



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!



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50-100 Watts VCS Series



GREEN XP POWER

- Chassis Mount Industrial Supplies
- -25 °C to +70 °C Convection Cooled
- Class B Conducted & Radiated Emissions
- Output Voltages from 5 V to 48 V
- <0.5 W No Load Input Power
- Low Cost

Specification

Input

Input Voltage	• 85-264 VAC (127-370 VDC), see derating curve
Input Frequency	• 47-63 Hz
Input Current	• VCS50: 1.1 A, VCS70: 1.4 A, VCS100: 2.0 A typical at 90 VAC
Inrush Current	• 60 A max at 230 VAC, cold start at 25 °C
Power Factor	• EN61000-3-2 Class A
Earth Leakage Current	• 1.0 mA maximum
Input Protection	• 50 & 70 W: T3.15 A/250 V 100 W: T4.0A/250 V, fuse fitted in live line
No Load Input Power	• <0.5 W

Output

Output Voltage	• See model table
Output Adjust	• ±10.0% (5 V & 12 V versions are -5% to +10%)
Initial Set Tolerance	• ±1.0%
Minimum Load	• None required
Start Up Delay	• 1 s maximum
Hold Up Time	• 10 ms min at 115 VAC and full load
Line Regulation	• ±0.5%, 90 VAC to 264 VAC input
Load Regulation	• 5 V & 12 V versions: ±1%, Others: ±0.5% 0% to 100% load
Transient Response	• Less than 4% deviation with a 50% to 75% load change at 1 A/μs. Output returns to within 1% in less than 500 μs
Ripple & Noise	• 1% maximum pk-pk, 20 MHz bandwidth
Overvoltage Protection	• 120-140% of nominal output, auto recovery
Overload Protection	• 110-150% of nominal, trip and restart
Short Circuit Protection	• Continuous trip and restart
Temperature Coefficient	• ±0.03%/°C after 20 min warm up

General

Efficiency	• See tables
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 65 kHz typical
MTBF	• >500 kHrs to MIL-STD-217F at 25 °C, GB

Environmental

Operating Temperature	• -25 °C to +70 °C, see derating curve
Cooling	• Convection cooled
Operating Humidity	• 0-95% R.H, non-condensing
Storage Temperature	• -40 °C to +80 °C
Operating Altitude	• 3000 m
Shock	• ±3 x 30 g shocks in each plane, 30 g: 11 ms (±0.5 ms), half sine, compliant to EN60068-2-27 & EN60068-2-47
Vibration	• 10-500 Hz at 2 g sweep and endurance at resonance in all 3 planes. Conforms to EN60068-2-6

EMC & Safety

Emissions	• EN55022 Class B conducted & radiated
Harmonic Currents	• EN61000-3-2 class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A (note 3)
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	• IEC60950-1, CSA C22.2 No.60950-1-03, UL60950-1, TUV EN60950-1

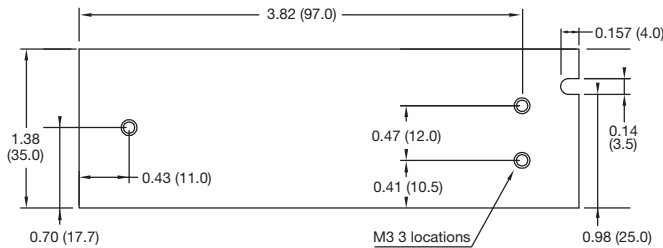
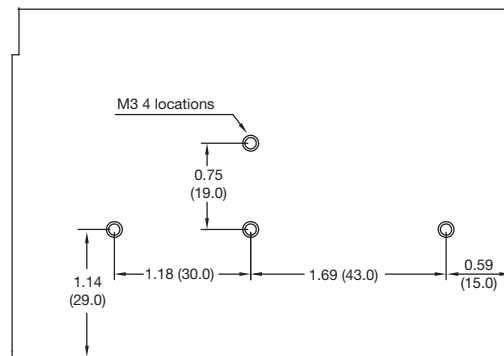
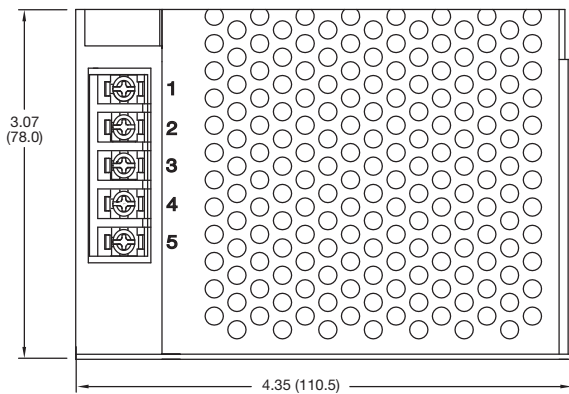
Model and Ratings

