Cool Power Technologies™ 4:1 CPC Chassis Series

RoHS COMPLIANT

DC/DC

Up to 120Watts Output Power

INPUT

Voltage Range	9 - 36 or 18 - 72 V_{DC}
Remote ON/OFF control	NEG or POS
UVLO w/hysteresis	

OUTPUT

Nominal Output	3.3, 5.0, 12 15 or 24V_{DC}
Setpoint accuracy	± 1.5%
Trim Range	± 10%
Ripple and Noise (TYP)	60$_{mV}$ Pk-Pk
Short Circuit Protection	AUTO-RESTART

GENERAL

Efficiency	92% TYP
Isolation	2250V_{DC}

ENVIRONMENTAL

Operating Temperature	-40 - +85C
Storage Temperature	-40 - +100C

- Input Range: 9-36 or 18-72
- High efficiency
- Remote shutdown
- Under voltage lockout with Hysteresis

The CPC series offers all of the high performance characteristics of the CPE 8th brick DC-DC converters in a chassis mount package, with input and output connections via a barrier strip. These units retain the minimal derating of the CPE series over a wide ambient temperature range. Additional features include trim or remote on/off control logic (negative or positive enable), remote sense, and an operating temperature range of -40°C to +85°C (with de-rating.)

Applications

These units are ideally suited for industrial, transportation, solar, electric vehicles, and other unique applications where printed circuit board mounting is not available.

CPC Series Ordering Information

Model Number*	Vout (Volts)	Iout (A, Max)	Power (W)	Vin Nom (Volts)	Input Range (Volts)	Ripple (mV P-P)	Efficiency %
CPC20F18P*	3.3	20	66	24	9 - 36	60	90
CPC15A18P*	5	15	75	24	9 - 36	50	91
CPC8B18P*	12	8	72	24	9 - 36	80	91
CPC5C18P*	15	5	75	24	9 - 36	60	91
CPC4D18P*	24	4	96	24	10 - 36	80	91
CPC20F36P*	3.3	20	66	48	18 – 72	60	90
CPC15A36P*	5	15	75	48	18 – 72	60	91
CPC20A36P*	5	20	100	48	18 – 72	60	91
CPC8B36P*	12	8	72	48	18 – 72	80	91
CPC10B36P*	12	10	120	48	18 – 72	80	92
CPC3D36P*	24	3	72	48	18 – 72	80	91
CPC4D36P*	24	4	96	48	18 - 72	80	92
CPC2U36P*	48	2	96	48	18 - 72	100	90

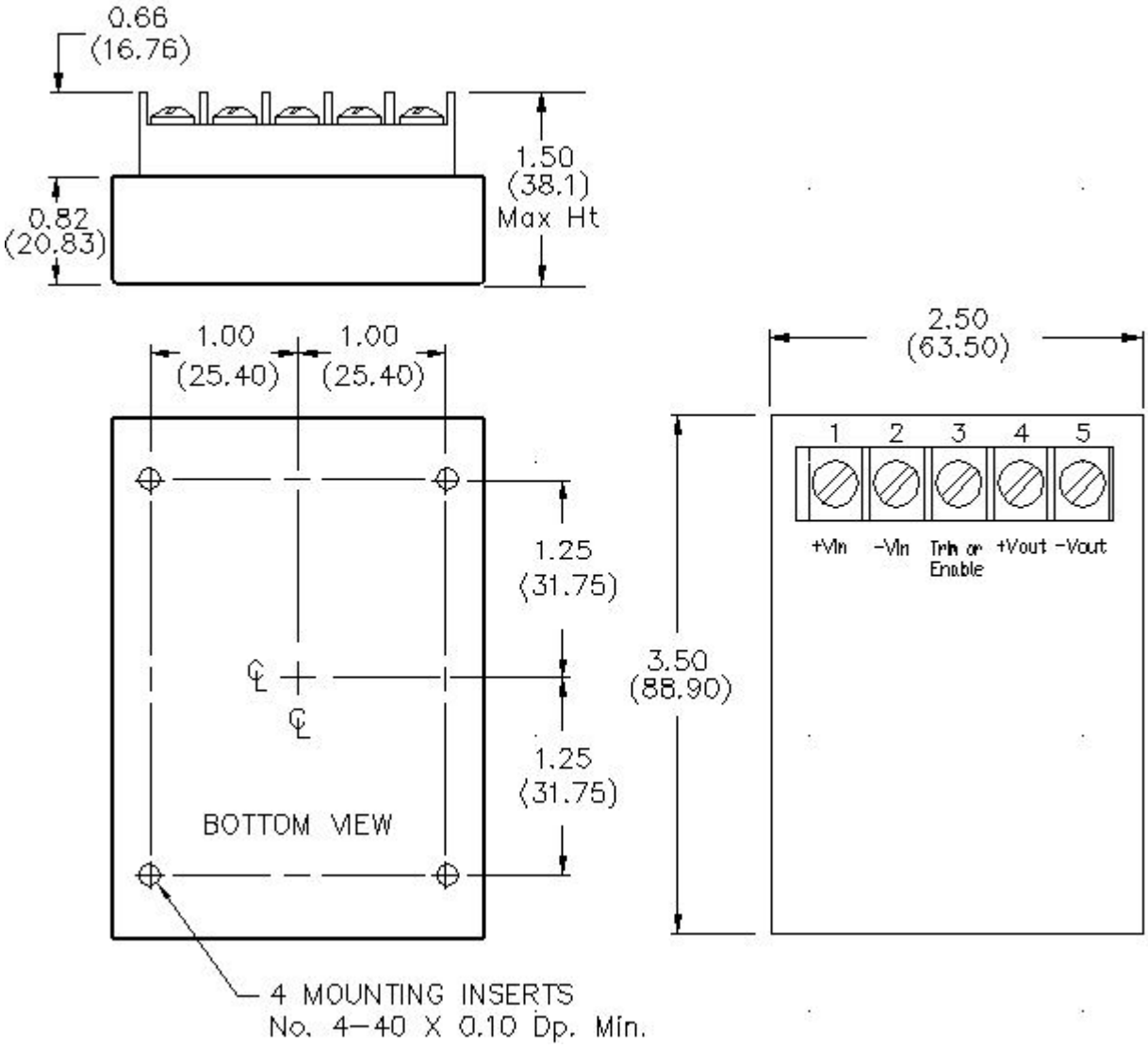
*Change “P” suffix to “N” for positive ON/OFF enable logic, “T” for trim option (no enable function)
Note: Other output voltages available - consult factory

