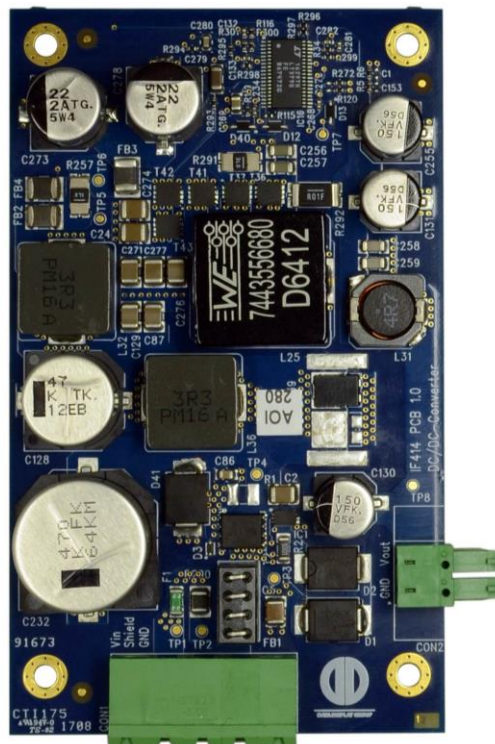


Datasheet

Wide-Range-DC-DC-Converter IF414 Wide-Range DC/DC regulator

ZU-02-414



Version 1.0

09.05.2017

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1 Revision History

Date	Rev. No.	Description	Page
09.05.2017	1.0	Initial version	All



2 Overview

The high efficiency, wide Range DC-DC converter provides a constant output voltage from a wide voltage range input and is designed to operate reliably in harsh usage environments, such as automotive applications. This wide-range DC converter operates with a wide input voltage range and is able to handle input voltage drops (e.g. bus, train, truck).

3 Features

- Wide range Power input (V_{IN}) = +8V...+36V
- Output Voltage (V_{OUT}) = 12V
- Up to 5A output current
- Wide Top
- Transient Over Voltage Protection
- Reverse Input Voltage Protection
- Input EMI-Filter
- Output Short Circuit Protection
- Low-Voltage Drop Protection

4 Electrical Characteristics

All measurements done at 25°C ambient temperature.

Item	Condition	MIN.	TYP.	MAX.	Unit	Note
Supply input Voltage (V_{IN})		+8	+28	+36	VDC	1
Output Voltage (V_{OUT})		+11.5	+12	+12.2	VDC	
Output Current		0	-	5	A	1
Current Consumption (28V)	Board Only	46	51	56	mA	-

Note (1): Please see Chapter 6 "Thermal Derating Characteristics"

5 Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Note
Supply Voltage	V_{IN}	0	+38	VDC	1, 2, 3,4
Storage Temperature	T_{ST}	-30	+85	°C	
Operating Temperature	T_{OP}	-20	+80	°C	

Note (1): Within operating temperature range.

Note (2): Permanent damage to the device may occur if maximum values are exceeded.

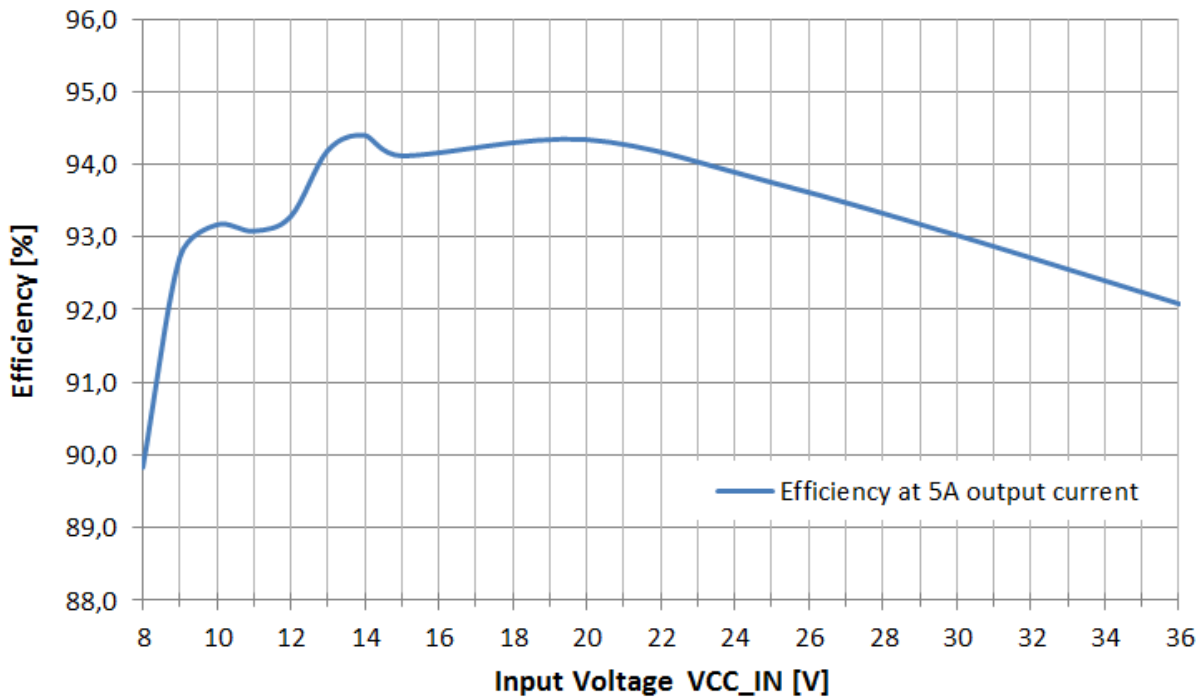
Note (3): The DC-DC Converter is resistant to instantaneous peaks (10/1000us wave form) up to 58V.