Output Power	Output Voltage	Output Current	Ripple & Noise ⁽²⁾	Efficiency ⁽¹⁾	Model Number
40 W	5.0 V	8.00 A	50 mV	79%	VCS50US05
50 W	12.0 V	4.20 A	120 mV	85%	VCS50US12
	15.0 V	3.30 A	150 mV	86%	VCS50US15
	24.0 V	2.10 A	240 mV	88%	VCS50US24
	48.0 V	1.05 A	480 mV	88%	VCS50US48

Notes

1. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.
2. Ripple & Noise may exceed specified values below -10 °C.
3. Level 3 performance criteria A is met for loads >2%. At no load, result is performance criteria A Level 2 or less than 4% output deviation at Level 3.

Mechanical Details

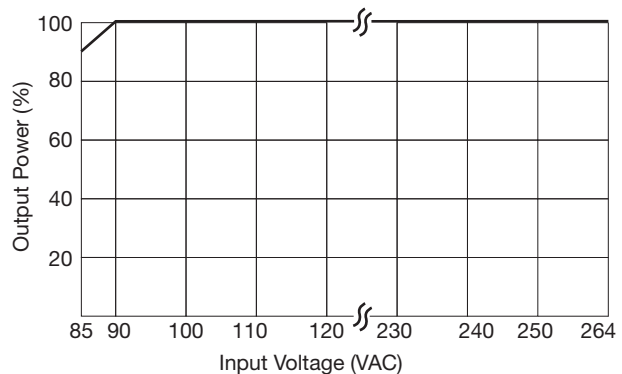
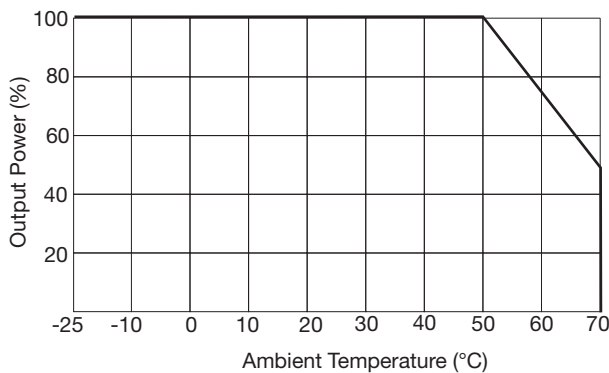


Pin	Function
1	AC Live
2	AC Neutral
3	Ground
4	-Vout
5	+Vout

Notes

1. All dimensions in inches (mm)
2. Weight: 0.55 lbs (250 g) approx
3. Tolerance ± 0.02 (± 0.5)
4. Maximum mounting screw penetration 0.157 (4.0) from outer surface
5. Screw terminal sizes M3

