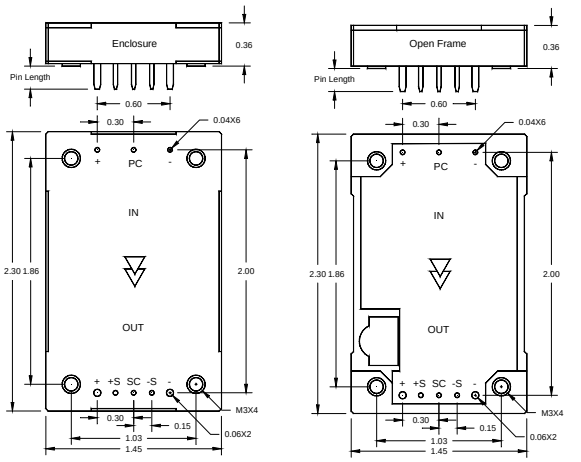
Glary Power Technology

CBQ 125W/25A
1/4 Brick DC/DC Converters



The CBQ series provides up to 125W/25A outputs with industry standard quarter brick package. The efficient SR stage combining with patented "Buck Reset" topology reduce power loss to achieve 104W/in^3 power density, the 90% efficiency; creative design technology and highly thermal conductivity IMS base-plate 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/25A
  ..... 89%@3.3V/25A
  ..... 85%@1.8V/25A
- High useable current (with no heat sink)
  ..... 5.0V/19A at 50°C 200LFM
  ..... 3.3V/25A at 50°C 200LFM
  ..... 1.8V/25A at 65°C 200LFM
- Open frame and metal enclosed package

Part Number *	Maximum Input		Maximum Output		Efficiency
CBQ10048S5V0-LABC	36V~75V	141W	5.0V/25A	125W	90%
CBQ10048S3V3-LABC	36V~75V	95W	3.3V/25A	83W	89%
CBQ10048S2V5-LABC	36V~75V	74W	2.5V/25A	63W	87%
CBQ10048S2V0-LABC	36V~75V	59W	2.0V/25A	50W	85%
CBQ10048S1V8-LABC	36V~75V	54W	1.8V/25A	45W	85%
CBQ10048S1V5-LABC	36V~75V	46W	1.5V/25A	38W	83%

Part Number *	Maximum Input		Maximum Output		Efficiency
CBQ10024S5V0-LABC	18V~36V	141W	5.0V/25A	125W	89%
CBQ10024S3V3-LABC	18V~36V	95W	3.3V/25A	83W	88%
CBQ10024S2V5-LABC	18V~36V	74W	2.5V/25A	63W	86%
CBQ10024S2V0-LABC	18V~36V	59W	2.0V/25A	50W	85%
CBQ10024S1V8-LABC	18V~36V	54W	1.8V/25A	45W	84%
CBQ10024S1V5-LABC	18V~36V	46W	1.5V/25A	38W	83%

* Options for **CBQ Series** are 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 (Package Option): **E**: Enclosure with silicone potting **O**: Open frame

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Example: **CBQ10048S5V0-LP2E** is a ***CBQ*** series quarter brick size 48V to 5.0V/25A dc/dc converter with options of positive control logic, 0.20" pin length and metal enclosure with silicone potting.

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	1.5KV 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	4.94×10^6 hrs @GB.
OTP	Internal	115°C
Weight		1.1 oz or 1.9 oz
Size		2.30"×1.45"×0.36"

CONTROL FUNCTIONS

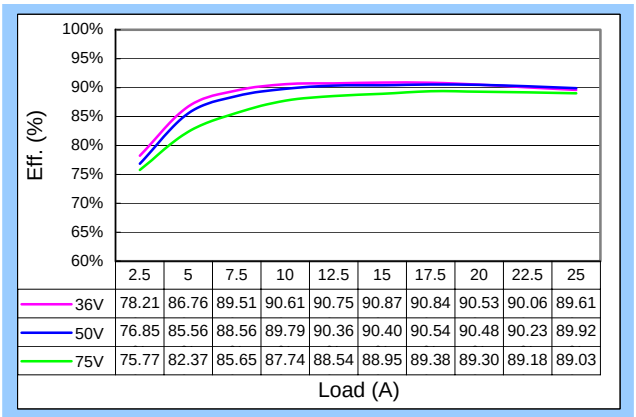
Remote Control	Logic High	+3.0V t0 +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

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

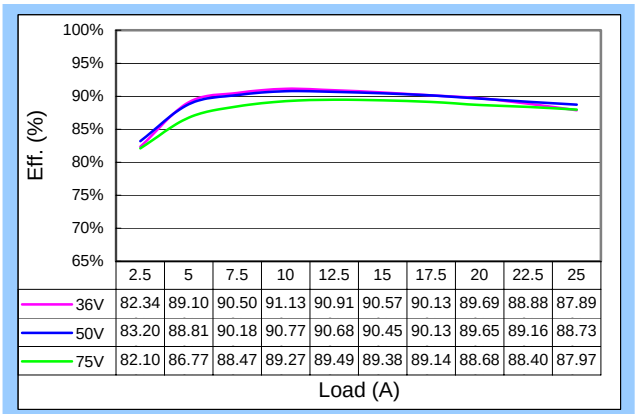
OUTPUT SPECIFICATIONS

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/500uS
Start-Up Delay Time	V_{NOM}, Full Load	20mS/250mS



