



# MCube™ MCXX Series

Isolated Ultra-Wide Input DC-DC Converters

Rev.1 --- July.2013

Preliminary Datasheet\*\*\*

## 1. APPLICATIONS

- Internal and external wall | desk mount USB power
- Isolated Power for Business machine | Appliances | Industrial standby power
- High Power density constant current modules for LED drivers
- Industrial control | Auxiliary power | Solar | Wind | Electric vehicles
- Miniature power adapters requiring high efficiency and wide input voltages

## 2. DESCRIPTION

MCubes™ provide cost effective miniaturization requiring no additional heat sinks for use up to 60°C ambient temperatures. MCubes™ deliver either Constant Voltage(CV) or Constant Current(CC) output. MCubes™ save by reducing system PCB cost, engineering expenses, regulatory time and approval cost. MCube's™ are fully isolated, water resistant and easy to use. MCubes™ are built to suit customer applications for specific requirements. MCubes™ can be purchased directly or contract manufactured under license in either North America or Asia.

## 3. FEATURES

- Auto recovery current limit Typ. +130%
- Low quiescent power draw < 50mW ^ (Load Hunting™)
- -40 to +60°C operation with no de-rating
- Low noise and ripple Typ. < 1%
- Voltage Regulation ± 5% over all line and load conditions

^Protected by patents 8,036,002 + 8,040,694 additional patents pending

## 4. SELECTION GUIDE

Product ID*	Input Range	Vout Options**	Output Current		Max Power(MP)	Configuration
	V	V	Min. (A)	Max. (A)	W	Modes
MCXX048	48	S	0	MP/V	36	CV/CC
MCXX012	100-200	S	0	MP/V	25	CV/CC
MCXX024	200-400	S	0	MP/V	25	CV/CC
MCXX014	100-400	S	0	MP/V	20	CV/CC

\*XX - See Next Page for Series ID

\*\*S - Standard of 5V or 12V or 24V



\*\*\*\* Compliances Pending

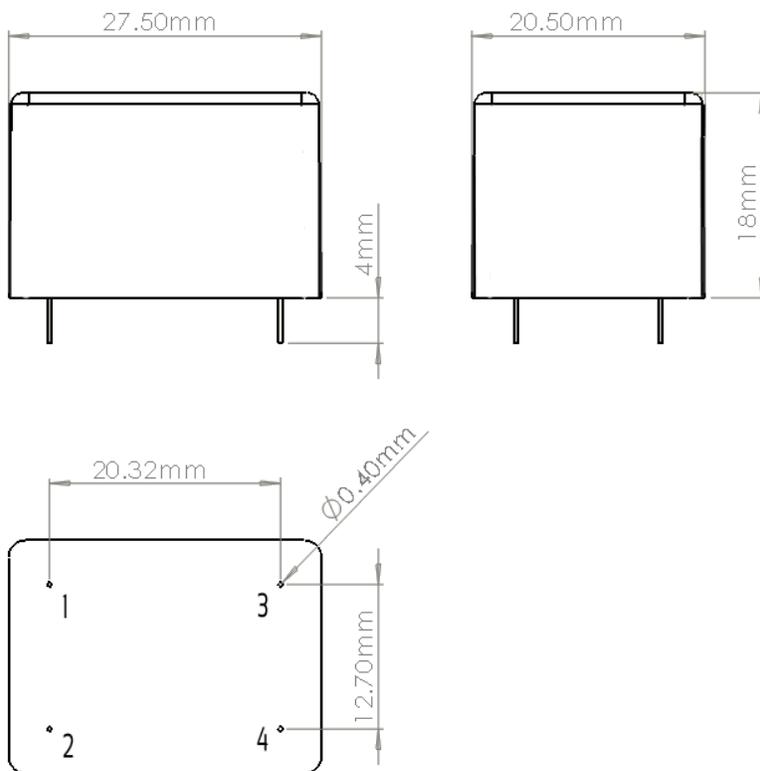
\*\*\*All information presented are subject change without notice



**5. EFFICIENCY**

SERIES	ITEM DESCRIPTION	VOUT.	MIN.	TYP.	MAX.
<b>MCSR</b>	<b>Synchronous Rectifier</b> High Efficiency   Low Temperature Rise   Low Noise	5V	83%	86%	90%
<b>MCDR</b>	<b>Diode Rectifier</b> Low Cost   Low Noise & Ripple   High MTBF	5V	80%	83%	85%
<b>MCCC</b>	<b>LED Driver</b> Constant Current   High Power Factor > 0.9	30V	83%	85%	92%

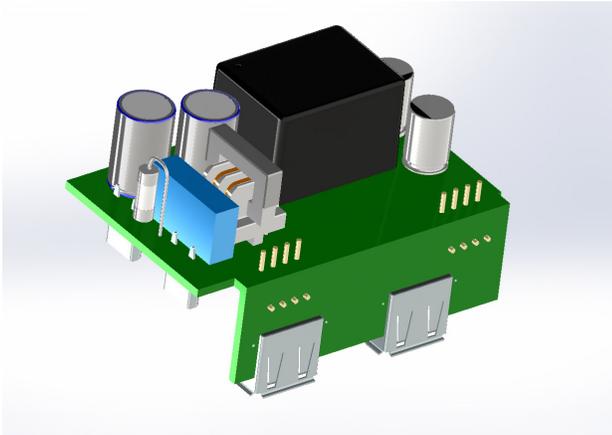
**6. DIMENSIONS**



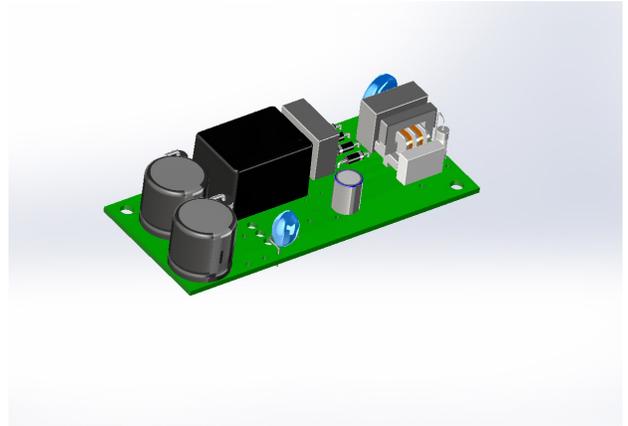
Pin #	Function
1	+V
2	-V
3	VOUT
4	GND

## 7. Application

### Wall Mount USB Adapter



### LED Driver



## 8. Datasheet Status

Document status [1]	Product Status	Definition
Objective datasheet	Development	This document contains data from the objective specification for product development
Preliminary datasheet	Qualification	This document contains data from the preliminary specification
Product datasheet	Production	This document contains the product specification

[1] Please consult the most recently issued document before initiating or completing a design

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# HPS

**M**CUBE<sup>®</sup>

Cost Effective Isolated Power  
Space Saving Modular Design  
Highly Efficient, No heat sinks