Derating Curves



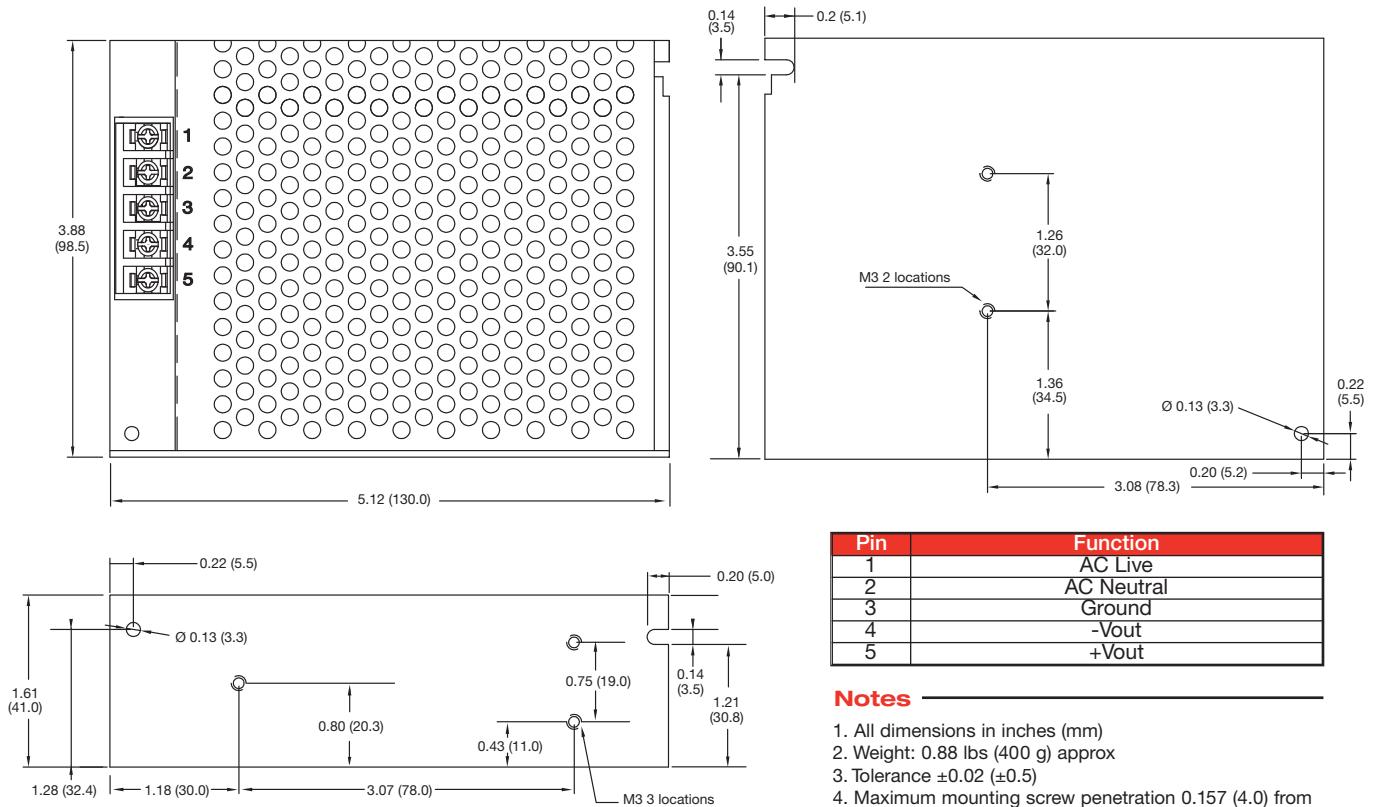
Model and Ratings

Output Power	Output Voltage	Output Current	Ripple & Noise ⁽²⁾	Efficiency ⁽¹⁾	Model Number
50 W	5.0V	10.0 A	50 mV	80%	VCS70US05
70 W	12.0V	5.83 A	120 mV	87%	VCS70US12
	15.0V	4.67 A	150 mV	87%	VCS70US15
	24.0V	2.92 A	240 mV	87%	VCS70US24
	48.0V	1.46 A	480 mV	87%	VCS70US48

Notes

1. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.
2. Ripple & Noise may exceed specified values below -10 °C.
3. For all loads.

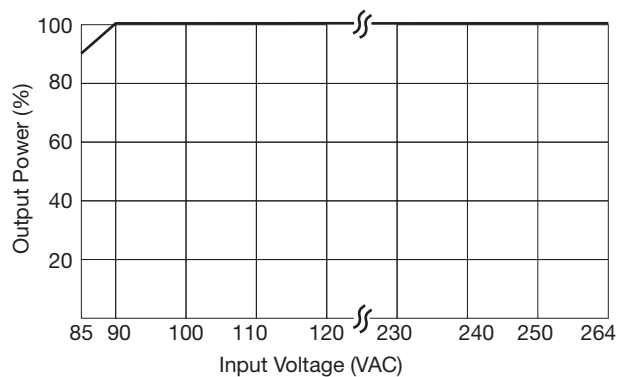
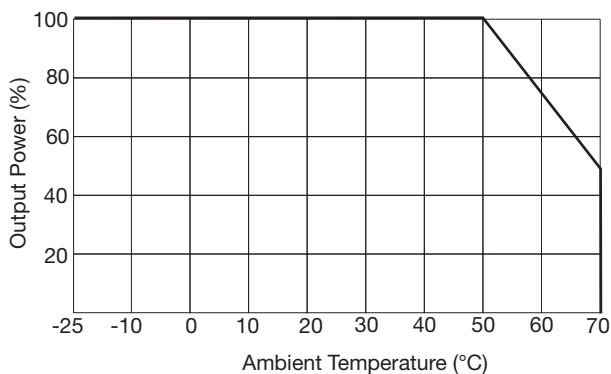
Mechanical Details



