DC/DC Isolated Power Module
User Manual

BDM41-6W24PE1

BDM21-10W24PE1

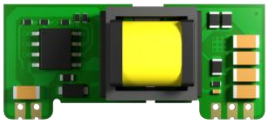
BDM21-15W24PE1



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Product Features





- ✧ Package: DIP (Gold Finger or Plastic)
- ✧ Maximum Efficiency: 88.6%
- ✧ Isolation Voltage: 1500VDC
- ✧ Input Range: 9-36VDC
- ✧ Temperature Range: -40℃ to +85℃
- ✧ Applications: Industry, Instrumentation, RF Communications, Railway, Transportation, Smart Street Lights, Smart Home, Smart Switches, Smart Home

Product Options Sheet

Product Model	Input voltage (VDC)	Output			efficiency (%) Max	Product size (mm)	Installation
	Nominal value (range)	Power (W)	Voltage (VDC)	Current (mA)			
BDM41-6W24P05E1	24(9-36)	6	5	1200	84.9	34.7*20.6*15.5	Plastic packaging/plug-in
BDM41-6W24P12E1	24(9-36)	6	12	500	85.7	34.7*20.6*15.5	Plastic packaging/plug-in
BDM41-6W24P24E1	24(9-36)	6	24	250	86.8	34.7*20.6*15.5	Plastic packaging/plug-in
BDM21-10W24P05E1	24 (18-36)	10	5	2000	85.6	34.7*20.6*15.5	Plastic packaging/plug-in
BDM21-10W24P12E1	24 (18-36)	10	12	840	85.6	34.7*20.6*15.5	Plastic packaging/plug-in
BDM21-10W24P24E1	24 (18-36)	10	24	420	86.7	34.7*20.6*15.5	Plastic packaging/plug-in

Input Parameters

Project	Working conditions			Minimum	Typical values	Maximum	Unit
Input current	BDM21-15W24P05E1	24V (VIN)	5V(Output)	--	729	--	mA
	BDM21-15W24P12E1	24V (VIN)	12V(Output)	--	732	--	
	BDM21-15W24P24E1	24V (VIN)	24V(Output)	--	714	--	
Starting voltage	BDM21-15W24P05E1	24V (VIN)	5V(Output)	17.4	--	17.8	VDC
	BDM21-15W24P12E1	24V (VIN)	12V(Output)	17.4	--	17.8	
	BDM21-15W24P24E1	24V (VIN)	24V(Output)	17.4	--	17.8	
Input filter type	BDMX1-XXW24PXXX1			C			
Recommended external input fuse	BDMX1-XXW24PXXX1			50VDC, 2A, slow break, must be connected			

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Output Parameters

Project	Working conditions	Minimum	Typical values	Maximum	Unit
Output voltage accuracy	0%~100% load	--	±1.5	±3	%
Voltage Regulation	fully loaded	--	±0.3	±0.5	
Load Regulation	5% to 100% load (balanced load)	--	±1	±2	
Ripple noise	20MHz bandwidth, 100% load	15	--	75	mVp-p
Temperature drift coefficient		--	±0.05	--	%/℃
Overvoltage protection	BDMX1-XW24PXX1	TVS;VBR=36.7-40.6VDC			
Overcurrent protection		≈ 120%			
Short-circuit protection		Sustainable and self-recovering			

General Features

Pproject	Working conditions	Minimum	Typical values	Maximum	Unit
Switching frequency	BDMX1-XW24PXX1	300	--	360	KHz
Ambient temperature	See product derating design	-40	25	+40	℃
Storage temperature		-40	25	+85	℃
Storage humidity		--	--	95	%RH

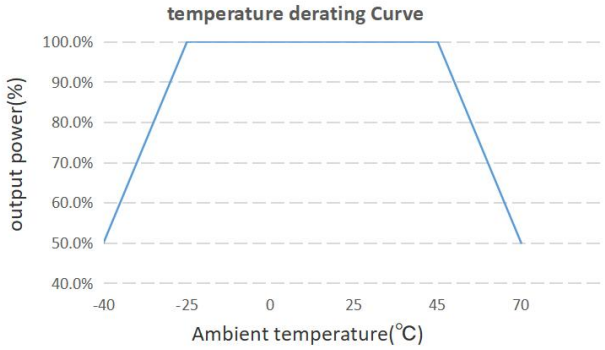
Mechanical Specifications

Model	Size	Weight	Cooling method
BDMX1-XW24PXXD1	32*14*13.6mm	5g	Natural air cooling
BDMX1-XW24PXXE1	34.7*20.6*15.1mm	14.7g	Natural air cooling

