



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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# 250 Watts

## CCM Series



GREEN XP POWER

- 250 W Convection Cooled
- 300 W Peak Rating for 500 ms
- Very High Efficiency up to 95%
- Class B Conducted & Radiated Emissions
- 80 – 275 VAC Operation
- IT, Industrial & Medical Safety Approvals
- 3 Year Warranty

### Specification

#### Input

Input Voltage	• 80-275 VAC (See derating curve)
Input Frequency	• 47-63 Hz
Input Current	• 2.4 A typical at 115 VAC, full load 1.2 A typical at 230 VAC, full load
Inrush Current	• 30 A max at 230 VAC, cold start at 25 °C
Power Factor	• >0.9
Earth Leakage Current	• 250 $\mu$ A max at 264 VAC/60 Hz
Input Protection	• Internal T5.0 A/250 V fuse in line and neutral

#### Output

Output Voltage	• 12-48 VDC (see tables)
Output Voltage Trim	• $\pm$ 3% (see Mechanical Details)
Initial Set Accuracy	• $\pm$ 0.5% V1, $\pm$ 5% V2
Minimum Load	• No minimum load required
Start Up Delay	• 1 s typical
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 16 ms min at 115 VAC
Drift	• $\pm$ 0.2% after 20 min warm up
Line Regulation	• $\pm$ 0.5% max
Load Regulation	• $\pm$ 1% V1, $\pm$ 5% V2
Over/Undershoot	• 5% typical
Transient Response	• 4% max. deviation, recovery to within 1% in 500 $\mu$ s for a 50-75-50% load change
Ripple & Noise	• 1% pk-pk, 20 MHz bandwidth
Overvoltage Protection	• 115-140% Vnom, recycle input to reset (V1 only)
Overload Protection	• 125-165% Inom V1 only
Short Circuit Protection	• Continuous trip and restart (hiccup mode)
Temperature Coefficient	• 0.05% $^{\circ}$ C
Remote On/Off (Inhibit/Enable)	• Uncommitted isolated optocoupler diode, powered diode inhibits V1

#### General

Efficiency	• Up to 95%
Isolation	• 4000 VAC Input to Output, 1500 VAC Input to Ground, 500 VAC Output to Ground
Switching Frequency	• PFC 30-500 kHz, Boost 25.6 kHz, Main 51.2 kHz
Signals	• Power Fail - open collector, transistor off for AC good, $\geq$ 5 ms warning of loss of output
MTBF	• 365 kHrs to MIL-HDBK-217F at 25 °C, GB

#### Environmental

Operating Temperature	• -20 °C to +70 °C derate linearly from +50 °C at 2.5%/ $^{\circ}$ C to 50% load at +70 °C. See derating curve and longform datasheet for thermal considerations. (-40 °C consult sales)
Cooling	• Convection cooled
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 30 g pk, half sine, 6 axes
Vibration	• 2 g rms, 5 Hz to 500 Hz, 3 axes

#### EMC & Safety

Low Voltage PSU EMC Emissions	• EN61204-3, high severity level • EN55011/32 level B conducted EN55011/32 level B radiated RTCA D0160D 21.4 Cat. M radiated MIL-STD 461D-F, CE102
Harmonic Currents	• EN61000-3-2, class A, EN61000-3-2, class C for loads $\geq$ 40%
Voltage Flicker	• EN61000-3-3
Radiated Immunity	• EN61000-4-3, level 3 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, MIL-STD 461 CS114
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B, EN60601-1-2, 30% 500 ms, 60% 100 ms, 100% 10 ms, 100% 5000 ms, Perf Criteria A, A, A, B - 230 VAC. Consult longform datasheet for 115 V operation.
Safety Approvals	• See Safety Approvals (see next page)
Equipment Protection Class	• Class I