Mechanical Outline & Pin Assignments

Pin Assignment

1. + Vin
2. - Vin
3. Enable or Trim
4. + Vout
5. - Vout

- All dimensions are in inches [mm]
- Screw material: Copper/brass
- Converter Weight: 8.4 oz [238 g]



CPC20F18 CHARACTERISTIC CURVES:

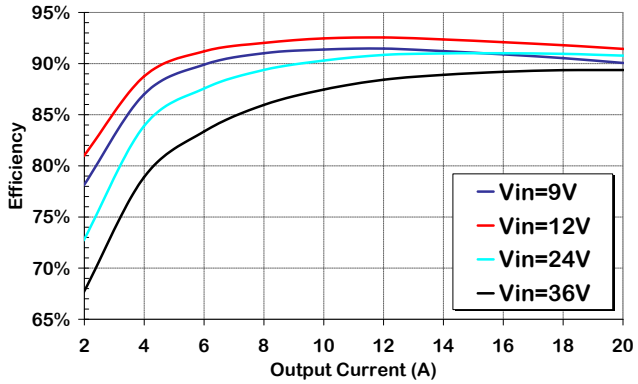


Figure 1. Efficiency vs Output Current, 300lfm airflow, 25°C ambient.

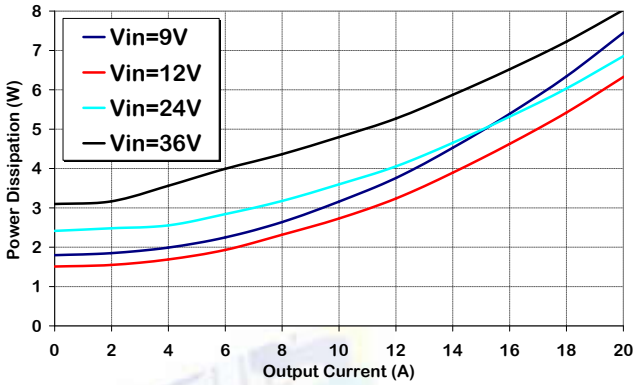


Figure 2. Power Dissipation vs. Load Current, 300lfm airflow, 25°C ambient.

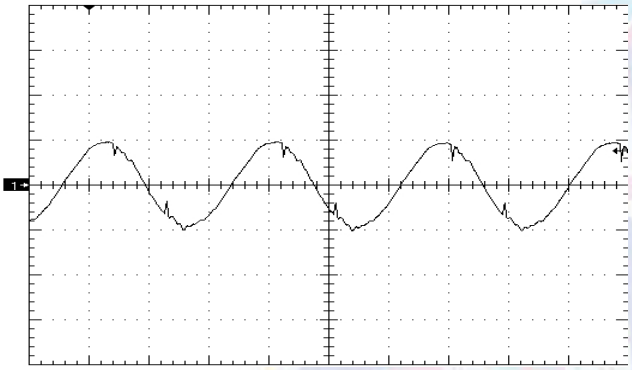


Figure 3. Output Voltage Ripple (20mV/div) time scale – 1uS/div. Vin=Vin_nom, full resistive.