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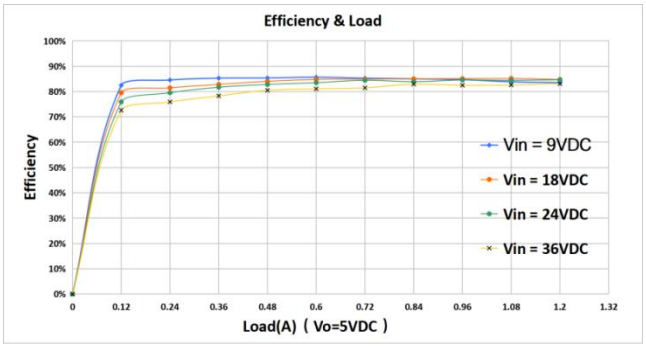
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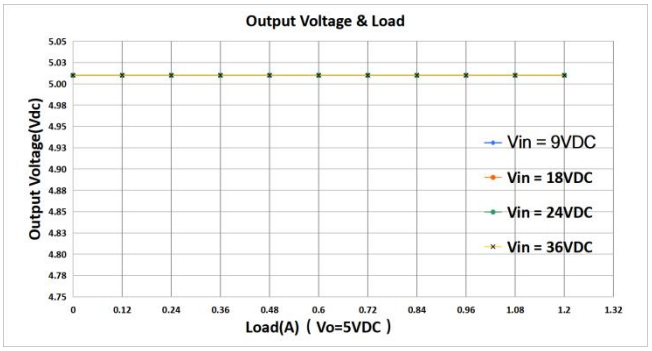
Product derating design



