

**DC/DC CONVERTERS • EMI FILTERS**

# **PRODUCT CATALOG**



**voltbricks**

Product catalogue of VOLTBRICKS PTE.LTD.  
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The product information and specifications subject to change without prior notice. Actual data are agreed in the delivery specification and can be different from the ones stated for reference

## ABOUT US

# voltbricks

[voltbricks.com](http://voltbricks.com)

[mail@voltbricks.com](mailto:mail@voltbricks.com)

**Founded in 2014, VOLTBRICKS, is a global designer and manufacturer of EMI filters and DC/DC converters up to 1000 W.**

Our converters support customers around the world in their strive to reduce engineering design time and expenses while contributing to the miniaturization and productivity of their end products.

Total quality is embedded into every step of the design and manufacture of our products through the use of structured procedures, operational mastership and employee participation. Reflecting our commitment to quality, all VOLTBRICKS sites have quality management systems certified to ISO 9001.

The professional skills of our engineers and close cooperation with customers allow VOLTBRICKS PTE. LTD. to be a reliable partner capable of fulfilling its obligations in a high-quality and timely manner.

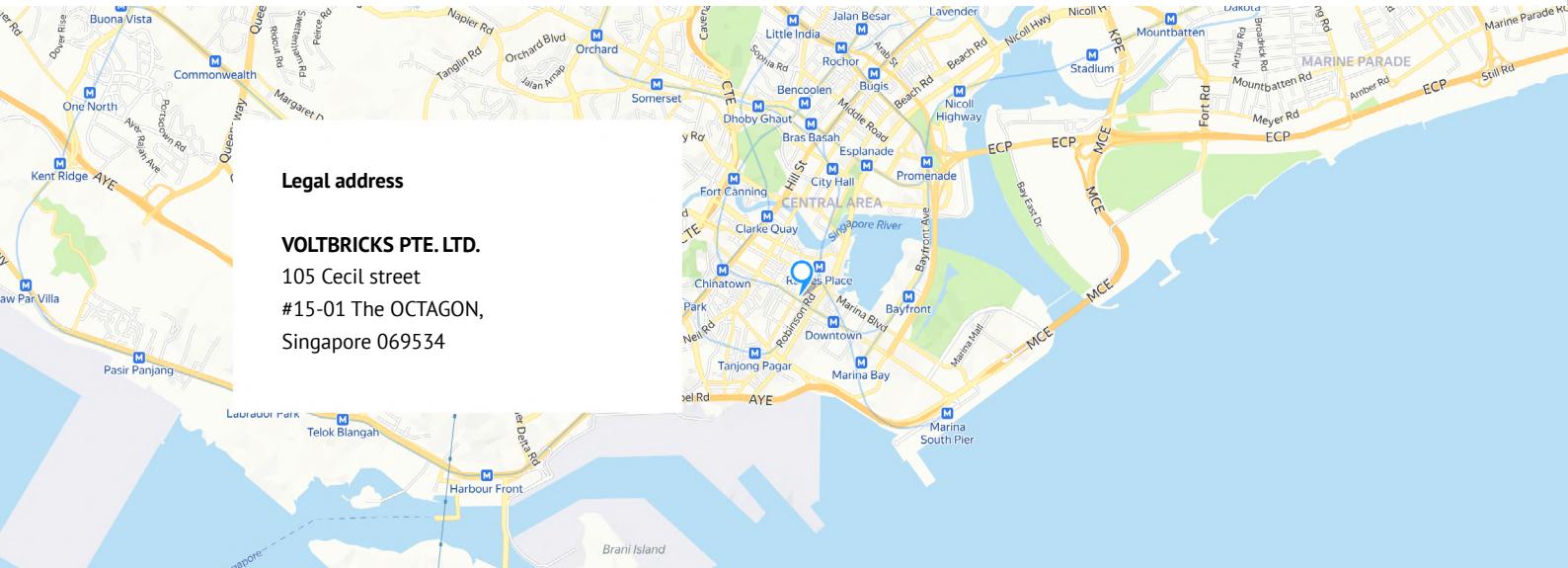
**2014 – The foundation of VOLTBRICKS**  
startup project aimed to design and manufacture state-of-the-art industrial electronic components.

