

The COQ series provides up to 180W/50A outputs with industry standard quarter brick package. The efficient SR stage combining with patented "Buck Reset" topology reduce power loss to achieve 145W/in<sup>3</sup> power density, 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% @ 5.0V/35A  
..... 86% @ 2.5V/50A  
..... 86% @ 1.8V/50A
- High useable current (with metal plate)  
..... 2.5V/32A at 70°C 200LFM  
..... 1.8V/39A at 70°C 200LFM  
..... 1.5V/39A at 70°C 200LFM
- Sink-Plate (SP) flexible thermal managing capability (see drawing)

Part Number *	Maximum Input	Maximum Output	Efficiency
COQ48120ABCD-EF	36V~75V 184W	12V/14A 168W	91%
COQ48050ABCD-EF	36V~75V 195W	5.0V/35A 175W	90%
COQ48033ABCD-EF	36V~75V 131W	3.3V/35A 116W	89%
COQ48025ABCD-EF	36V~75V 146W	2.5V/50A 125W	86%
COQ48018ABCD-EF	36V~75V 106W	1.8V/50A 90W	86%
COQ48015ABCD-EF	36V~75V 90W	1.5V/50A 75W	84%

Part Number *	Maximum Input	Maximum Output	Efficiency
COQ24120ABCD-EF	18V~36V 160W	12V/12A 144W	91%
COQ24050ABCD-EF	18V~36V 168W	5.0V/30A 150W	90%
COQ24033ABCD-EF	18V~36V 131W	3.3V/35A 116W	89%
COQ24025ABCD-EF	18V~36V 113W	2.5V/40A 100W	89%
COQ24018ABCD-EF	18V~36V 106W	1.8V/50A 90W	86%
COQ24015ABCD-EF	18V~36V 90W	1.5V/50A 75W	84%

\* Options for **COQ Series** are listed as follows:

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

Example: **COQ48033N00A-35** is a **COQ** series quarter brick 48V to 3.3V/35A dc/dc converter with negative control logic, 0.12" pin length, 0.02" of standoff height and 3.0mm Sink-Plate. 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

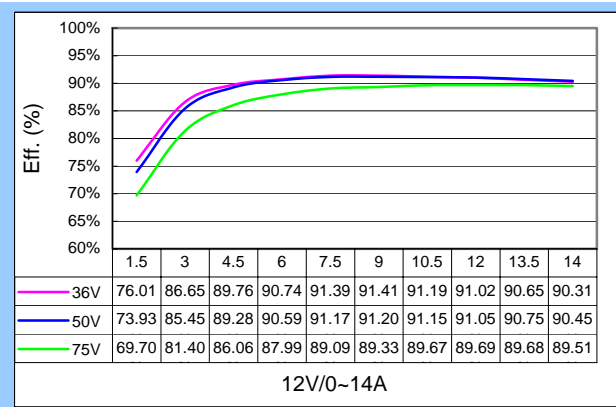
INPUT SPECIFICATIONS		
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L <sub>EXT</sub> = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+17.5V to +17.9Vdc
	48V Models	+35.0V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+17.0V to +17.4Vdc
	48V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

GENERAL SPECIFICATIONS		
Conversion Efficiency	Typical	See table
Switching Frequency	Typical	300KHz
MTBF	Bellcore	4.94×10 <sup>6</sup> hrs @GB.
OTP	Internal	115°C
Weight		1.1 oz
Size		2.30"x1.45"x0.36"

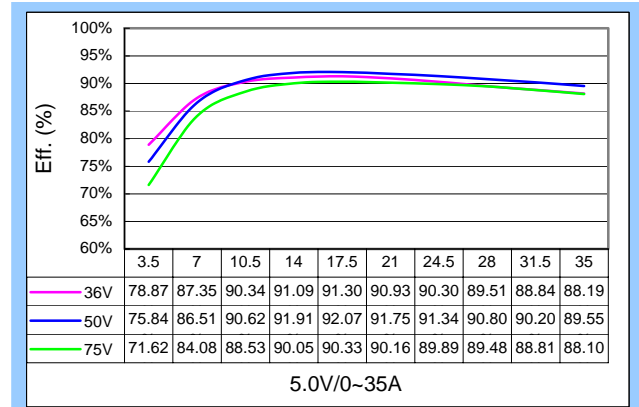
OUTPUT SPECIFICATIONS		
Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.02%/°C
Output Tolerance Band	All Conditions	±3%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V <sub>o</sub>
Over Voltage Protection	V <sub>NOM</sub> , 10% Load	115~130 %V <sub>o</sub>
Output Current Limits	V <sub>NOM</sub>	105%~125%
Voltage Trim	V <sub>NOM</sub> , 10% Load	±10%
Input Ripple Rejection (<1KHz)	V <sub>NOM</sub> , Full Load	-50dB
Step Load (2.5A/uS)	50%~75% Load	300mV/500uS
Start-Up Delay Time	V <sub>NOM</sub> , 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