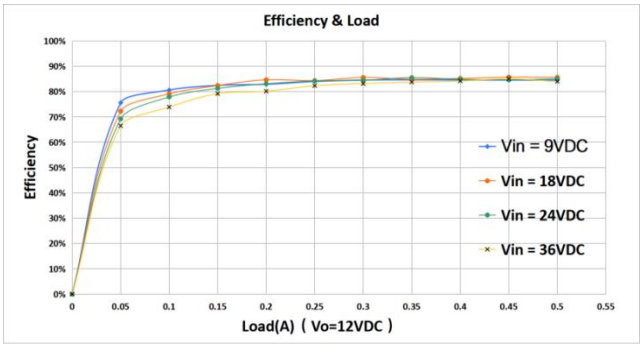
Product characteristic curve

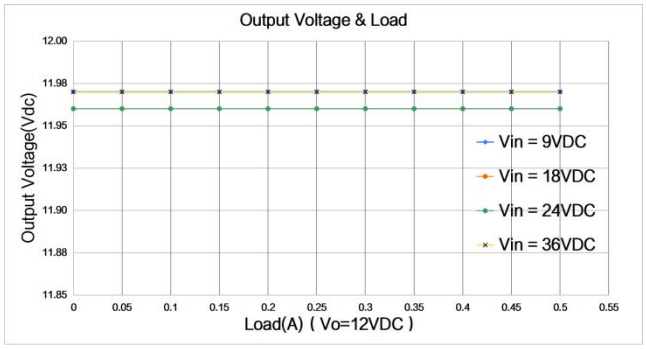
BDM41-6W24P05E1





BDM41-6W24P12E1

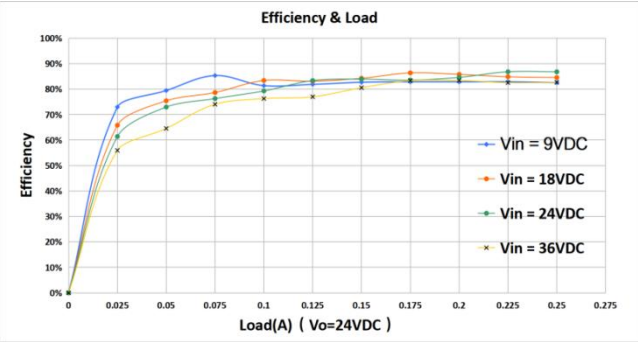


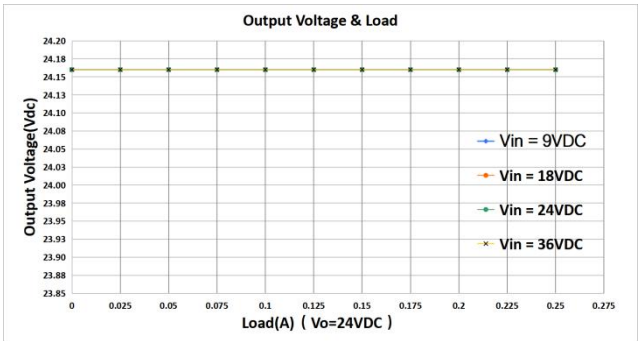


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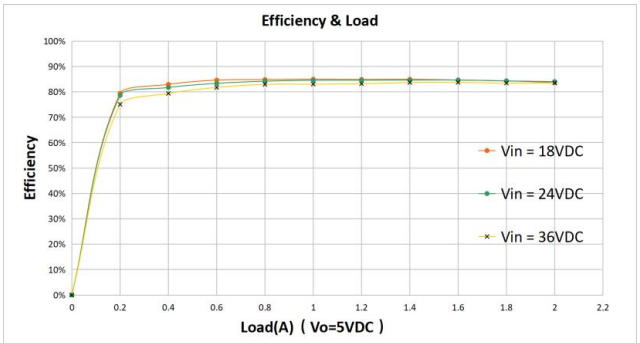
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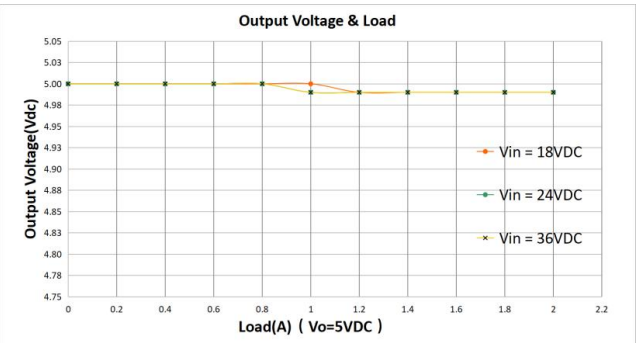
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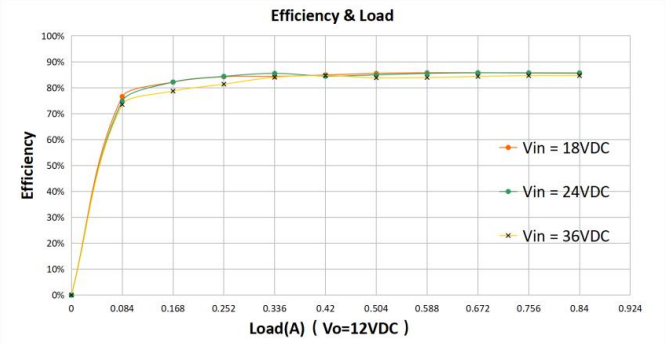


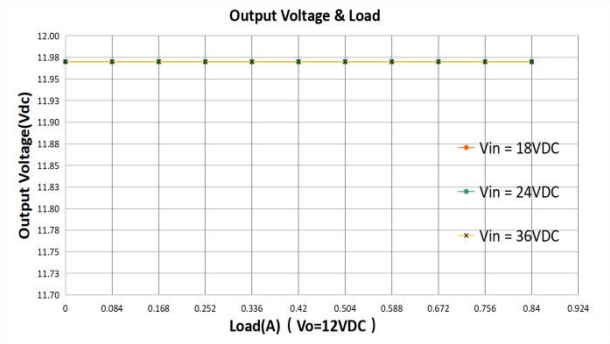
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BDM21-10W24P12E1

