



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

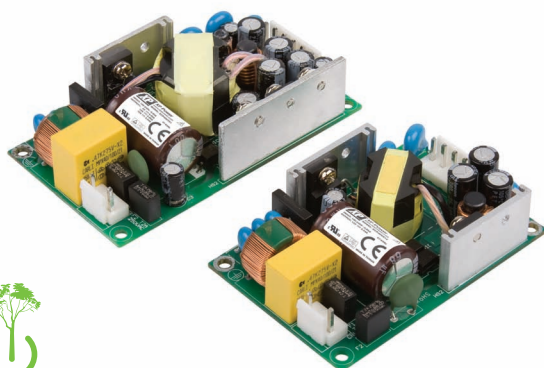
Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# 40 Watts

## ECP Series



- Low Profile Design
- Ultra Compact Size from 3" x 2" x 0.9"
- IT & Medical Approvals
- Single, Dual and Triple Output
- <0.3 W No Load Input Power
- Peak Load Capability
- 3 Year Warranty

### Specification

#### Input

Input Voltage	• 85-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 0.85 A max at 115 VAC
Inrush Current	• 65 A max at 230 VAC
Power Factor	• EN61000-3-2, Class A
No Load Input Power	• <0.3 W
Earth Leakage Current	• <250 $\mu$ A at 264 VAC, 60 Hz
Input Protection	• Internal T2 A/250 V fuse in line and neutral

#### Output

Output Voltage	• See table
Initial Set Accuracy	• Single output: $\pm 1\%$ at 60% load, Multiple output: $\pm 1\%$ on V1, $\pm 5\%$ on V2 & V3 at 60% load
Minimum Load	• 10% minimum load required on V1 & V2 of multi output versions
Start Up Delay	• 1.3 s max
Start Up Rise Time	• 15 ms typical
Hold Up Time	• 10 ms min at full load at 115 VAC
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• V1 & V3: $\pm 2\%$ , V2: $\pm 4\%$ (see note 3)
Cross Regulation	• V2: 5%, 10-100% load change on V1 (see note 4)
Transient Response	• 4% max deviation, recovering to less than 1% within 500 $\mu$ s for 50% step load change at 1 A/ $\mu$ s
Ripple & Noise	• 1% pk-pk, measured with 20 MHz bandwidth
Overvoltage Protection	• 110-140% of nominal output voltage on V1 only, recycle input to reset
Overload Protection	• Single output: 140-160% of nominal power Multiple output: 120-150% of nominal power on V1 and V2 only
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• $\pm 0.02\%/^{\circ}\text{C}$ max

#### General

Efficiency	• See tables
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 40-130 kHz variable
MTBF	• >400 kHrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$ , GB

#### Environmental

Operating Temperature	• -10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ , derate from 100% load at 50 $^{\circ}\text{C}$ to 50% load at 70 $^{\circ}\text{C}$
Cooling	• Natural convection
Operating Humidity	• 5% to 95% RH, non condensing
Storage Temperature	• -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Shock	• 30 g pk, half sine, 6 axes
Vibration	• 2 g rms, 5 Hz to 500 Hz, 3 axes

#### EMC & Safety

Emissions	• EN55022, level B conducted & radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, $\pm 4$ kV indirect contact, Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 2, Perf Criteria A
EFT / Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950-1, cUL60950, IEC60950-1, EN60601-1, cUL60601-1, IEC60601-1