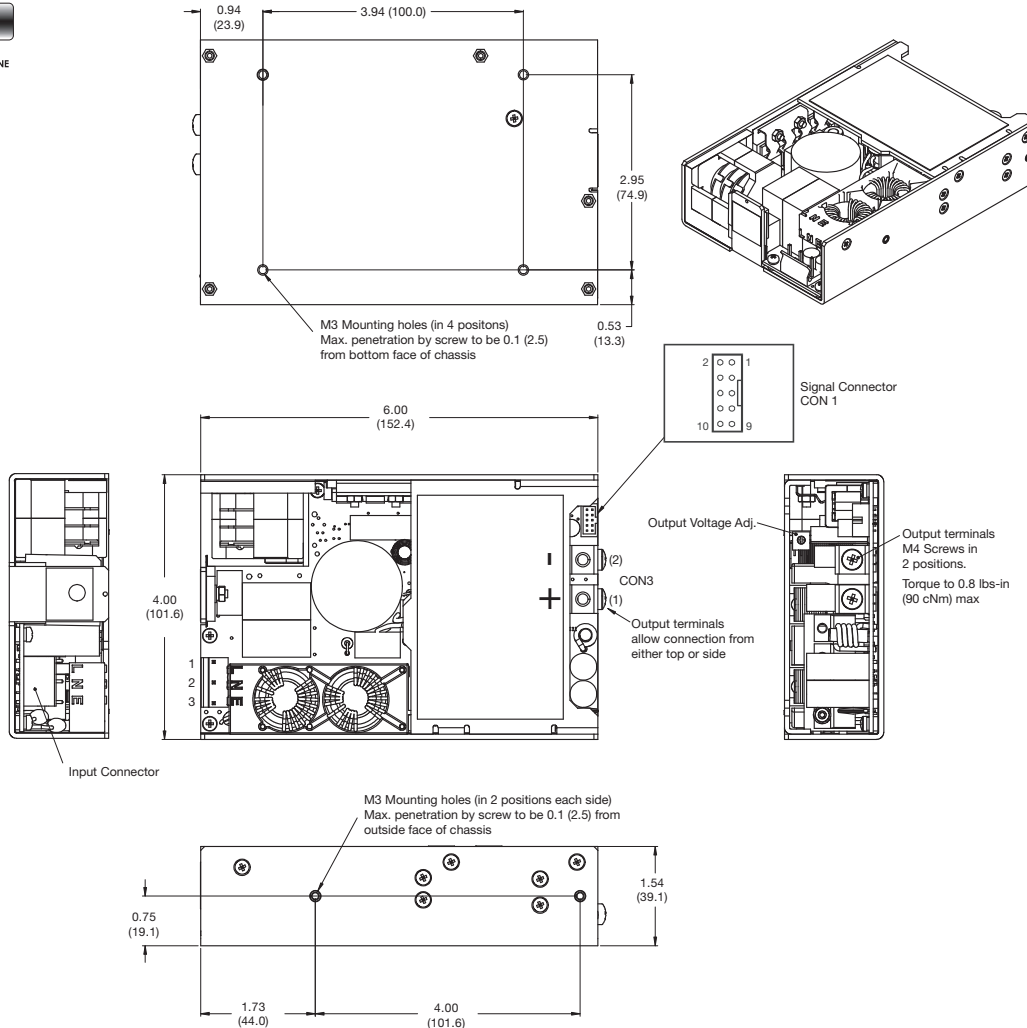
Models and Ratings

Output Power		Output Voltage V1	Output Current V1		Standby Supply V2	Model Number
Nominal	Peak <sup>(1)</sup>		Nominal	Peak <sup>(1)</sup>		
250 W	300 W	12.0 V	20.8 A	25.00 A	5.0 V/0.5 A	CCM250PS12
250 W	300 W	15.0 V	16.7 A	20.00 A	5.0 V/0.5 A	CCM250PS15
250 W	300 W	24.0 V	10.4 A	12.50 A	5.0 V/0.5 A	CCM250PS24
250 W	300 W	28.0 V	8.9 A	10.70 A	5.0 V/0.5 A	CCM250PS28
250 W	300 W	36.0 V	6.9 A	8.30 A	5.0 V/0.5 A	CCM250PS36
250 W	300 W	48.0 V	5.2 A	6.25 A	5.0 V/0.5 A	CCM250PS48

Notes

1. Peak duration is 500 ms max, average power must not exceed 250 W.

Mechanical Details



Input Connector	
Pin 1	Line
Pin 2	Neutral
Pin 3	Earth

Input connector mates with Molex housing 09-50-1051 and Molex series 5194 crimp terminals.

Output Connector CON 3	
Pin 1	+V1
Pin 2	V1 RTN

Signals Connector CON 1	
Pin 1	5 V Standby Return
Pin 2	5 V Standby
Pin 3	5 V Standby Return
Pin 4	5 V Standby
Pin 5	5 V Standby Return
Pin 6	5 V Standby
Pin 7	Power Fail (Collector)
Pin 8	Power Fail (Emitter)
Pin 9	Remote On / Off (Cathode)
Pin 10	Remote On / Off (Anode)

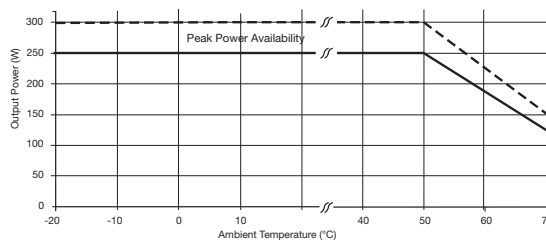
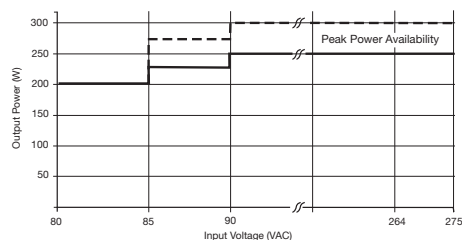
CON 1 mates with JST housing PHDR-10VS with contact SPHD-001T-P0.5

Notes

- At AC switch on the output (VI) may momentarily rise when the unit is disabled using the 5 V standby supply in conjunction with the Remote On/Off function. (See longform datasheet for details)
- All dimensions in inches (mm).
- Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
- Weight 1.7 lb (780 g) approx

Input Voltage & Temperature Derating

Safety Approvals



IEC60950-1 CB report, CSA 22.2 No. 60950-1, UL60950-1, TUV EN60950-1

IEC60601-1 CB report, CSA 22.2 No. 60601-1, UL60601-1, TUV 60601-1,

TUV IEC61010-1