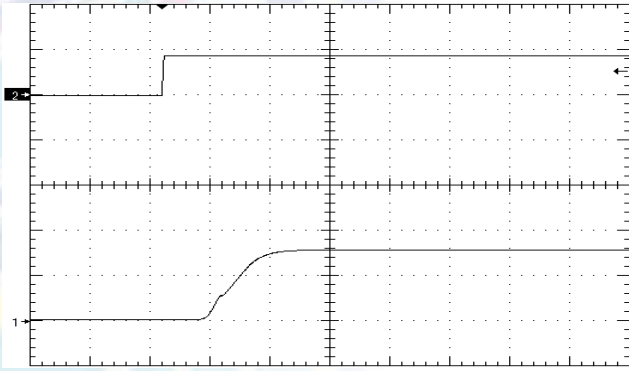


Figure 4. Startup Waveform via Enable Pin time scale 10mS/div. Vin=Vin_nom, full resistive load (positive enable.) Ch1=2V/div, Ch2=5V/div

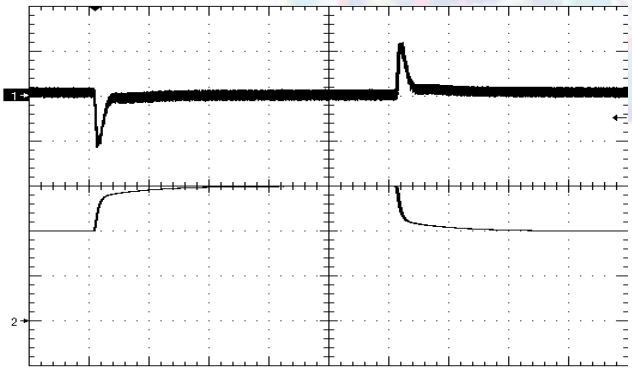


Figure 5. Load Transient Response (100mV/div), di/dt=0.1A/uS, 50% - 75% - 50% of full load,

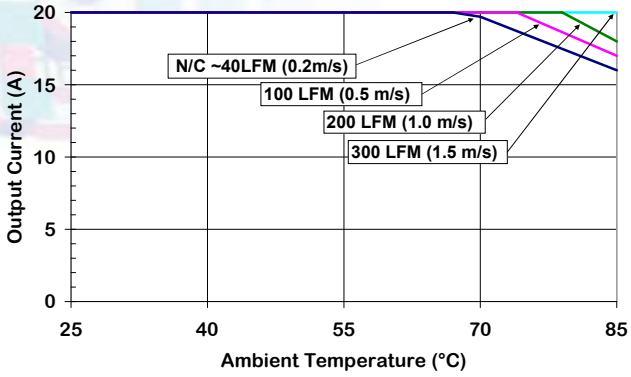
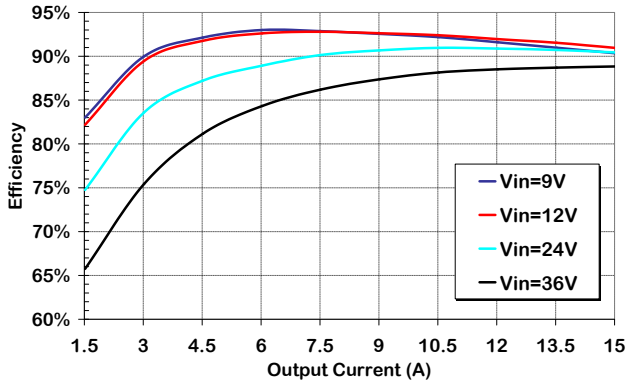


Figure 6. Output Current Derating vs Ambient Temperature & Airflow, Vin = 24 V

CPC15A18 CHARACTERISTIC CURVES:



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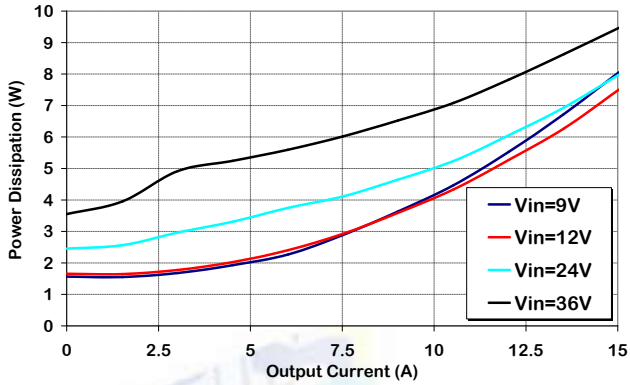


Figure 2. Power Dissipation vs. Load Current, 300lfm airflow, 25°C ambient.

