Build it

DC to DC Converter Module
BCDDC Series Datasheet

Table of Contents

Introduction

  This document describes BCDDC Series implementing high efficiency, low quiescent current buck-boost converter based on the "Texas Instruments TPS63070 IC".

  BCDDC Series Output currents can go as high as 2 A in boost mode and in buck mode. The buck-boost converter is based on a fixed frequency, pulse-width modulation (PWM) controller using synchronous rectification to obtain maximum efficiency. At low load currents, the converter enters Power Save Mode to maintain high efficiency over a wide load current range.

  USB type is a USB to serial UART interface based on the "FTDI Chip FT230X IC" with 3.3 Volt fixed Voltage DC to DC Converter.

  There are 5 kinds of BCDDC Series.

- BCDDCF033 : Fixed Voltage out type DC to DC Converter (3.3V/2A)
- BCDDCF050 : Fixed Voltage out type DC to DC Converter (5V/2A)
- BCDDCF090 : Fixed Voltage out type DC to DC Converter (9V/2A)
- BCDDCA090 : Adjustable Voltage/2A Out DC to DC Converter(Select 2.5~9V/2A)
- BCDDCU033 : USB Type Converter. Micro USB input fixed Voltage out(3.3, 5V/2A) type DC to DC Converter + USB to TTL Converter

Feature

DC to DC Converter Feature

- Input Voltage Range: 2.0 V to 16 V
- Output Voltage Range: 2.5 V to 9 V
- Up to 95% Efficiency
- +3% / -1% DC accuracy
- 2 A Output Current in Buck Mode
- 2 A Output Current in Boost Mode (VIN = 4 V; Vout = 5 V)
- Precise ENABLE input allows – user defined undervoltage lockout – exact sequencing
- Automatic Transition Between Step Down and Boost Mode
- Typical Device Quiescent Current: 50 μA

USB to TTL Converter Feature

USB Type Driver Support

Royalty free VIRTUAL COM PORT (VCP) DRIVERS

- Windows 10 32,64 bit
- Windows 8/8.1 32,64-bit
- Windows 7 32, 64-bit
- Windows Vista and Vista 64-bit
- Windows XP and XP 64-bit
- Server 2003, XP and Server 2008/2012
- Windows XP Embedded
- Windows CE 4.2-5.2, 6.0, 7.0, 2013
- Mac OS-X
- Linux 3.2 and greater
- Android

Royalty free D2XX Direct Drivers (USB Drivers + DLL S/W Interface)

- Windows 10 32,64 bit
- Windows 8/8.1 32,64-bit
- Windows 7 32,64-bit
- Windows Vista and Vista 64-bit
- Windows XP and XP 64-bit
- Server 2003, XP and Server 2008/2012
- Windows XP Embedded
- Windows CE 4.2-5.2, 6.0, 7.0, 2013
- Mac OS-X
- Linux 2.6 and greater
- Android

Specifications

USB Type Specifications

Parameter	Min.	Typ.	Max.	Unit
Input Voltage Range	2.97	5	5.5	V
Output Current			2	A
Output Voltage Range		3.3		V
Output Voltage Accuracy			3	%
Oscillator Frequency	2100	2400	2700	kHz
Positive Input Current Limit	3050	3600	4150	mA
Negative Input Current Limit	1100	1800		mA
Operating Junction Temperature Range	-40		125	ºC

Fixed / Adjustable Voltage Type Specifications

Parameter	Min	Typ	Max	UNIT
Input Voltage Range	2		16	V
Output Current			2	A
Output Voltage Range	2.5		9	V
Output Voltage Accuracy			3	%
Oscillator Frequency	2100	2400	2700	kHz
Positive Input Current Limit	3050	3600	4150	mA
Negative Input Current Limit	1100	1800		mA
Operating Junction Temperature Range	-40		125	ºC

