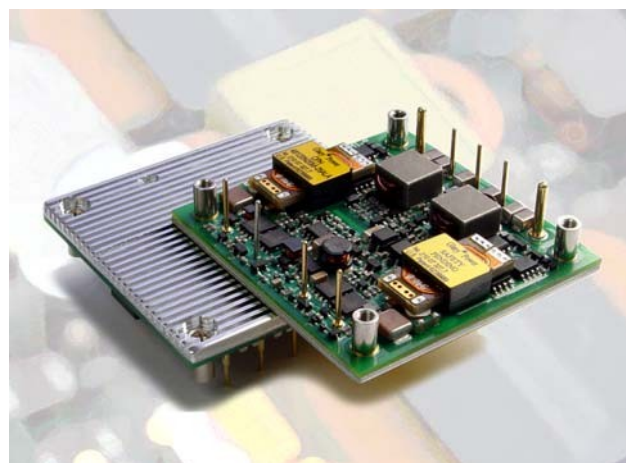
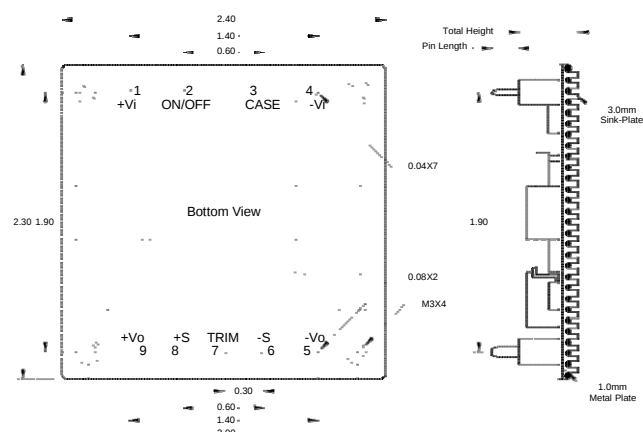




This module provides 12V/25A output with 91% efficiency is designed for telecommunication, computer servers, enterprise networking equipment and other applications that use a 48V (36~75V) input bus.



- High efficiency 92%@12V/20A
..... 91%@12V/25A
- High useable current (with 5.0mm Sink-Plate)
..... 12V/17A at 75°C 200LFM
..... 12V/15A at 85°C 200LFM
- High power density 150W/in³
- Low profile 0.36"(9.1mm)
- Sink-Plate (SP) flexible thermal managing capability (see drawing)

Part Number *	Maximum Input	Maximum Output	Efficiency
CPH48S120ABCD-EF	36V~75V	335W	12V/25A 300W 91%

Part Number *	Maximum Input	Maximum Output	Efficiency

* Options for CPH48120ABCD-EF are as follows:

A (Enable Logic): **P**: Positive **N**: Negative
B (Pin Dimension): **0**: 0.12" **1**: 0.16"
C (Standoff Height): **0**: 0.02" **1**: 0.08"
D (Base-Plate/Module Thickness): **M**: 1.0mm Metal Plate/0.34"
EF (Output): **00** to **99** for output current rating

2: 0.20" **3**: 0.24"
2: 0.16"
A: 3.0mm Sink-Plate/0.42" **B**: 5.0mm Sink-Plate/0.50"

Example: **CPH48120N00A-25** is a **CPH** series half brick size 48V to 12V/25A dc/dc converter with options of negative control logic, 0.12" pin length, 0.02" of standoff height and 3.0mm Sink-Plate attached. The total height of this module is 0.02"+0.42"=0.44"

ABSOLUTE MAXIMUM RATINGS

Temperature	Operation	-40°C to +120°C
	Storage	-55°C to +125°C
Input Voltage Range	Operation:	
	24V Models	-0.5V to +40Vdc
	48V Models	-0.5V to +80Vdc
	Transient (100ms):	
	24V Models	50V Maximum
	48V Models	100V Maximum
Isolation Voltage	Input to Output	2.0KV Minimum
	Input to Case	1.0KV Minimum
	Output to Case	1.0KV Minimum
Remote Control Voltage		-0.5V to +12Vdc

GENERAL SPECIFICATIONS

Conversion Efficiency	Typical	See table
Switching Frequency	Typical	300KHz
MTBF	Bellcore	3.45×10 ⁶ hrs @GB.
OTP	Internal	120°C
Weight		1.9 oz
Size		2.30"×2.40"×0.36"

CONTROL FUNCTIONS

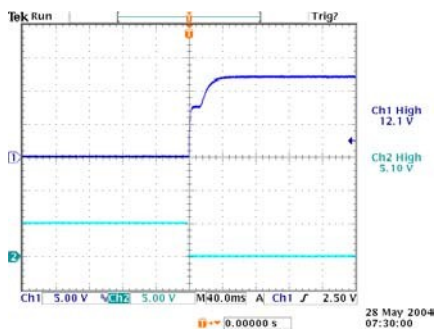
Remote Control	Logic High	+3.0V to +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

INPUT SPECIFICATIONS

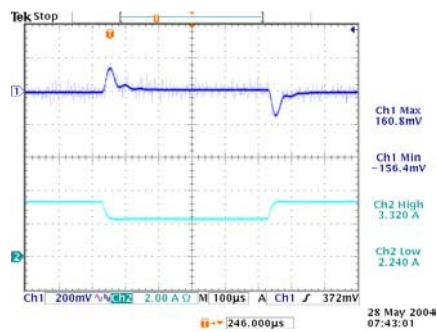
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L _{EXT} = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+17.5V to +17.9Vdc
	48V Models	+35.0V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+17.0V to +17.4Vdc
	48V Models	+34.0V to +34.8Vdc
Off State Input Current	V _{NOM}	6mA Max
Latch-State Input Current	V _{NOM}	8mA Max
Input Capacitance	24V Models	33.0uF Max
	48V Models	6.8uF Max

