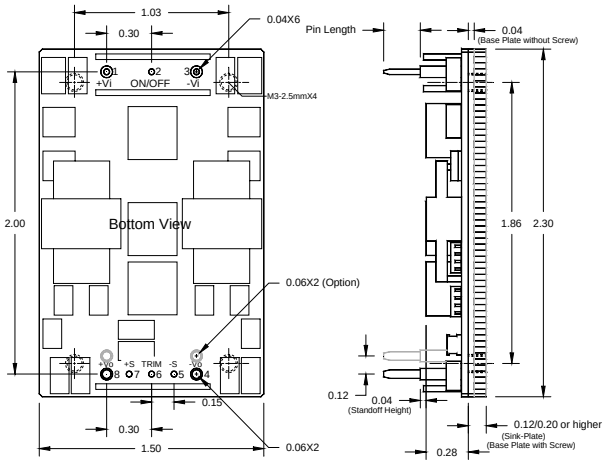
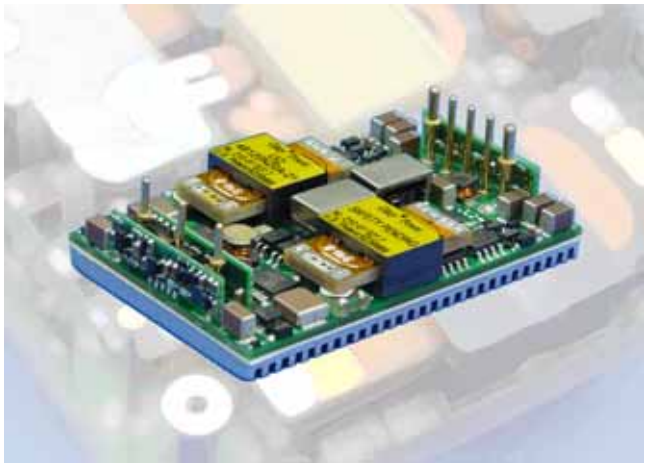
Glary Power Technology

Quarter Brick
UQ48050ABCD-50





The UQ48050ABCD-50 power module is designed to meet high efficiency and low profile requirements for telecommunication, computer servers, enterprise networking equipment and other applications that use a 48V (36~75V) input bus.

- High efficiency ..... 92%@5V/50A
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- High useable current (5.0mm Sink-Plate)
  ..... 12V/14A at 70°C 200LFM
  ..... 12V/18A at 70°C 300LFM
- High power density ..... 174W/in^3

PRELIMINARY DATA SHEET

Part Number *	Maximum Input		Maximum Output		Efficiency
UQ48120ABCD -21	36V~75V	275W	12V/21A	252W	91%
UQ48050ABCD -50	36V~75V	275W	5.0V/50A	250W	91%
UQ48033ABCD -60	36V~75V	221W	3.3V/60A	198W	90%
UQ48025ABCD -80	36V~75V	230W	2.5V/80A	200W	88%
UQ48018ABCD -100	36V~75V	210W	1.8V/100A	180W	86%
UQ48015ABCD -100	36V~75V	180W	1.5V/100A	150W	84%

Part Number *	Maximum Input		Maximum Output		Efficiency

* Options for **UQ48050ABCD-EF** 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 (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"
EF (Output): **00** to **99** for output current rating

Example: **UQ48050P20B-50** is an "Ultra" series quarter brick 48V to 5V/50A dc/dc converter with options of positive control logic, 0.20" pin length, 0.02" standoff height and 5.0mm Sink-Plate. The total height is 0.02"+0.5"=0.52".

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		1.45 oz
Foot Print		2.30"×1.50"

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	15uF 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