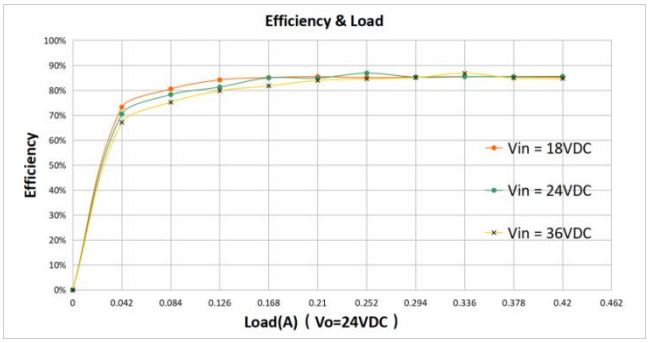


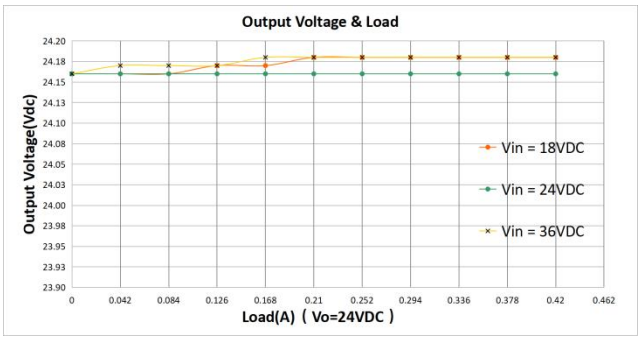


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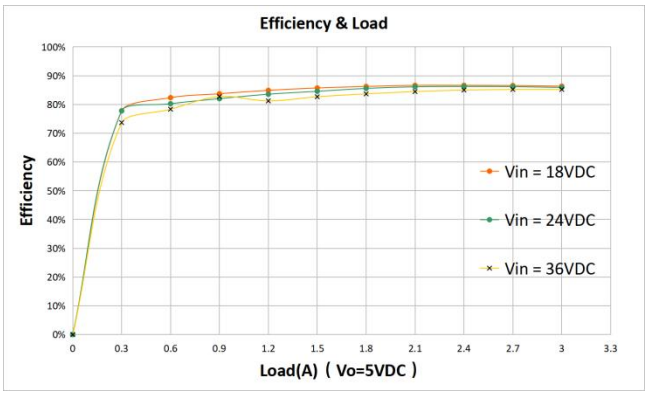
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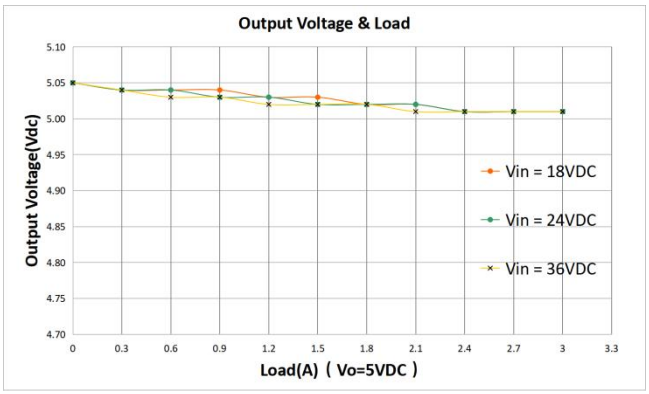
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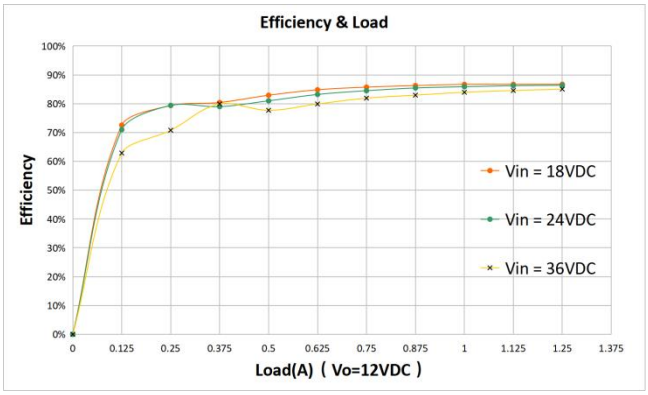


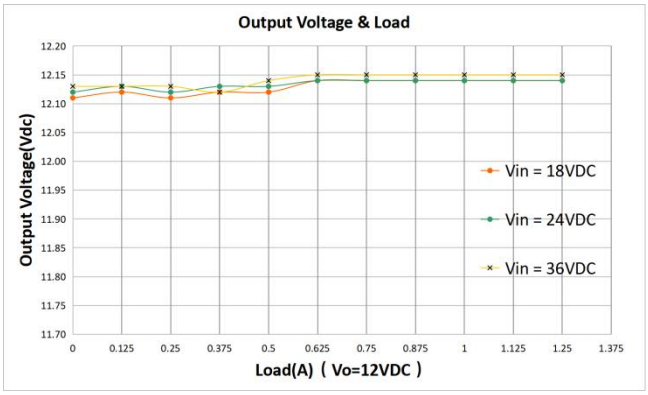
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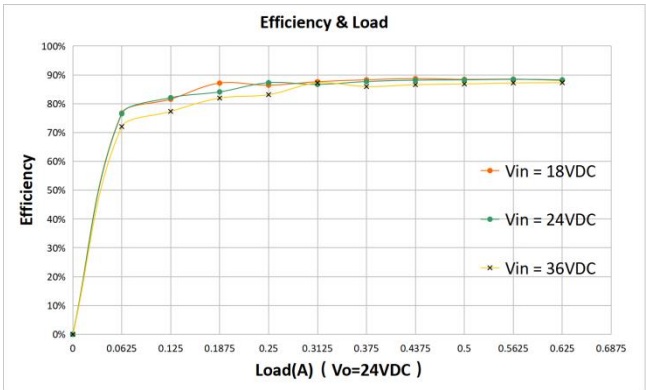