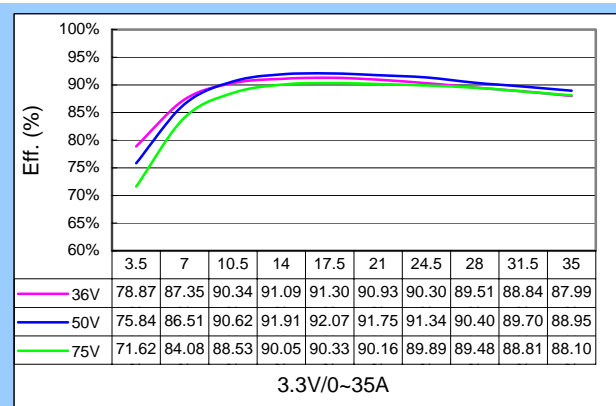




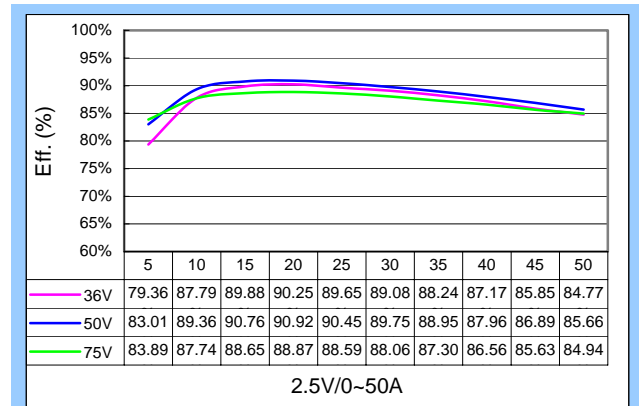
Efficiency Plot of COQ48120ABCD-14



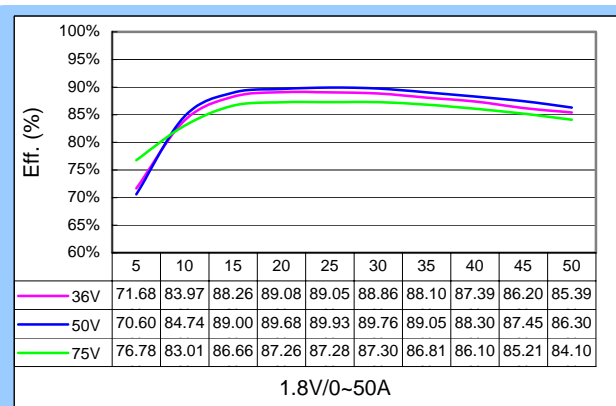
Efficiency Plot of COQ48050ABCD-35



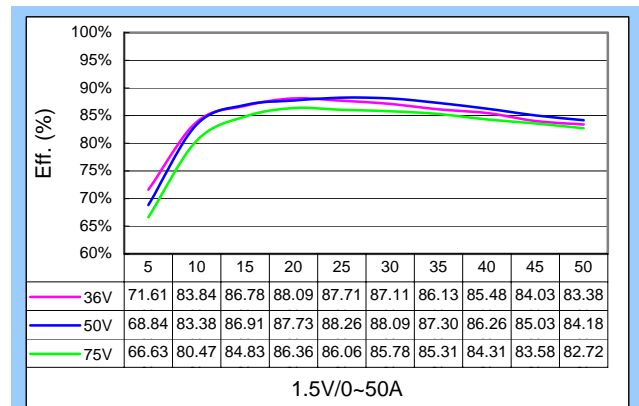
Efficiency Plot of COQ48033ABCD-35



Efficiency Plot of COQ48025ABCD-50



Efficiency Plot of COQ48018ABCD-50



Efficiency Plot of COQ48015ABCD-50

## NOTE

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