

The PH series provides up to 310W/50A outputs with industry standard half brick package. The efficient Non-SR technology combining with ultra low leakage inductance magnetic gives converters "SR-like" conversion efficiency and high reliability, the single component side board designed with Sink-Plate technology eliminate the hot spot gives converter better thermal performance. Modules are designed for Telecom, Servers, Networking equipments and other applications that use a 24V or 48V (36~75V) input bus.

- High efficiency 90% @ 28V/11A
..... 89% @ 15V/17A
..... 88% @ 12V/21A
- High power density 144W/in³
- Low profile 0.36" (9.1mm)
- Standard footprint 2.30" x 2.40"
- Operation temperature -40°C ~ 105°C
- Sink-Plate (SP) flexible thermal managing capability (see drawing)

Part Number *	Maximum Input	Maximum Output	Efficiency
PH48280ABCD-EF	36V~75V 355W	28V/11A 310W	90%
PH48240ABCD-EF	36V~75V 291W	24V/11A 252W	88%
PH48150ABCD-EF	36V~75V 288W	15V/17A 255W	89%
PH48120ABCD-EF	36V~75V 291W	12V/21A 252W	88%
PH48050ABCD-EF	36V~75V 296W	5.0V/50A 250W	85%

Part Number *	Maximum Input	Maximum Output	Efficiency
PH24280ABCD-EF	18V~36V 355W	28V/11A 310W	88%
PH24240ABCD-EF	18V~36V 291W	24V/11A 252W	87%
PH24150ABCD-EF	18V~36V 288W	15V/17A 255W	89%
PH24120ABCD-EF	18V~36V 291W	12V/21A 252W	87%
PH24050ABCD-EF	18V~36V 296W	5.0V/50A 250W	85%

* Options for PH Series are listed as follows:

- A** (Enable Logic): **P**: Positive **N**: Negative
B (Pin Dimension): **0**: 0.12" **1**: 0.16" **2**: 0.20" **3**: 0.24"
C (Standoff Height): **0**: 0.02" **1**: 0.08" **2**: 0.16"
D (Base-Plate/Module Thickness): **M**: 1.0mm Metal Plate/0.34" **A**: 3.0mm Sink-Plate/0.42" **B**: 5.0mm Sink-Plate/0.50"
E: 1.0mm Metal Plate with Metal Enclosure/0.34"
EF (Output): **00** to **99** for output current rating



Example: **PH48120N00E-21** is a PH series half brick 48V to 12V/21A dc/dc converter with negative control logic, 0.12" pin length, 0.02" of standoff height and 1.0mm Metal Plate with Metal Enclosure. The total height of this module is 0.02"+0.34"=0.36"