## Models and Ratings

ECP40 **XP**

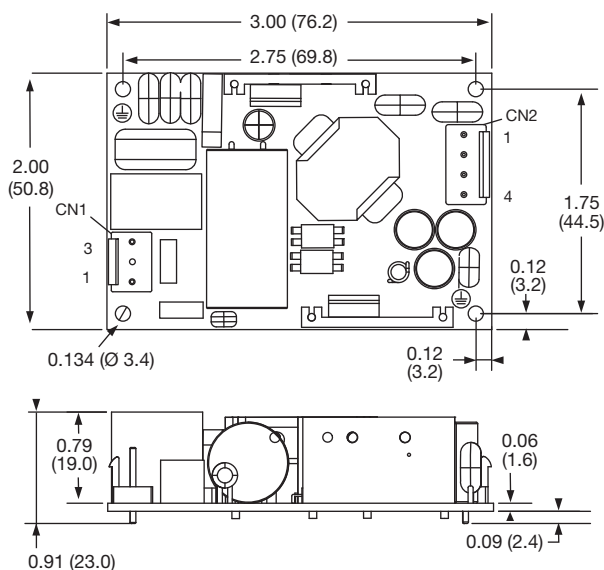
Output Power	Output 1			Output 2			Output 3		Efficiency <sup>(2)</sup>	Model Number
	Voltage	Current	Peak <sup>(1)</sup>	Voltage	Current	Peak <sup>(1)</sup>	Voltage	Current		
30 W	5.0 VDC	6.00 A	7.80 A						82%	ECP40US05
40 W	12.0 VDC	3.34 A	4.34 A						89%	ECP40US12
40 W	15.0 VDC	2.67 A	3.47 A						89%	ECP40US15
40 W	18.0 VDC	2.22 A	2.89 A						90%	ECP40US18
40 W	24.0 VDC	1.67 A	2.17 A						90%	ECP40US24
40 W	30.0 VDC	1.34 A	1.74 A						91%	ECP40US30
40 W	48.0 VDC	0.84 A	1.09 A						92%	ECP40US48
40 W	+5.0 VDC	5.00 A	7.80 A	+12.0 VDC	2.0 A	2.60 A			89%	ECP40UD01
40 W	+5.0 VDC	5.00 A	7.80 A	+15.0 VDC	1.5 A	1.95 A			90%	ECP40UD02
40 W	+5.0 VDC	5.00 A	7.80 A	+24.0 VDC	1.0 A	1.30 A			90%	ECP40UD03
40 W	+5.0 VDC	5.00 A	7.80 A	+12.0 VDC	2.0 A	2.60 A	-12.0 VDC	0.5 A	89%	ECP40UT01
40 W	+5.0 VDC	5.00 A	7.80 A	+15.0 VDC	1.5 A	1.95 A	-15.0 VDC	0.5 A	90%	ECP40UT02
40 W	+5.0 VDC	5.00 A	7.80 A	+24.0 VDC	1.0 A	1.30 A	+12.0 VDC	0.5 A	90%	ECP40UT03
40 W	+5.0 VDC	5.00 A	7.80 A	+24.0 VDC	1.0 A	1.30 A	-12.0 VDC	0.5 A	90%	ECP40UT04

## Notes

1. Peak load lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.
2. Typical efficiency at 230 VAC and full load at 25 °C.
3. For multiple output units, load regulation is given for load change of 10% to 100% with other outputs set to 60% adjustment load.
4. When V2 load is 15-100%

## Mechanical Details

## ECP40USXX



Input Connector CN1	
Pin 1	Neutral
Pin 2	Not Fitted
Pin 3	Line

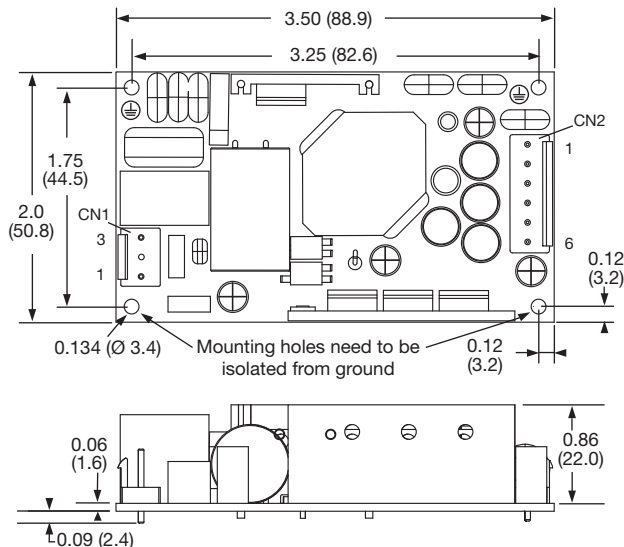
CN1 mates with JST housing VHR-3N and JST Series SVH-21T-P1.1 crimp terminals.

Mounting holes marked with  $\oplus$  must be connected to safety earth

Output Connector CN2	
Pin 1	+ Vout
Pin 2	+ Vout
Pin 3	- Vout
Pin 4	- Vout

CN2 mates with JST housing VHR-4N and JST Series SVH-21T-P1.1 crimp terminals.

## ECP40UDXX / ECP40UTXX



Input Connector CN1	
Pin 1	Neutral
Pin 2	Not Fitted
Pin 3	Line

CN1 mates with JST housing VHR-3N and JST Series SVH-21T-P1.1 crimp terminals.

Mounting holes marked with  $\oplus$  must be connected to safety earth

Output Connector CN2	
Pin 1	V2
Pin 2	V1
Pin 3	V1
Pin 4	RTN
Pin 5	RTN
Pin 6	V3

CN2 mates with JST housing VHR-6N and JST Series SVH-21T-P1.1 crimp terminals.

## Notes

1. All dimensions are in inches (mm).
2. Weight: ECP40USXX: 0.18 lbs (80 g) approx, ECP40UD/UTXX: 0.24 lbs (110 g)