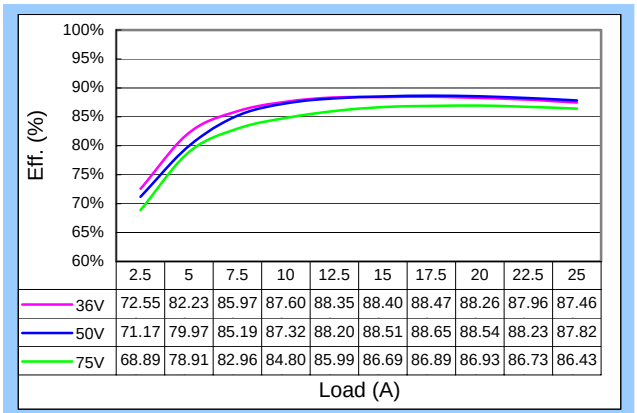
	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25
36V	78.21	86.76	89.51	90.61	90.75	90.87	90.84	90.53	90.06	89.61
50V	76.85	85.56	88.56	89.79	90.36	90.40	90.54	90.48	90.23	89.92
75V	75.77	82.37	85.65	87.74	88.54	88.95	89.38	89.30	89.18	89.03

Efficiency Plot of CBQ48S050-LABC



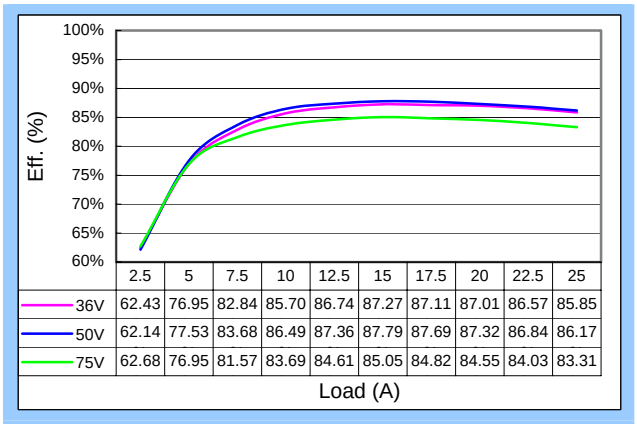
	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25
36V	82.34	89.10	90.50	91.13	90.91	90.57	90.13	89.69	88.88	87.89
50V	83.20	88.81	90.18	90.77	90.68	90.45	90.13	89.65	89.16	88.73
75V	82.10	86.77	88.47	89.27	89.49	89.38	89.14	88.68	88.40	87.97

Efficiency Plot of CBQ48S033-LABC



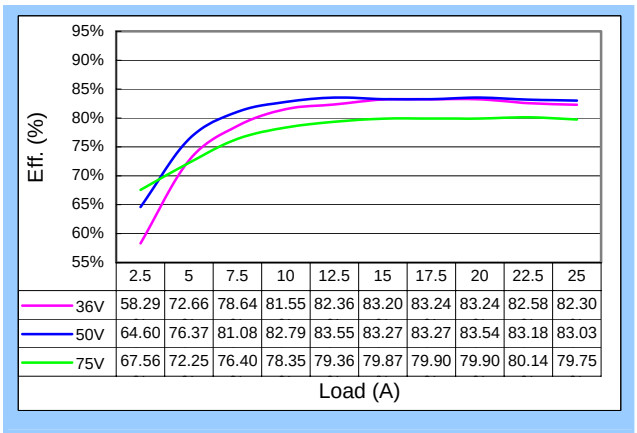
	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25
36V	72.55	82.23	85.97	87.60	88.35	88.40	88.47	88.26	87.96	87.46
50V	71.17	79.97	85.19	87.32	88.20	88.51	88.65	88.54	88.23	87.82
75V	68.89	78.91	82.96	84.80	85.99	86.69	86.89	86.93	86.73	86.43

Efficiency Plot of CBQ48S025-LABC



	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25
36V	62.43	76.95	82.84	85.70	86.74	87.27	87.11	87.01	86.57	85.85
50V	62.14	77.53	83.68	86.49	87.36	87.79	87.69	87.32	86.84	86.17
75V	62.68	76.95	81.57	83.69	84.61	85.05	84.82	84.55	84.03	83.31

Efficiency Plot of CBQ48S018-LABC



	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25
36V	58.29	72.66	78.64	81.55	82.36	83.20	83.24	83.24	82.58	82.30
50V	64.60	76.37	81.08	82.79	83.55	83.27	83.27	83.54	83.18	83.03
75V	67.56	72.25	76.40	78.35	79.36	79.87	79.90	79.90	80.14	79.75

Efficiency Plot of CBQ48S015-LABC

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.