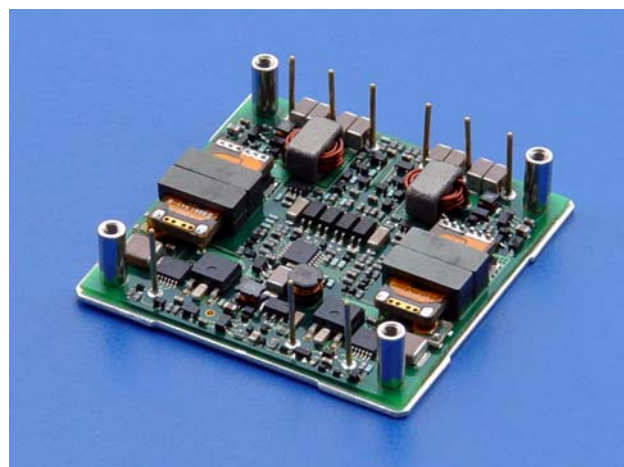
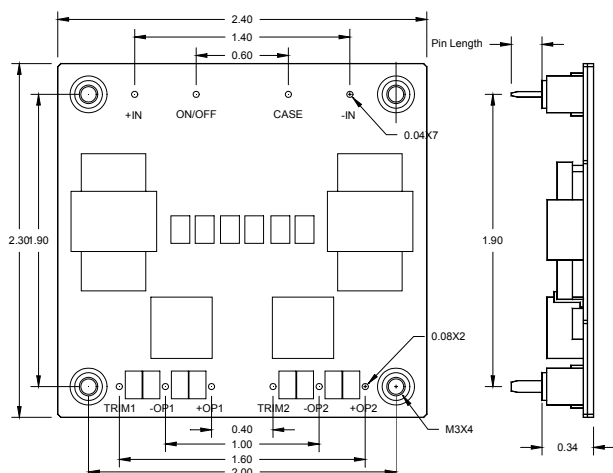




The **CTH485033N20M-1515** features low profile high conversion efficiency that designed for high temperature high slew rate step load applications supplied by a 48V (36~75V) input bus to provide 125 watts power or 15A+15A current with industry standard compatible pin assignments. Isolated two converters inside design is able to replace two bricks provides the best flexibility for many applications.



- High efficiency 90%@5.0V-10A / 3.3V-10A
- High useable current 90%@5.0V-15A / 3.3V-15A
- High power density 5.0V15A / 3.3V15A at 71°C 200LFM
- Low profile 5.0V15A / 3.3V15A at 71°C 400LFM
- Operation temperature 63W/in³
- Module thermal resistance 0.36"(9.1mm)
- Separated regulation and isolation at both outputs -40°C~105°C
- Open frame with Sink-Plate package 2.31°C/W@200LFM

Part Number *	Max. Input	Max. Output	Efficiency
CTH48V1V2ABCD-EFGH	36V~75V	278W 25A/25A	250W 90%

Part Number *	Max. Input	Max. Output	Efficiency
CTH24V1V2ABCD-EFGH	18V~36V	278W 25A/25A	250W 90%

* Options for **CTH Series** are as follows:

V1 (Output voltage): "A5, A2, 50, 33, 25, 18 and 15" for 15V, 12V, 5.0V, 3.3V, 2.5V, 1.8V and 1.5V

V2 (Output voltage): "A5, A2, 50, 33, 25, 18 and 15" for 15V, 12V, 5.0V, 3.3V, 2.5V, 1.8V and 1.5V

A (Enable Logic): "P" for Positive "N" for Negative

B (Pin Length): "0" for 0.12" "1" for 0.16" "2" for 0.20" "3" for 0.24"

C (Total Height): "0" for 0.36" "1" for 0.40" "2" for 0.42" "3" for 0.50"

D (Base Plate): "M" 1.0mm Metal Plate "A" 3.0mm Sink-Plate "B" 5.0mm Sink-Plate

EF (V1 current): "00~99 for Output Current Rating

GH (V2 current): "00~99 for Output Current Rating

Example: **CTH485033N20M-1515** is a 48V to 5.0V15A / 3.3V15A dual output dc/dc converter with negative control logic 0.20" pin length, 0.36" total height and 1.0mm metal plate.

ABSOLUTE MAXIMUM RATINGS

Temperature	Operation	-40°C to +105°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	330KHz
MTBF	Bellcore	3.45×10 ⁶ hrs @40°C-GB.
OTP	Internal	120°C
Weight		1.9 oz
Size		2.30"×2.40"×0.36"

CONTROL FUNCTIONS

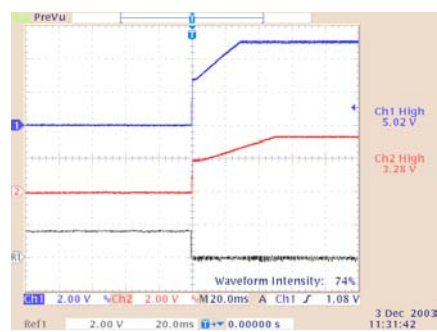
Remote Control	Logic High	+3.0V to +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

