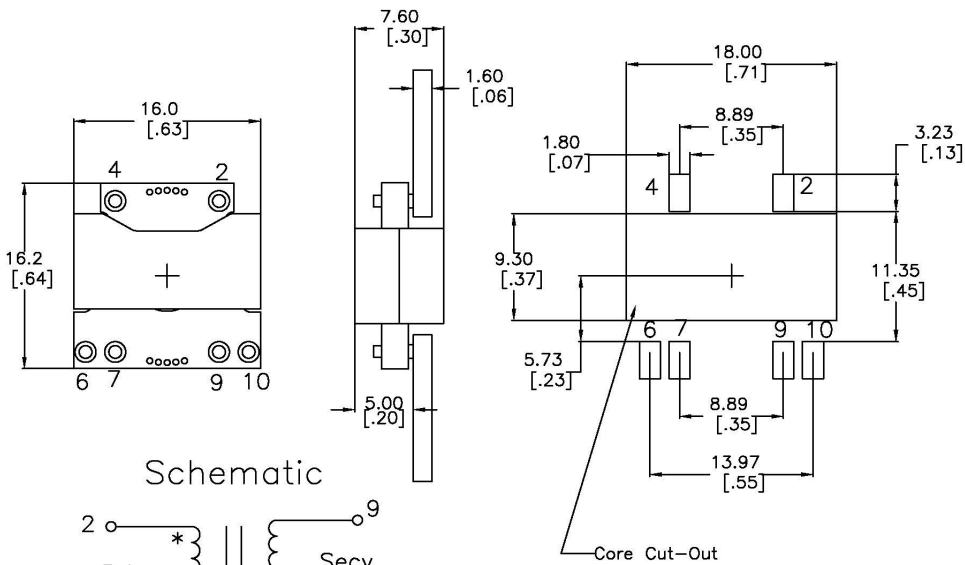


Schematic

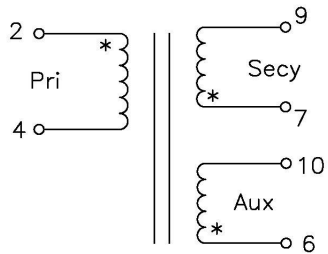


Mechanical Design Drawing 168R1 Surface Mount Secondary Aux

SUGGESTED PAD LAYOUT

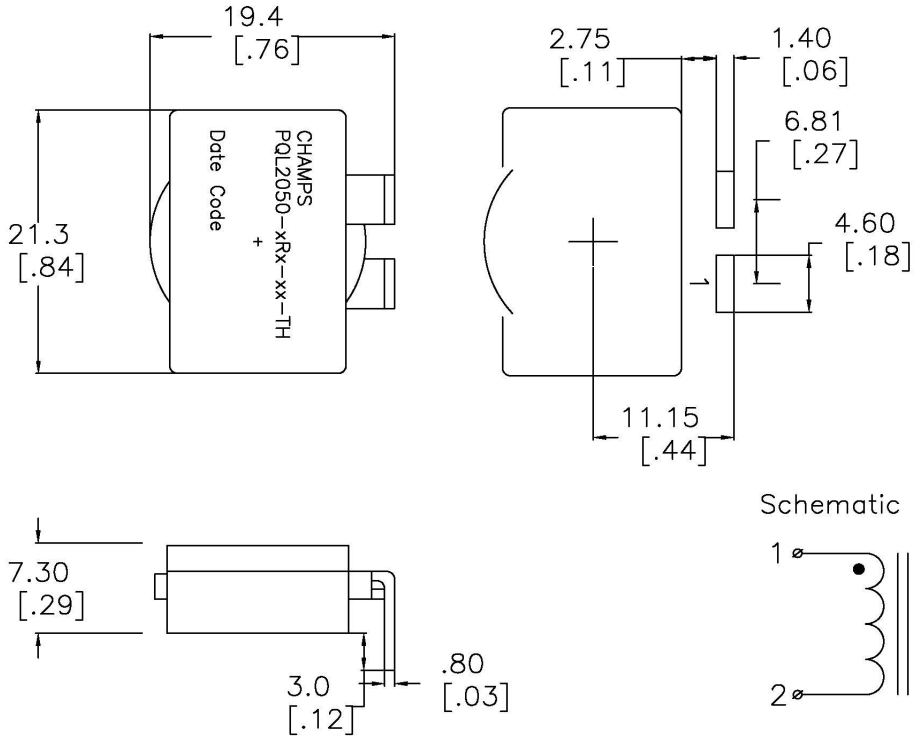


Schematic



Mechanical Design Drawing 20R1 Pad-to-Pad

SUGGESTED THRU-HOLE LAYOUT



Mechanical Design Drawing PQL2050-TH Output Inductor