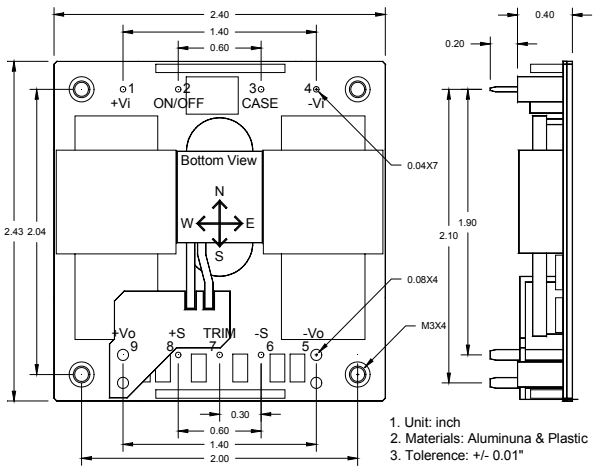
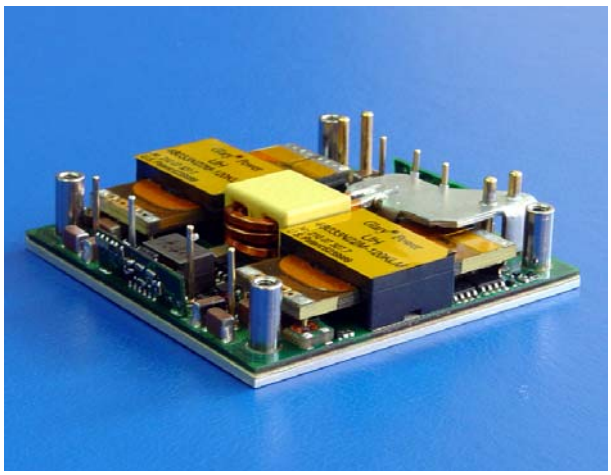
Glary Power Technology

396W/120A
UH48033ABCD-120AB





This module provides 3.3V/120A output with 90% efficiency is designed for data communication, computer servers, enterprise networking equipment and other applications that use a 48V (36~75V) input bus.

PRELIMINARY DATA SHEET

- High efficiency ..... 90%@3.3V/50A
  ..... 89%@3.3V/60A
- High useable current (with 5.0mm Sink-Plate)
  ..... 3.3V/60A at 75°C 200LFM
  ..... 3.3V/50A at 85°C 200LFM
- High power density .....100W/in^3
- Low profile ..... 0.36"(9.1mm)
- Sink-Plate (SP) flexible thermal managing capability (see drawing)

Part Number *	Input		Output		Efficiency
UH48120ABCD-EFG	36V~75V	543W	12V/42A	504W	92%
UH48050ABCD-EFG	36V~75V	543W	5.0V/100A	500W	91%
UH48033ABCD-EFG	36V~75V	435W	3.3V/120A	396W	90%

Part Number *	Input		Output		Efficiency

* Options for **UH48033ASBCD-120** are as follows:

A (Enable Logic): "P" for Positive or "N" for Negative.
B (Pin Dimension): "0" for pin length 0.110", "1" for pin length 0.145" "2" for pin length 0.180", "3" for pin length 0.250"
C (Double Pin): "1" for single pin "2" for double pin
D (Base Plate): "M" 1.2mm Metal Plate "A" 3.0mm Sink-Plate "B" 5.0mm Sink-Plate
EFG (Output): 000~999 for Output Current Rating

Example: **UH48033N22M-120** is an "Ultra" series half brick size 48V to 3.3V/120A dc/dc converter with options of negative control logic and 0.180" pin length, double output pins and 1.2 mm metal plate.

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

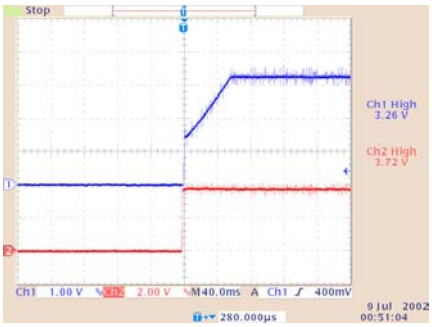
Remote Control	Logic High	+3.0V t0 +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

