



KEY FEATURES & SPECIFICATIONS — SERIES OVERVIEW

- **Topology:** Active Clamp Forward
- **Freq. Range:** 180-240 KHz Typical
- **Isolation:** 1500-2250 Vdc
- **Power Range:** 30-80W
- **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.**
- **Integer Turns 1 thru 16 Available [Contact Us if Not Shown in Table].**
- **Surface Mount, Thru-Hole, Pad-to-Pad, Thermal Pad, Embedded Planar Windings as Options**
- **Insul. Class:** [H]
- **Core Platform:** ER20 Custom
- **Oper. Temp.:** [−55 to +155°C]

Part Number and parameter Table

Stresses beyond values listed may cause permanent damage. Functional operation beyond any rating is not implied. All values $T_{amb} = 25^{\circ}\text{C}$ unless noted. See footnotes for symbol definitions.

Part Number	Topology	Min Vin	Max Vin	Vout	Output Power	Frequency	Data Sheet	Simulation Tool	LTSpice	STP File	Output Inductor
		V	V	V	Watts	KHz	PDF	Sim Link	File	File Link	File Link
20N1-1202-80R	Active Clamp Forward	36	72	3.3	60	240	Link	Link	Link	Link	PQL2050-3R3-22
20N1-0802-80R	Active Clamp Forward	36	72	5.0	60	240	Link	Link	Link	Link	PQL2050-4R9-14
20N1-1005	Active Clamp Forwar	36	72	12.0	60	240	Link	Link	Link	Link	PQi-2050-20-HX
20N1-1012	Active Clamp Forward	36	72	24.0	60	240	Link	Link	Link	Link	PQi2050-100-6-LTC
20N1-0702-40R	Active Clamp Forward	18	36	3.3	60	240	Link	Link	Link	Link	PQL2050-3R3-22
20N1-0603-40R	Active Clamp Forward	18	36	5.0	60	240	Link	Link	Link	Link	PQL2050-4R9-14
20N1-0606-40R	Active Clamp Forward	18	36	12.0	60	240	Link	Link	Link	Link	PQi2050-20-HX
20N1-0612-40R	Active Clamp Forward	18	36	24.0	60	240	Link	Link	Link	Link	PQi2050-100-6-LTC
20N1-0302	Active Clamp Forward	9	18	3.3	60	240	Link	Link	Link	Link	PQL2050-3R3-22
20N1-0303	Active Clamp Forward	9	18	5.0	60	240	Link	Link	Link	Link	PQL2050-4R9-14
20N1-0306	Active Clamp Forward	9	18	12.0	60	240	Link	Link	Link	Link	PQi2050-20-HX
20N1-0312	Active Clamp Forward	9	18	24.0	60	240	Link	Link	Link	Link	PQi2050-100-6-LTC

MECHANICAL OUTLINE & PACKAGE DIMENSIONS

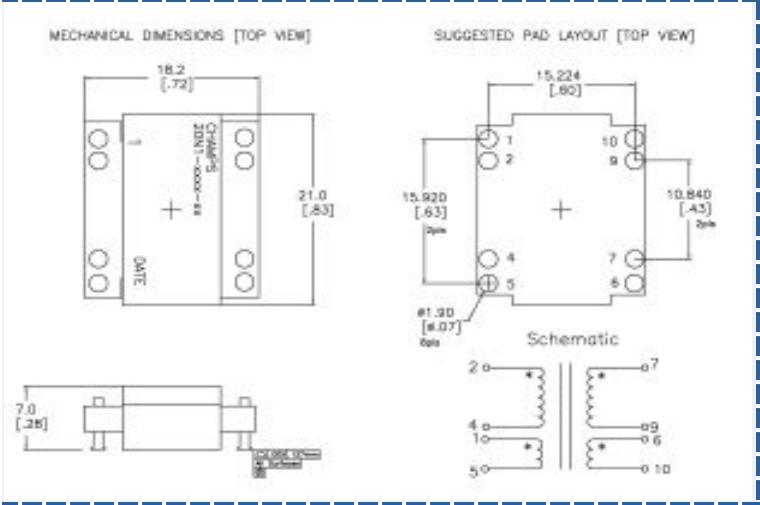


Fig. 2 — Package outline (all dims in mm, ±0.78 unless noted)

PACKAGE DIMENSIONS (mm)

Dimension	Ref.	Nom (mm)
Length	L	21.0
Width	W	17.8
Height	H	7.0
Weight (approx.)		10 g
Tray Qty.	—	
Tape & Reel Qty.	—	

Tolerances: ±0.78 mm unless noted.
Package notes: *RoHS solder finish, Cu leads, Sn/Ag 96/4*

NOTES

1. Champs' 20N1 series is earmarked to function in Opto Isolated Active Clamp Forward circuits as described by the LT3753 IC from Analog Devices.
2. The Secondary Side SR FETs typically controlled by LT8311 Secondary Side IC. Direct Drive through Secondary winding ideal for Vin range 2:1.
3. 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.
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 variants.
8. Reserved