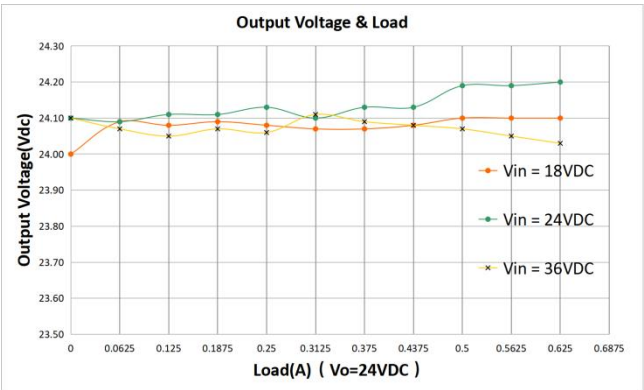


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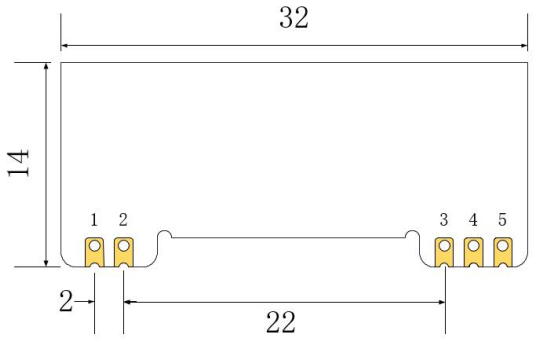
BDM21-15W24P24E1





Dimensions and recommended layout diagrams

BDMX1-XW24PXD1





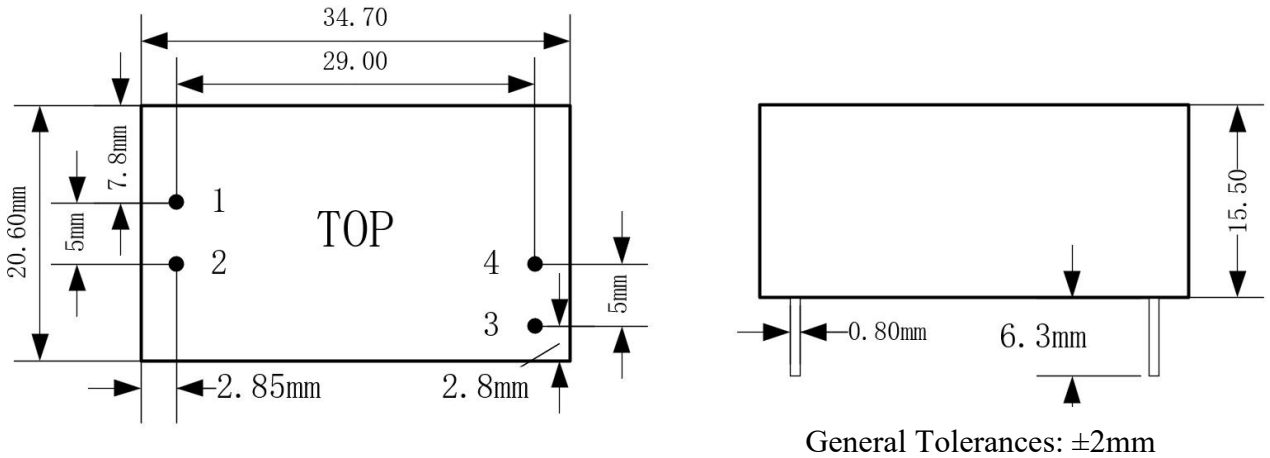
单位：mm

Pin Name	Function	Direction	Description
1	Vin+	Input	Power input positive (maximum power input is 36VDC).
2	GND	Input	Negative terminal of the input power supply.
3	ADJ	Input	Can be used for fine-tuning of the output voltage .
4	Vo+	Output	Power output positive terminal
5	GND	Output	Power output negative terminal

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BDMX1-XW24PXE1



General Tolerances: ±2mm

Pin Name	Function	Direction	Description
1	Vin+	Input	Power input positive (the maximum input of the power supply is 36VDC).
2	GND1	Input	Power input negative terminal
3	GND2	Output	Power output negative terminal
4	Vo+	Output	Power output positive terminal

- **GND1 and GND2 cannot be connected together, otherwise the isolation effect will be lost.**

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