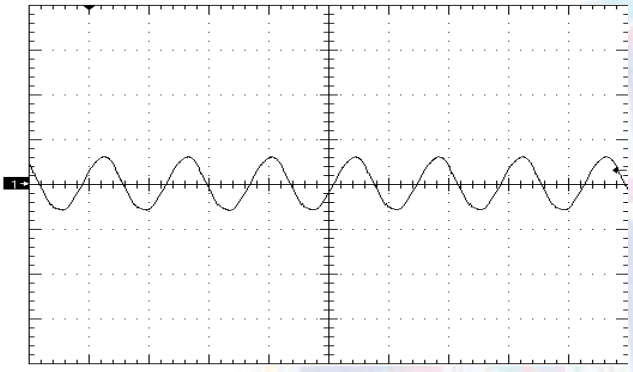


Figure 3. Output Voltage Ripple (50mV/div) time scale – 2uS/div. Vin=Vin_nom, full resistive.

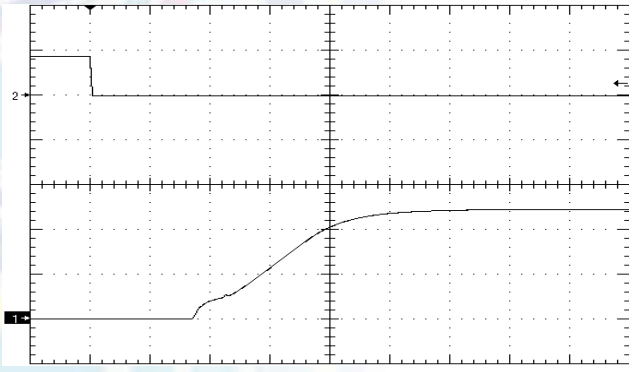


Figure 4. Startup Waveform via Enable Pin time scale 10mS/div. Vin=Vin_nom, full resistive load (negative enable.) Ch1=2V/div, Ch2=5V/div

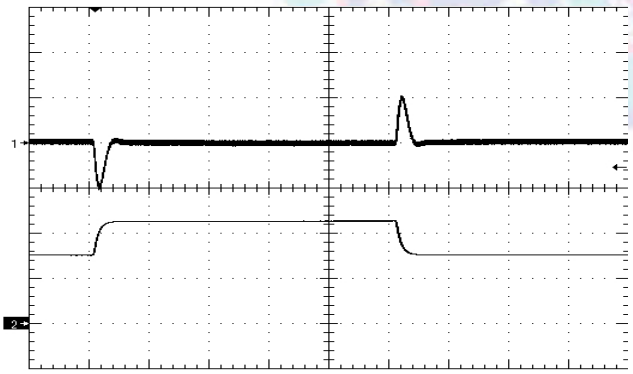
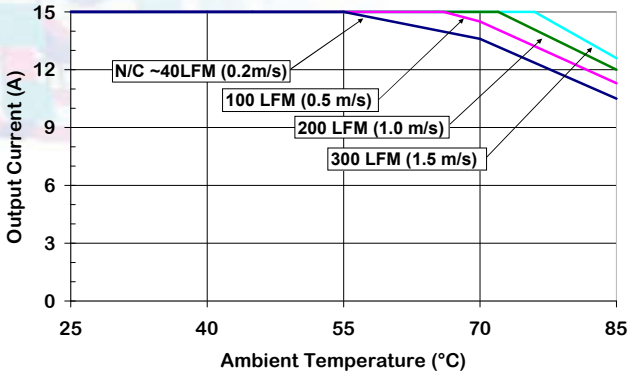


Figure 5. Load Transient Response (100mV/div), di/dt=0.1A/uS, 50% - 75% - 50% of full load, time scale: 200uS/div



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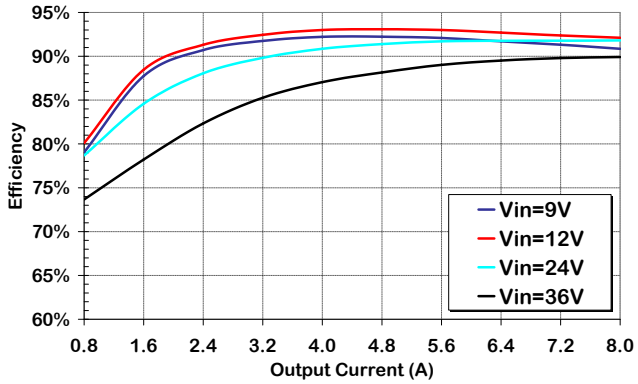
CPC8B18 CHARACTERISTIC CURVES:



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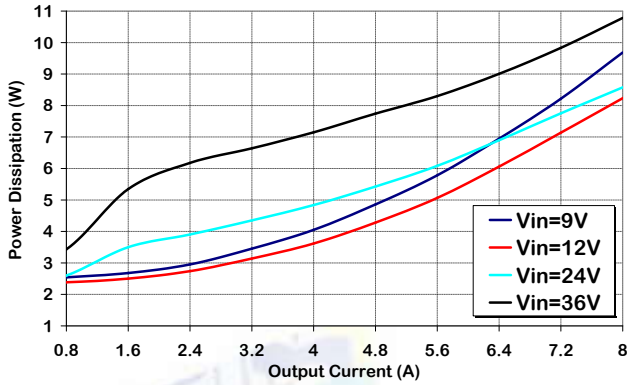
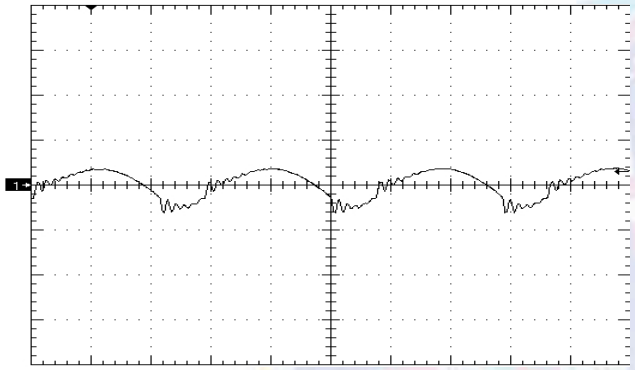


Figure 2. Power Dissipation vs. Load Current, 300lfm airflow, 25°C ambient.



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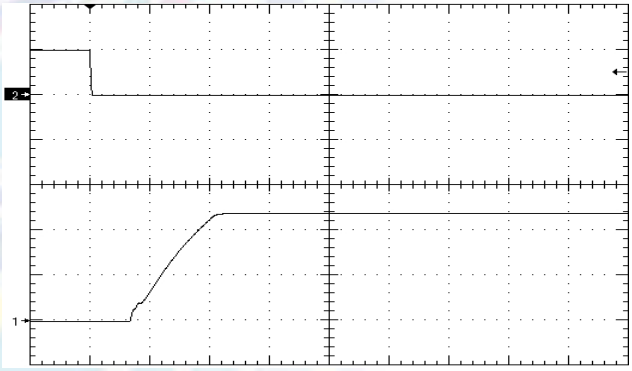

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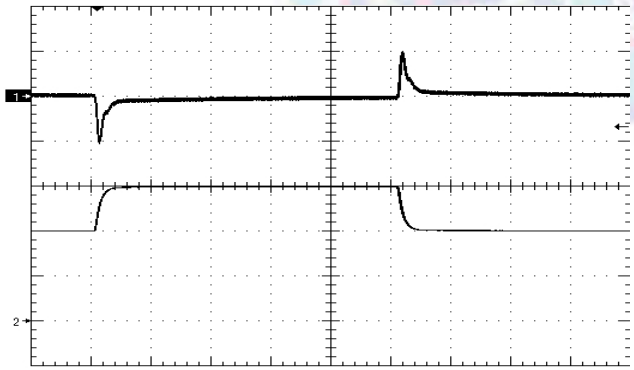

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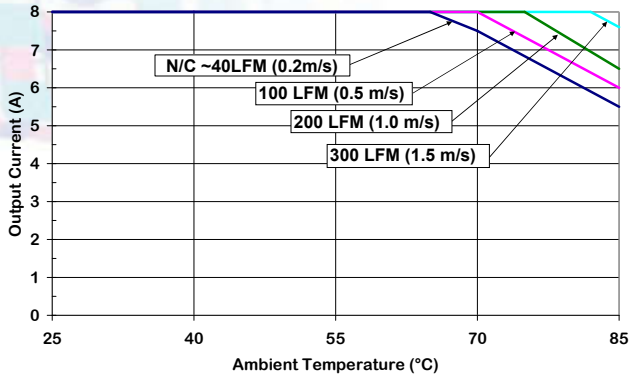

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