Notes

1. All dimensions in inches (mm)
2. Weight: 0.88 lbs (400 g) approx
3. Tolerance ± 0.02 (± 0.5)
4. Maximum mounting screw penetration 0.157 (4.0) from outer surface
5. Screw terminal sizes M3

Derating Curves



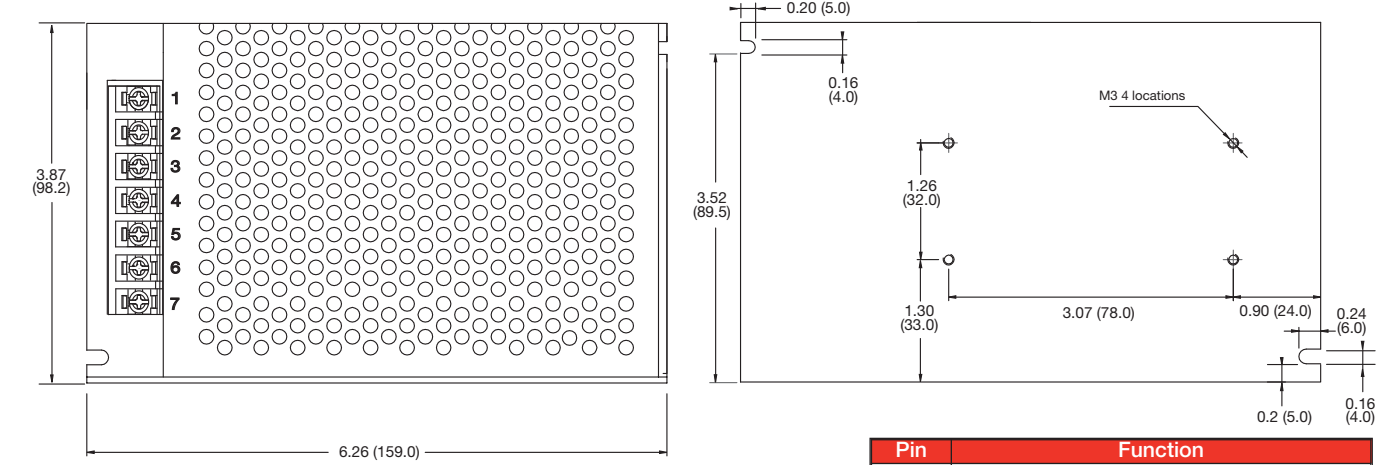
Model and Ratings

Output Power	Output Voltage	Output Current	Ripple & Noise ⁽²⁾	Efficiency ⁽¹⁾	Model Number
70 W	5.0V	14.0 A	50 mV	78.0%	VCS100US05
100 W	12.0V	8.33 A	120 mV	85.0%	VCS100US12
	15.0V	6.67 A	150 mV	86.0%	VCS100US15
	24.0V	4.17 A	240 mV	86.5%	VCS100US24
	48.0V	2.08 A	480 mV	88.0%	VCS100US48

Notes

1. Minimum average of efficiencies measured at 25%, 50%, 75% & 100% load.
2. Ripple & Noise may exceed specified values below -10 °C.
3. Level 3 performance criteria A is met for loads >10%. At no load, result is performance criteria A at Level 2 or less than 5% output deviation at Level 3.

Mechanical Details



Pin	Function
1	AC Live
2	AC Neutral
3	Ground
4	-Vout
5	-Vout
6	+Vout
7	+Vout

Notes

1. All dimensions in inches (mm)
2. Weight: 1.1 lbs (500 g) approx
3. Tolerance ±0.02 (±0.5)
4. Maximum mounting screw penetration 0.157 (4.0) from outer surface
5. Screw terminal sizes M4

Derating Curves