Pin Out Description

Fixed Voltage Type
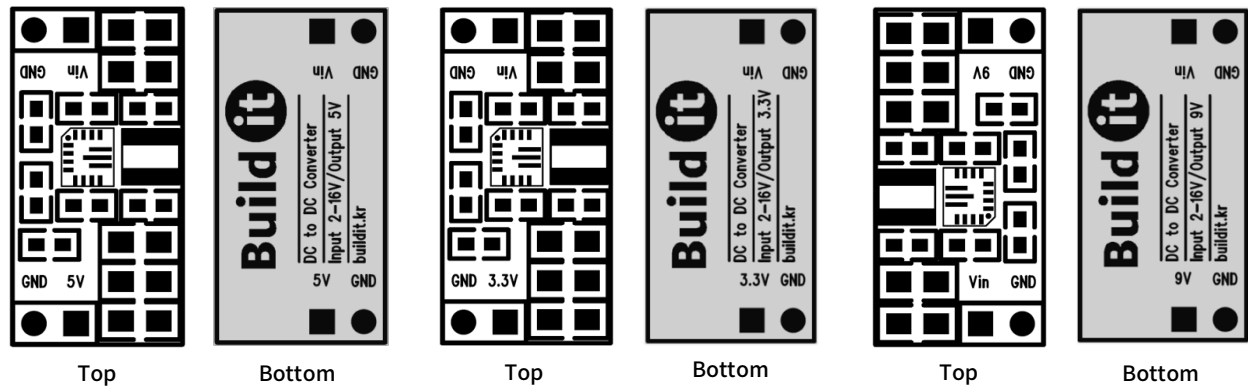
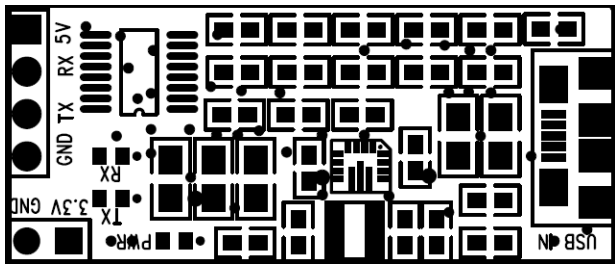| Top | Bottom | Top | Bottom | Top | Bottom |

PIN	Description
Vin	Converting input Voltage (2.0 Volt to 16 Volt). And supply for operating IC
GND	Ground
3.3V / 5V / 9V	Converting output fixed Voltage (3.3 Volt, 5 Volt, 9 Volt)
GND	Ground

Adjustable Voltage Type
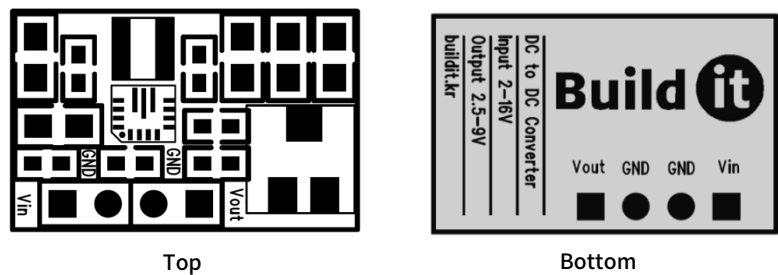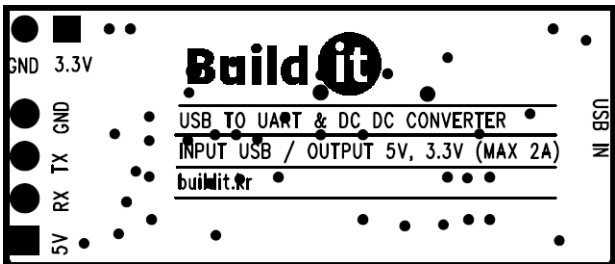

| Top | Bottom |

PIN	Description
Vin	Converting input Voltage (2.0 Volt to 16 Volt). And supply for operating IC
GND	Ground
Vout	Converting output Voltage (2.5 Volt to 9 Volt). User can select Voltage by adjust type resistor
GND	Ground

USB Type

Top   Bottom

PIN	Description
USB IN	Micro 5pin USB In (A/B type)
5V	Bypass USB Input Voltage through EMI Filter
RX	USB D- for Receive Data
TX	USB D+ for Send Data
GND	Ground
3.3V	Converting output fixed Voltage (3.3 Volt)
GND	Ground

Dimensions

Fixed Type

Adjustable Type

USB Type

(mm)