INPUT SPECIFICATIONS

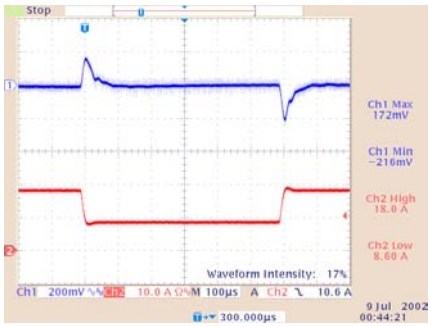
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L_{EXT} = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+17.5V to +17.9Vdc
	48V Models	+35.0V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+17.0V to +17.4Vdc
	48V Models	+34.0V to +34.8Vdc
Off 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

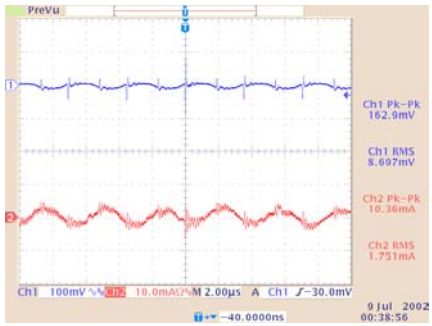
Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.02%/°C
Output Tolerance Band	All Conditions	±3%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V_o
Over Voltage Protection	V_{NOM}, 10% Load	115~130 %Vo
Output Current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



Transient Response
(V_{IN}: 50V, Load: 30.0A/15.0A@2.5A/µS)



Output Ripple/Noise and Input Ripple Current
(V_{IN}: 50V, Load: 100A, L_{IN}=10uH)

To be provide in next version

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

To be provide in next version

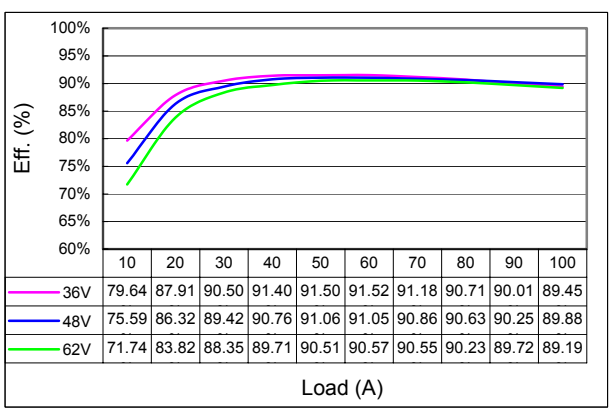
Thermal Plot with 55°C-200LFM Airflow (Direction: E to W)

To be provide in next version

Derating Plot of UH48033-120 With 3.0mm Sink-Plate

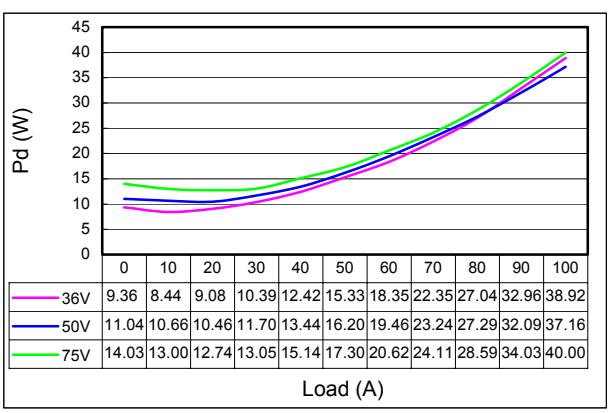
To be provide in next version

Derating Plot of UH48033-120 With 5.0mm Sink-Plate



	10	20	30	40	50	60	70	80	90	100
36V	79.64	87.91	90.50	91.40	91.50	91.52	91.18	90.71	90.01	89.45
48V	75.59	86.32	89.42	90.76	91.06	91.05	90.86	90.63	90.25	89.88
62V	71.74	83.82	88.35	89.71	90.51	90.57	90.55	90.23	89.72	89.19

Efficiency Plot of UH48033-100



	0	10	20	30	40	50	60	70	80	90	100
36V	9.36	8.44	9.08	10.39	12.42	15.33	18.35	22.35	27.04	32.96	38.92
50V	11.04	10.66	10.46	11.70	13.44	16.20	19.46	23.24	27.29	32.09	37.16
75V	14.03	13.00	12.74	13.05	15.14	17.30	20.62	24.11	28.59	34.03	40.00

Power Loss Plot of UH48S033-100