

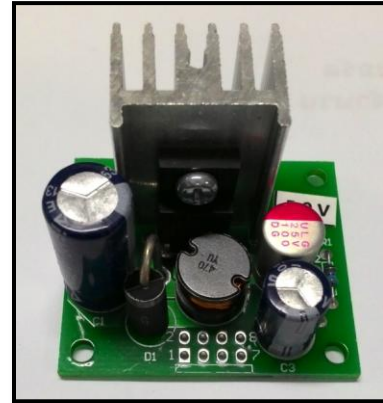


Non-Isolated Step-Down DC/DC Converters 3.3/5Vdc 1.5A

Description

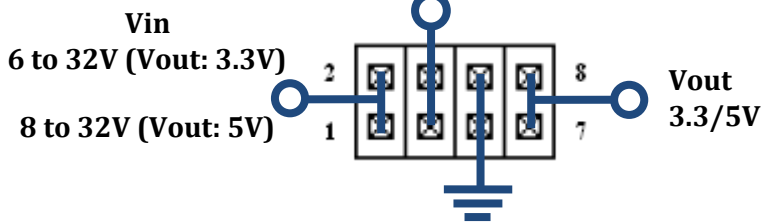
The DEV-BD9703CP is non-isolated dc-dc converters Operate from 8Vdc-35Vdc input. And delivery full 1.5A.currents for 3.3 Vdc or 5 Vdc output.

It's suitable for applications that require high efficiency, tight regulation, and high reliability in elevated temperature environments with low airflow.



Typical Circuit

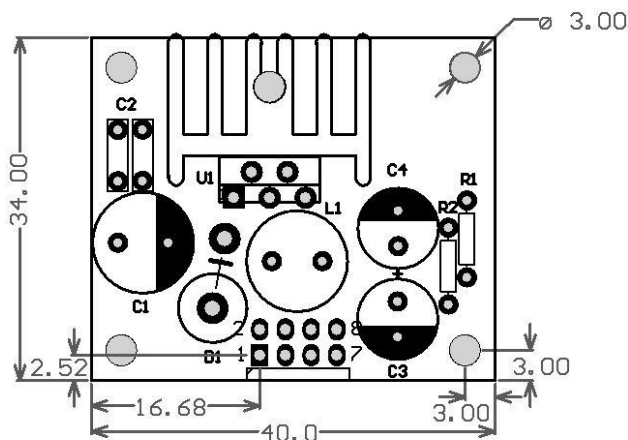
Ven: 2V to Vin



Part number	Vout
DEV-BD9703CP-3.3-V1	3.3V
DEV-BD9703CP-5.0-V1	5V

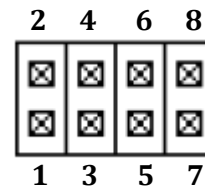
Feature

- Delivers up to 1.5A
- High efficiency
- ON /OFF control via Enable pin
- No minimum load required
- Shock circuit protection
- Thermal shutdown protection



Unit: mm.

Pin Assignment



Pin1, 2: Vin

Pin3, 4: Enable

Pin5, 6: Ground

Pin7, 8: Vout



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Absolute maximum rating($T_a=25^{\circ}\text{C}$)

PARAMETER	Symbol	MAX	Unit
ABSOLUTE MAXIMUM RATINGS ¹			
Input Voltage	V_{in}	36	V
Switch Voltage	V_{sw}	36	V
Output Current	I_{out}	1.5	A
Operating Temperature	T_{opr}	-40 ~ 85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 ~ 150	$^{\circ}\text{C}$
Power Dissipation	P_d	2	W

¹Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings may lead to degradation in performance and reliability of the converter and may result in permanent damage.

Electrical characteristics

Refer to the test circuits, $T_a = 25^{\circ}\text{C}$, $V_i = 12\text{V}$

Electrical characteristics of DEV-BD9703CP-3.3-V1

PARAMETER	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_{out}	$I_o = 0\text{ A}$	3.25	3.30	3.35	V
Load regulation	ΔV_{oLoad}	$V_i = 20\text{V}$, $I_o = 0.5 \sim 1.5\text{A}$	-	10	40	mV
Line regulation	ΔV_{oLine}	$V_i = 10 \sim 30\text{V}$, $I_o = 1.0\text{A}$	-	40	100	mV
Efficiency	η	$I_o = 0.5\text{A}$	-	80	-	%
		$I_o = 1.0\text{A}$	-	78	-	%
		$I_o = 1.5\text{A}$	-	75	-	%

Electrical characteristics of DEV-BD9703CP-5.0-V1

PARAMETER	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_{out}	$I_o = 0\text{ A}$	4.95	5.0	5.05	V
Load regulation	ΔV_{oLoad}	$V_i = 20\text{V}$, $I_o = 0.5 \sim 1.5\text{A}$	-	10	40	mV
Line regulation	ΔV_{oLine}	$V_i = 10 \sim 30\text{V}$, $I_o = 1.0\text{A}$	-	40	100	mV
Efficiency	η	$I_o = 0.5\text{A}$	-	86	-	%
		$I_o = 1.0\text{A}$	-	85	-	%
		$I_o = 1.5\text{A}$	-	81	-	%

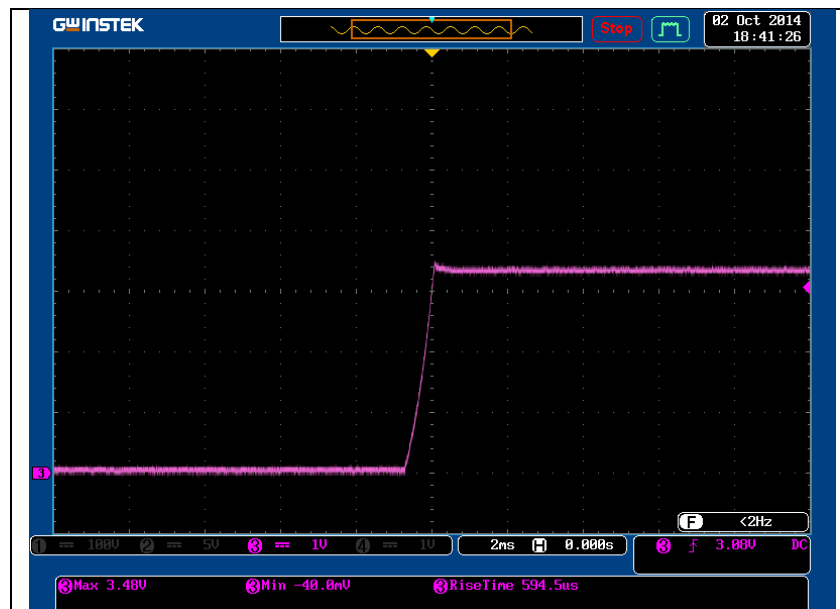


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Operation Range($T_a=-40\sim 85^{\circ}\text{C}$)

Parameter	Symbol	Ratings			Unit	
		Min	Typ	Max		
Input Voltage for 3.3V	Vin	6	-	32	V	
Input Voltage for 5V	Vin	8	-	32	V	
Output Current	Isw3	-	-	1.5	A	
ON/OFF Control						
Enable Pin	Off	Ven(off)	-0.3	-	0.3	Vdc
Threshold Voltage	On	Ven(on)	2	-	Vin	Vdc
Enable Pin Input Current	Ien	5	25	50	μA	

Waveforms Start up





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