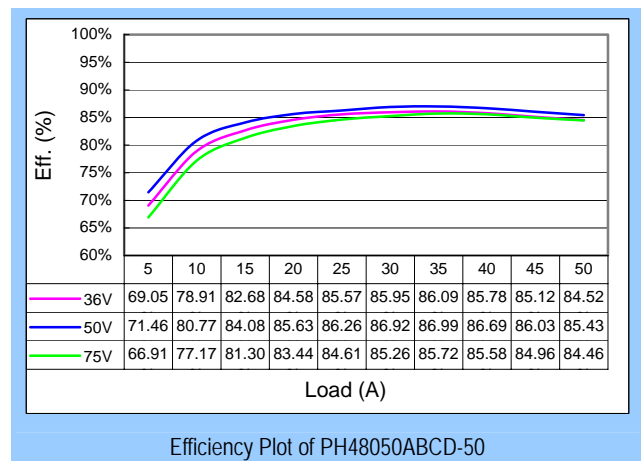
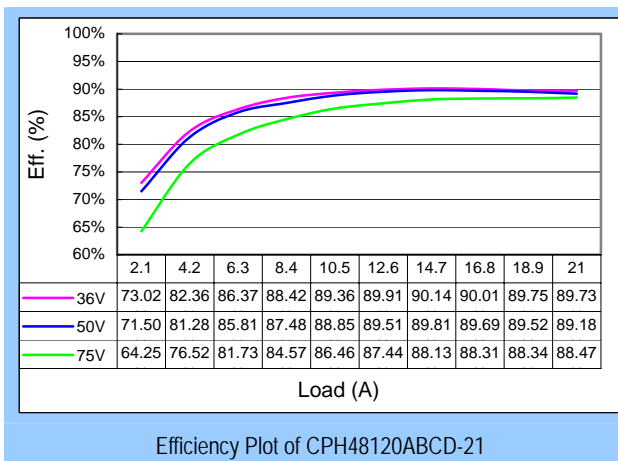
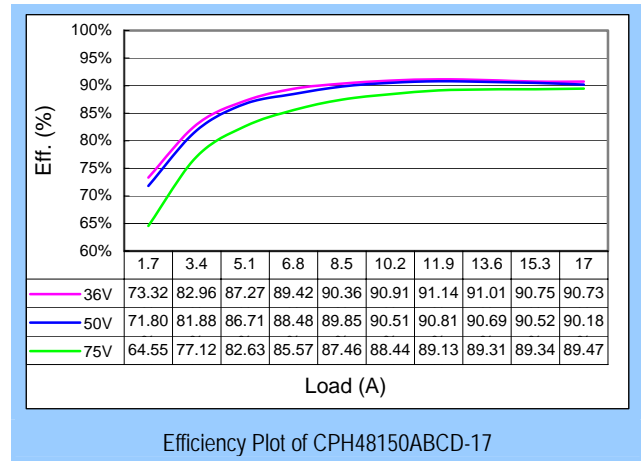
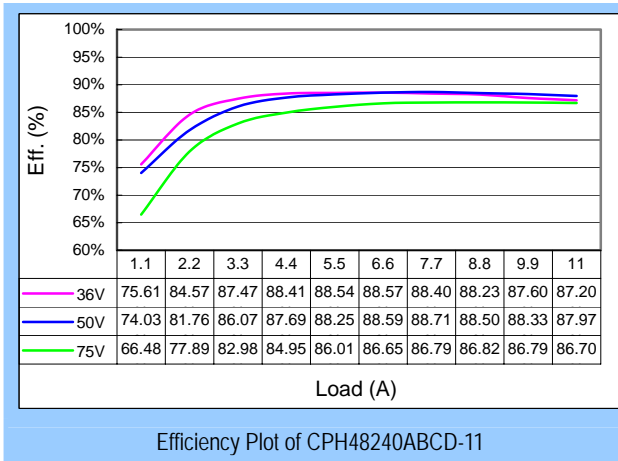
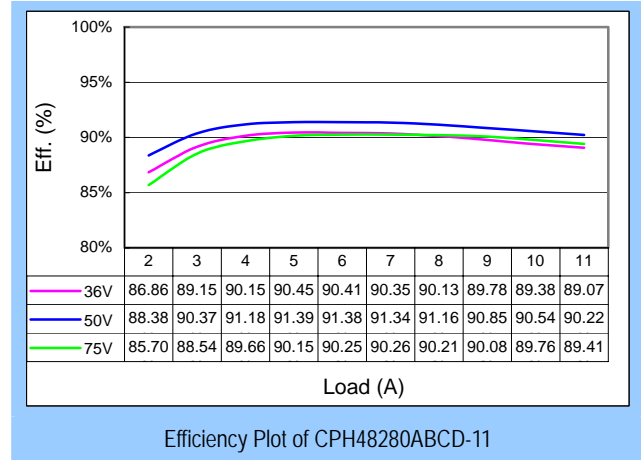
ABSOLUTE MAXIMUM RATINGS		
Temperature	Operation	-40°C to +120°C
	Storage	-55°C to +125°C
Input Voltage Range	Operation:	
	24V Models	-0.5V to +40Vdc
	48V Models	-0.5V to +80Vdc
	Transient (100mS):	
24V Models	50V Maximum	
48V Models	100V Maximum	
Isolation Voltage	Input to Output	2.0KV Minimum
	Input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

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

GENERAL SPECIFICATIONS		
Conversion Efficiency	Typical	See table
Switching Frequency	Typical	360KHz
MTBF	Bellcore	4.56×10 ⁶ hrs @GB.
OTP	Internal	115°C
Weight		1.9 oz or 3.2 oz
Size		2.30" x 2.40" x 0.36"

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 %V _o
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/500uS
Start-Up Delay Time	V _{NOM} , Full Load	20mS/250mS

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



NOTE

1. 20MHz bandwidth current probe measured without an external filter.
2. Output ripple and noise is measured by using the proposed test method of Glary Power Technology Co. Ltd.
3. Input fusing is required and recommended to base on surge current and maximum input current.
4. Case and base-plate should be connected to AC ground to maintain good EMC performance.
5. Case and base-plate should be inaccessible to prevent the damage from highly operating temperature.
6. Contact Glary Power Technology for non-standard inquiry.