

# DC/DC Converters

High Efficiency, 4.2V Synchronous B-B Version

## Features Highlights

- ◆ Small size 27x47mm
- ◆ Wide input range 2.6V to 10V.
- ◆ Fix 4.2V Output
- ◆ Adjustable Frequency 650kHz Default
- ◆ Current up to 3A
- ◆ No heat-sink required
- ◆ Over-temperature protection
- ◆ Individual Output current limit
- ◆ Input Under Voltage protection
- ◆ Chip Logic Enable (Low – Enable)
- ◆ Start up from 2.6V – 10V
- ◆ Step up efficiency up to 91.5%
- ◆ Step Down efficiency up to 97.9%



The new series Synchronous B-B step-up /step-down dc/dc Converter is able to effectively output voltage no matter it is higher, lower or equal to the input voltages. A high efficiency up to 98 % allows full load operation up to +60°C ambient temperature without the need of any heat-sink or forced air cooling.

## Models

Order code <sup>1)</sup>		Input voltage range <sup>2)</sup> / (nominal)	Output voltage	Output current max.	Efficiency typ.	
Straight Pins	Solder Pad				@ Vin 2.7V.	@ Vin 5V.
WC-UD-26-10-4.2-SPin	WC-UD-26-10-4.2-SPad	Positive output circuit				
		2.6 – 10 VDC	4.2 VDC	2.0A (peak 3A)	91.5 %	97.9 %

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### Input Specifications

No load input current	<= 3-5 VDC output models: 1 mA typ. >= 5.0 VDC Output models: 2 mA typ
Reflected ripple current	50 mA typ.
Input filter	internal capacitors

### Output Specifications

Voltage set accuracy	±1 % (at full load)
Regulation	– Input variation 0.2 % – Load variation (10 – 100 %) 3-5 VDC models: 0.6 %
Minimum load	not required
Ripple and noise (20 MHz Bandwidth)	1.5 – 6.5 VDC models: -- mVpk-pk max.
Temperature coefficient	±0.015 % / °C max.
Dynamic load response (change of 50% to 100% load)	---- mV max. peak variation --- µS max. response time
Startup time	– start up time at nominal Vin, constant resistive load 5 mS typ. – rise time for 10 % to 90 % Vout 3.5 mS typ.
Short circuit protection	---
Input Current limitation	at 5.0 A typ. (8A Fuse)
Capacitive load	--- µF max.

### General Specifications

Temperature ranges	– Operating –10°C to +75°C – Max. temperature +85°C – Storage –55°C to +105°C
Isolation voltage	none
Switching frequency	3.0 – 5.0 VDC models: 400-650 kHz typ.

### Physical Specifications

PCB material	flammability to UL 94V-0 rated
Weight	6 g
Soldering profile	max. +265°C / 10 sec.
Environmental compliance	– RoHS

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

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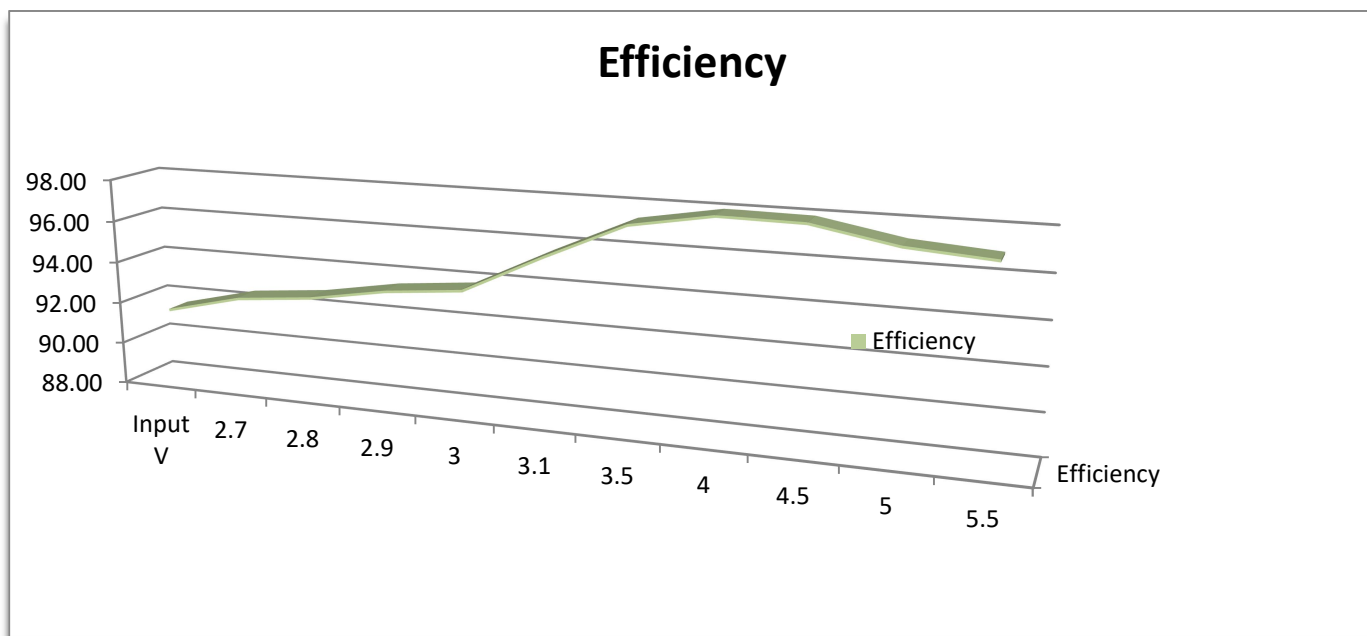
### Outline Dimensions

Dimensions : 127x47x1mm

### Pin-Out

Pin	Name	Mark
1	Battery +	B+
1	Battery -	B-
3	O/P +	P+
4	O/P -	P-

### Efficiency



-Thermal Image : Input 2.7V Output 4.2V Loading 2A



Specifications can be changed without notice! Make sure you are using the latest documentation,

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