INPUT SPECIFICATIONS

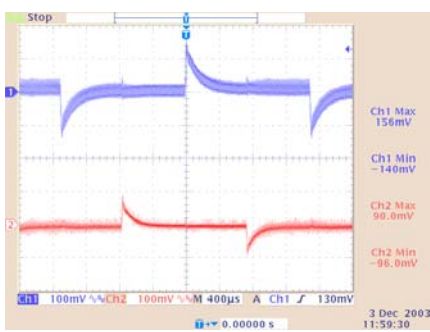
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L _{EXT} = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+17.5V to +17.9Vdc
	48V Models	+35.0V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+16.1V to +16.5Vdc
	48V Models	+32.2V to +33.0Vdc
Off 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

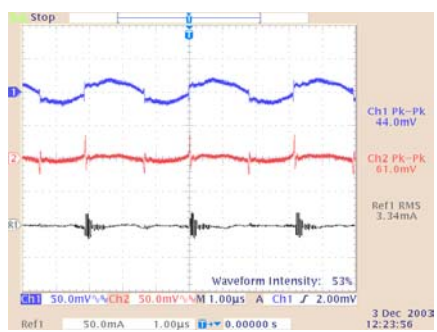
Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.02%/°C
Output Tolerance Band	All Conditions	±3%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V _o
Over Voltage Protection	V _{NOM} , 10% Load	115~130 %Vo
Output Current Limits	V _{NOM}	110%~140%
Voltage Trim	V _{NOM} , 10% Load	+10%/-20%
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
(VIN: 50V, Load: 50A)



Transient Response
(VIN: 50V, Load: 35.0A/25.0A@2.5μs)

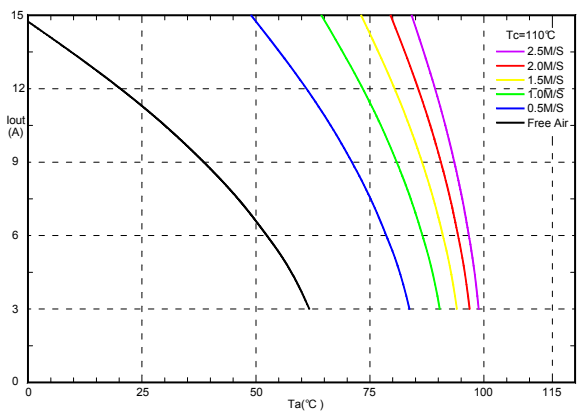


Output Ripple/Noise and Input Ripple Current
(VIN: 50V, Load: 50A, LIN=10uH)

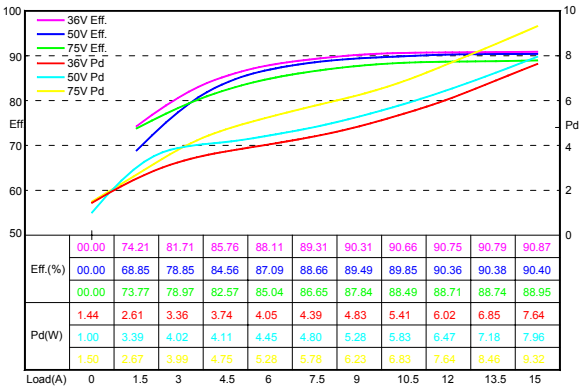
To be provide in next version

To be provide in next version

Thermal Plot with 55°C-200LFM Airflow (Direction: N to S)

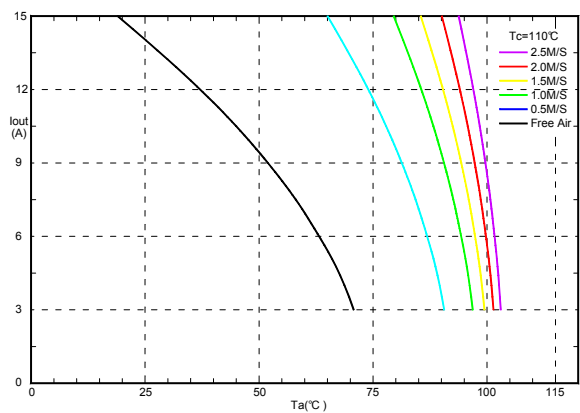


Balance Load Derating Plot of OP1/OP2 Without Heat Sink
(The cooling effect of test PCB was canceled)

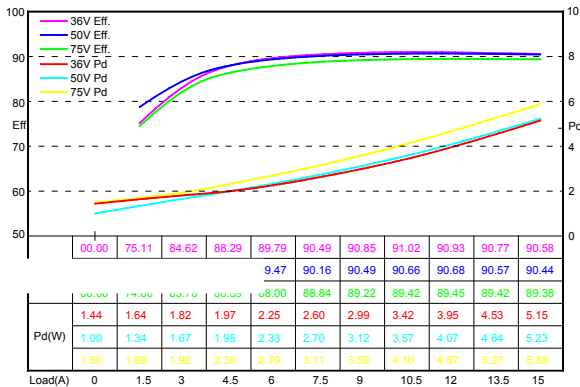


Efficiency and Power Loss of OP1

Thermal Plot with 55°C-200LFM Airflow (Direction: E to W)



Balance Load Derating Plot of OP1/OP2 With 3mm Heat Sink
(The cooling effect of test PCB was canceled)



Efficiency and Power Loss of OP2