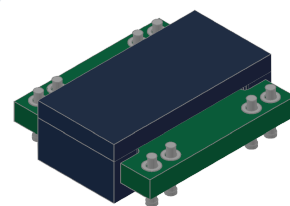




Champstech 20N1 Series

Active Clamp Forward



Key features & specifications

Topology: Active Clamp Forward	Power: 10–60 W typical
Freq. Range: 240 kHz nom. · 100–500 kHz typ.	Efficiency: 94% typical
Footprint: 17.8 × 21.0 mm	Height: 7.0 mm low profile
Turns: 1T–16T integer	Mounting: SMT · thru-hole · pad-to-pad · embedded
Isolation: 1500–2250 Vdc	Insulation Class: H
Oper. Temp.: –55 to +155 °C	

General notes

1. Champs' 20N1 series is earmarked to function in Opto-Isolated Active Clamp Forward circuits. The series originated as described by the LT3753 IC from Analog Devices. It can be and has been adapted successfully for all other ACF ICs from other manufacturers. Consult Champs-Tech application engineers.
2. The Secondary Side SR FETs are typically controlled by a Secondary Side IC [e.g. LT8311] – or through Direct Drive via Secondary winding supplied for V_{in} range 2:1.
3. In other applications the 20N1 Series can operate over a wider V_{in} range or configured for different Input & Output Voltage and Rated Power. Increased height allows increased power output due to higher current capability.
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.
6. Operating temp. = ambient + temperature rise. Must not exceed insulation class limit.
7. Contact Applications Engineering for custom variations

Part number & parameter table

Champs PN catalog – one table, all input-voltage ranges, sorted by V_{in} then V_{out} (ascending). All values at $T_{amb} = 25\text{ °C}$ unless noted.

Champs P.N.	V_{in} Min (V)	V_{in} Max (V)	V_{out} (V)	I_{out} (A dc)	P_{out} (W)	Freq (kHz)	Volt- μ Sec [Rated]	Output Inductor PN	Stock
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 ✓
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 ✓
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 ✓

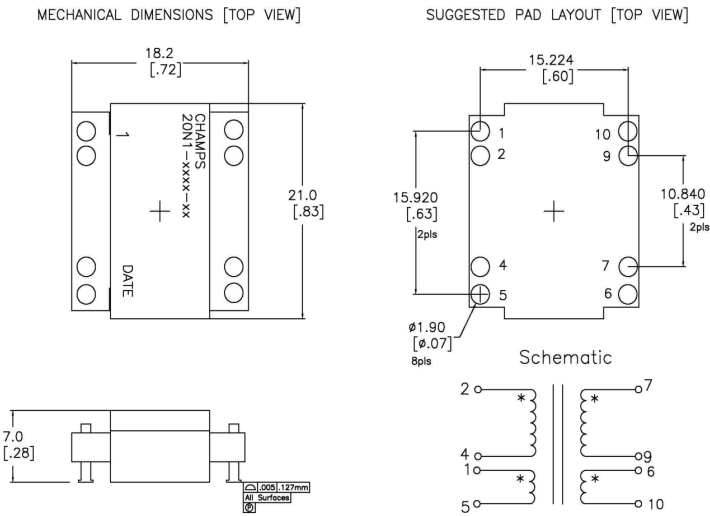
Mechanical outline & package dimensions

L × W × H
21.0 × 17.8 × 7.0 mm

Weight
10 g

Tolerances
±0.78 mm unless noted

Finish
RoHS · Sn/Ag 96/4



Champs Technologies USA
Tel +1 (347) 349-0768 Email harold.eicher@champs-tech.com

Champs Technologies Taiwan
Tel +886-4-2662-1309 Email cathy@champstech.com