

# AC/DC U-Channel

## 150 Watts HUL150 Series

**XPIQ inc.**

Intelligent Design Quality Product



- Meets EN61000-3-2, -3
- Meets 1U, Low Profile Requirements
- Quad Outputs With 3.3V and 5V
- 100W with Convection Cooling
- International Safety Approvals
- CE Marked - LVD

## Specification

### Input

- Input Voltage** • 90-132 VAC, 180 to 264 VAC (auto-ranging)
- Input Frequency** • 47-63 Hz
- Input Current** • 5.0 A max 115 VAC  
2.5 A at 230 VAC
- Leakage Current** • 3.5 mA at 230 VAC

### Output

- Output Voltage** • See Tables
- Output Current** • See Tables
- Hold Up Time** • 20 ms min at 125 VAC/80% load
- Ripple & Noise** • 1% pk-pk max
- Overvoltage Protection** • Set at 110-135% of maximum output voltage (on output #1 only)
- Overcurrent Protection:** • All outputs protected to short circuit conditions
- Temperature Coefficient:** •  $\pm 0.1\%/^{\circ}\text{C}$  maximum
- Transient Response** • Maximum excursion of 5% recovering to 1% of final value in less than 500  $\mu\text{s}$  after a 50% step load change

### General

- Line Regulation** •  $\pm 1\%$  maximum at full load
- Inrush Current** • 35 A at 115 VAC or 70 A at 230 VAC at +25  $^{\circ}\text{C}$  cold start
- Withstand Voltage** • 3000 VAC from input to output  
1500 VAC from input to ground
- Switching Frequency** • 42 kHz

### Environmental

- Operating Temperature** • 0  $^{\circ}\text{C}$  to +70  $^{\circ}\text{C}$   
Derate linearly from 100% load at 50  $^{\circ}\text{C}$  to 50% load at 70  $^{\circ}\text{C}$
- Cooling** •
- Storage Temperature** • -20  $^{\circ}\text{C}$  to +85  $^{\circ}\text{C}$
- Relative Humidity** • 5% to 90% non condensing
- MTBF** • 100,000 hrs (MIL-HDBK-217D)

### EMC & Safety

- Safety Approvals** • UL1950, CSA C22.2 No. 234  
IEC 950 (EN60950)
- EMI** • In compliance with CISPR22 (EN55022), Class B and FCC Class B

OUTPUT VOLTAGE & CURRENT RATINGS																HUL150
Output #1				Output #2				Output #3				Output #4				Model Number
Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	
+5 V	2.0 A	15 A	5%	+3.3 V	0 A	15 A	5%	+12 V	0.5 A	3 A	5%	-12 V	0 A	1 A	3%	HUL150-42-3
+5 V	2.0 A	15 A	5%	+3.3 V	0 A	15 A	5%	+15 V	0.5 A	3 A	+10/-5%	-15 V	0 A	1 A	3%	HUL150-46-3
+5 V	2.0 A	15 A	5%	+3.3 V	0 A	15 A	5%	+12 V	0.5 A	3 A	5%	-5 V	0 A	1 A	3%	HUL150-40-3
+5 V	2.0 A	15 A	5%	+3.3 V	0 A	15 A	5%	+24 V	0.5 A	2 A	5%	-12 V	0 A	1 A	3%	HUL150-45-3

**Notes**

1. Use part number UL150-XX-X for product without harmonic correction. Example: UL150-42-3.
2. Total output power for HUL150 is 150 W with 20 CFM forced air cooling, 100 W convection cooled.
3. Total combined output power for the +5 V and +3.3 V not to exceed 100 W with 20 CFM or 70 W with no air.

**Pin Chart**

1	2	3	4	5	6	7	8	9	10	11	12
3.3V +Sense	Output #2	Output #2	Return	Return	Return	Output #1	Output #1	Output #3	Return	Output #4	Power Good
13	14	15	16	17	18	19	20	21	22	23	24
3.3V -Sense	Output #2	Output #2	Return	Return	Return	Output #1	Output #1	Output #3	Return	Output #4	Return

**Mechanical Details**

**NOTES:**

1. Dimensions shown in mm (inches).
2. Tolerance 0.5mm [0.02] maximum.
3. Input connector P1 mates with Molex housing 09-91-0500 and Molex 2478/2578/8818 Series crimp terminal.
4. Output connector P3 mates with Molex housing 39-01-2240 and Molex 44476 Series crimp terminal.
5. P2 Connector is JST XHP-2 for an external 12V fan.
6. Weight: 600 grams approx.