OUTPUT SPECIFICATIONS

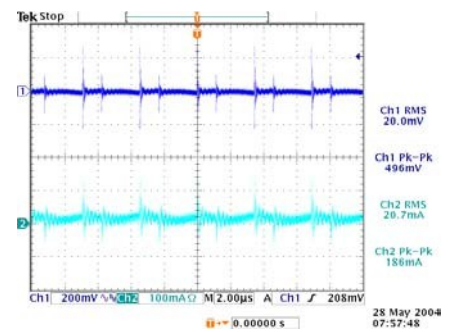
Voltage Accuracy	Typical	±1%
Line Regulation Load	Full Input Range	±0.2%
Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C All	±0.02%/°C
Output Tolerance Band	Conditions Peak	±3%
Ripple & Noise (20MHz)	Peak (RMS) V _{NOM}	3% (1%) V _o
Over Voltage Protection	10% Load V _{NOM}	115~130 %V _o
Output Current Limits		105%~125%
Voltage Trim	V _{NOM} , 10% Load	±10%
Input Ripple Rejection (<1KHz)	V _{NOM} , Full Load	-50dB
Step Load (2.5A/uS)	50%~75% Load	300mV/300uS
Start-Up Delay Time	V _{NOM} , Full Load	20mS/250mS



Start-Up Waveform
(V_{IN} : 50V, Load: 25A)



Transient Response
(V_{IN}: 50V, Load: 15A/10A@2.5A/μS)

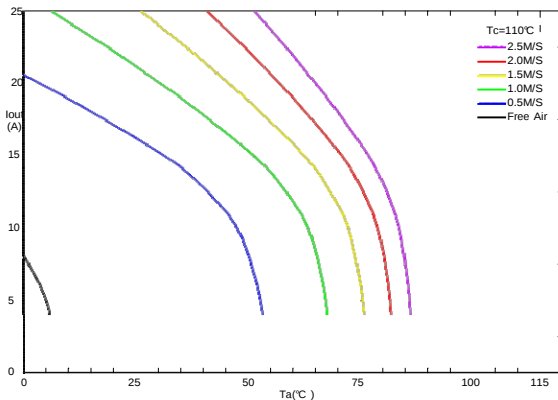


Output Ripple/Noise and Input Ripple Current
(V_{IN} : 50V, Load: 25A, L_{IN} =10uH)

To be provide in next version

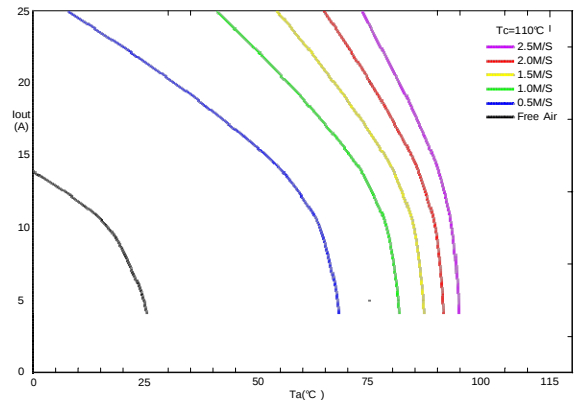
To be provide in next version

Thermal Plot with 55°C-200LFM Airflow at +Vi/+Vo Direction

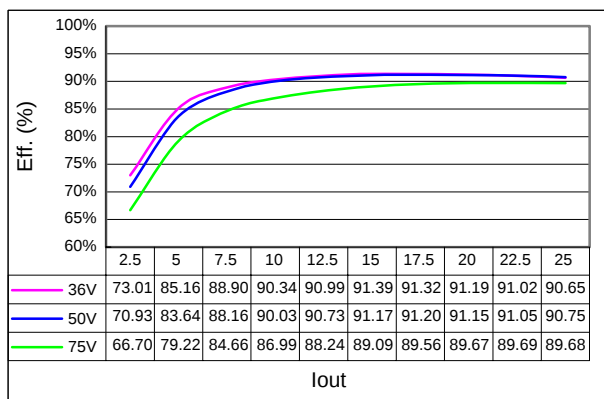


Derating Plot of CPH48120xxxM-25
(The cooling effect of test PCB was canceled)

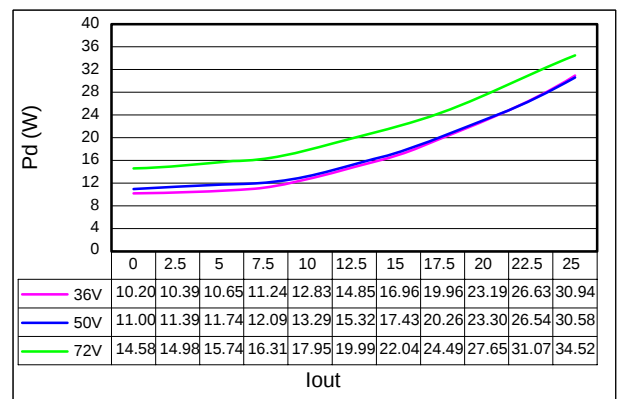
Thermal Plot with 55°C-200LFM Airflow at +Vi/-Vi Direction



Derating Plot of CPH48120xxxA-25
(The cooling effect of test PCB was canceled)



Efficiency Plot



Power Loss Plot