Note (4): Reverse Input Voltage Protection to -36V.

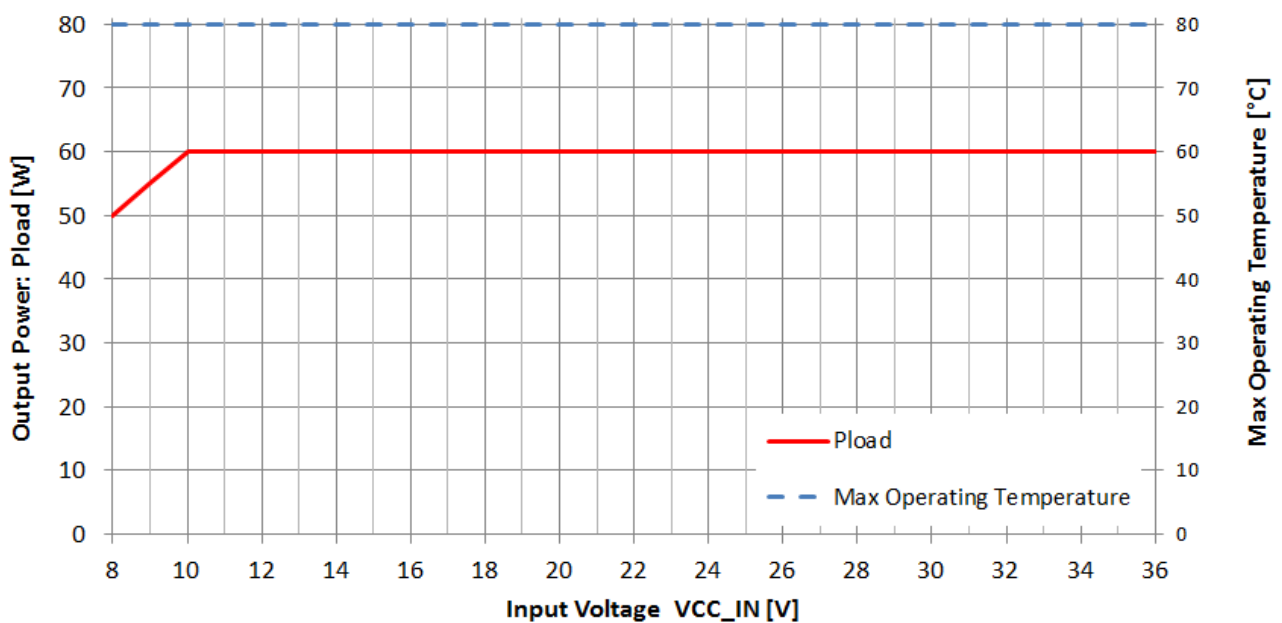


6 Efficiency, Power and Thermal Derating Characteristics

Efficiency Characteristics

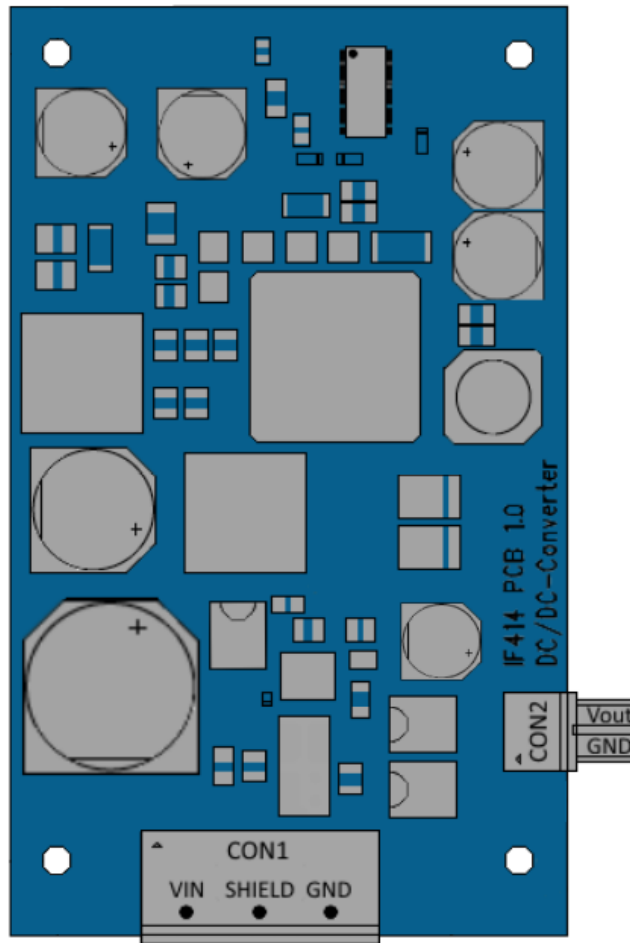


Power and Thermal Derating Characteristics





7 Connector Overview



Connector	DESCRIPTION	TYPE	Matching Part	MANUFACTURER
CON 1	Power Supply Input	MSTB 2,5/ 3-GF-5,08 (1776511)	MVSTBW 2,5/ 3-STF-5,08 (1834916)	Phoenix Contact
CON 2	Power Supply Output	WE 691 309 310 002	Cable to Board: WE 691 348 300 002 Board to Board WE 691 322 310 002	Würth

7.1 CON1: Power Supply Connector

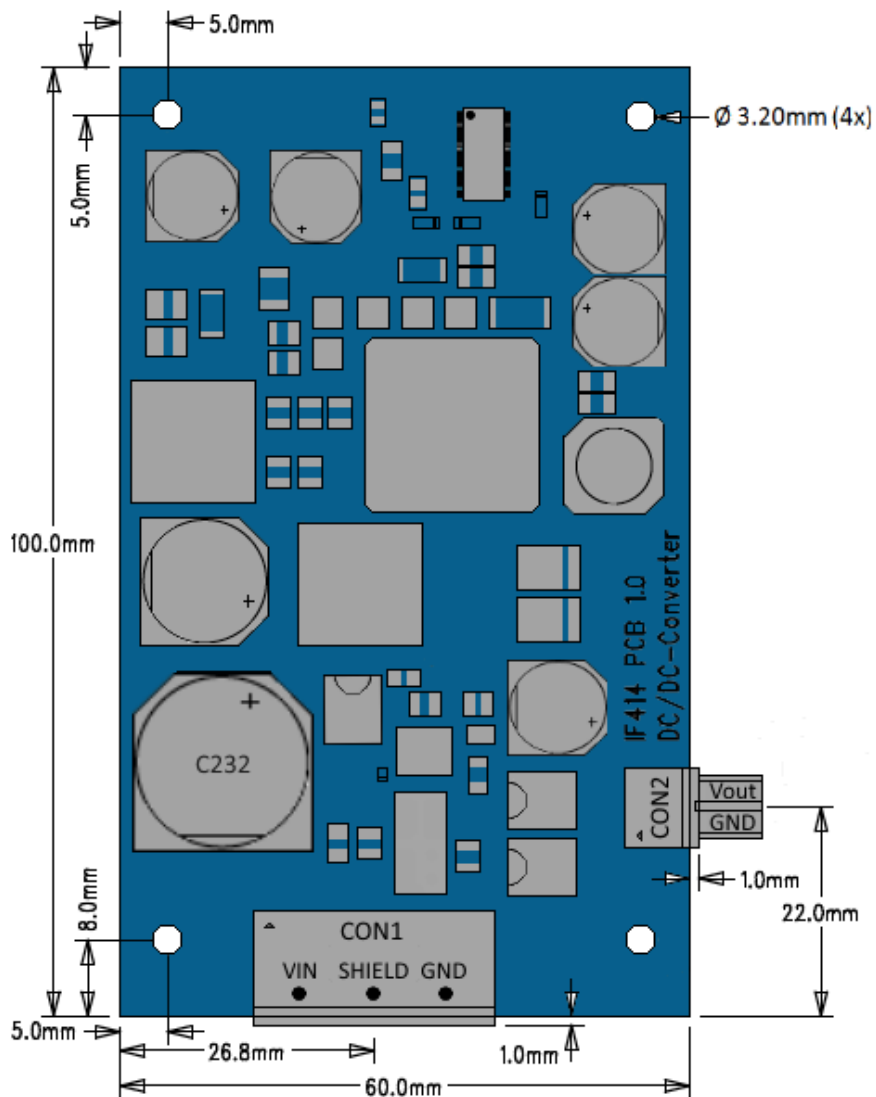
CON1: Power Supply Connector		
Pin	Signal	Description
1	VIN	Main Power Input
2	SHIELD	Cable Shield has a low-resistance to Ground
3	GND	Ground



7.2 CON2: Board-to-Board or Wire-to-Board Connector

CON2: Board-to-Board or Wire to Board Connector		
Pin	Signal	Description
1	GND	Ground
2	VOUT	Power Supply Output

8 Mechanical Dimensions





Item		Description	Remarks
Length		60 mm	± 0.2 mm
Width		100 mm	± 0.2 mm
Height (top side)	CON1	8.6 mm	+ 0.3 mm
	CON2	6.8 mm	± 0.3 mm
Max Height (top side)	C232	17mm	+ 0.2 mm
Height (PCB)		1.6 mm	± 0.2 mm
Height (bottom side)		0 mm	No components on bottom side, to be mounted on flat surface
Weight		80g	

9 Reference KIT

TBD

10 Ordering Information

Part Number	Description
ZU-02-414	IF414-00 Wide-Range-DC-DC-Converter

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