**2016 – The first samples shipment.**  
After 1.5 yrs of R&D customers have received finalized sample of first electronic components manufactured on our own production line.

**2017 – Going Global.**  
We settled first contracts with professional electronic components distributors in EMEA & APAC.

**2019 – Precise adjustment of R&D process and manufacturing procedures.**  
Essential reduction in product prices due to the ongoing business process changes.

**2021 – VOLTBRICKS PTE.LTD. incorporation in Singapore.**  
VOLTBRICKS becomes a part of Energy Electronics Group.





## QUICK SELECTION GUIDE

# DC/DC converters

## VDN, SIP-package converters

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Dimensions, mm	Page
VDN5	2; 5	5; 12; 24	3,3; 5; 9; 12; 15	1500 VDC	80 %	-60...+105 °C	22,3×11,6×9,8	11
VDN10	10	12; 24			82 %		22,3×12,1×10	12

## VDRI for industrial application

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Form-factor	Page
VDR10	6; 10	24; 48	3,3; 5; 9; 12; 15; 24; 48	1500 VDC	88 %	-40...+105 °C	DIP-16	15
VDR125	15; 25				89 %		DIP-24	16
VDR130	20; 30				90 %		1×1 inch	17
VDR160	40; 60				92 %		1×2 inch	18

## VNA, switching regulator

Models	Input voltage range	Output current	Output voltage	Dimensions, mm	Page
VNA03	4,5...18 VDC	3 A	0,765...7 VDC	6,4x7,5x3,3 mm	20
VNA10	4..24 VDC	10 A	0,6...5,5 VDC	9,3x10x7,3 mm	

## VDRW for railway application

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Form-factor	Page
VDRW50	50	72	5; 12; 15; 24; 36; 48	2500 VDC	87 %	-40...+100 °C	Quarter Brick	23
VDRW100	100				89 %			24

## VDA, pulse load power supplies

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Dimensions, mm	Page
VDA500	340	28; 60; 300	7,5; 9; 12,5; 28; 36; 40; 50	750 VDC	90–92 %	-60...+125 °C	120,9×38×12,85	27
	500		28; 36; 40; 50					

## VDV, multi-purpose compact converters

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Dimensions, mm	Page
VDV8	3; 5; 8	28	5; 9; 12; 15; 24; 28	750 VDC	82 %	-60...+125 °C	40×20,2×10,15	29
VDV12	12				85 %		50×30,2×10,15	32
VDV25	15; 20; 25				83 %		57,5×33,2×10,15	33
VDV50	30; 50				85 %		67,5×40,2×10,15	34
VDV80	80	27			87 %		84,5×52,7×12,85	35
VDV160	160	27; 60			85 %		107×67,7×12,85	36
VDV500	400		12; 15; 24; 28; 48		86 %		122×84,2×12,85	37
	500	27	15; 24; 28; 48					
VDV1000	1000	27; 60	24; 28; 48		86 %		168×122×16	36

## VDVH, high voltage input converters

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage (IN/OUT)	Typical Efficiency	Operating Temperature	Dimensions, mm	Page
VDVH40	30; 40	110; 230	5; 9; 12; 15; 24; 28	2100 VDC	82 %	-60...+125 °C	84,5x52,7x12,85	39
VDVH160	80; 160				86 %		107x67,7x12,85	40
VDVH500	400		12; 15; 24; 28		87 %		122x84,2x12,85	41
	500		15; 24; 28					
VDVH1000	1000		24; 28		87 %		168x122x16	42

## VDR, ultra-compact converters

Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Dimensions, mm	Page
VDR10	6; 10	12; 28; 48	3,3*; 5; 9; 12; 15; 24; 28	750 VDC	89 %	-60...+125 °C	24,1x14x8,5	45
VDR25	15; 25	12; 28			89 %		40x20,2x10,25	48
VDR50	40; 50				91 %		50x30,2x10,25	49
VDR100	75; 100				91 %		57,5x33,2x10,25	50
VDR160	120; 160				91 %		67,5x40,2x11,2	51
VDR300	250; 300	28; 48	9; 12; 15; 24; 28		91 %		84,5x52,7x12,85	50
VDR500	400; 500				92 %		107x67,7x12,85	53

## VDMC, MIL-COTS requirements\*

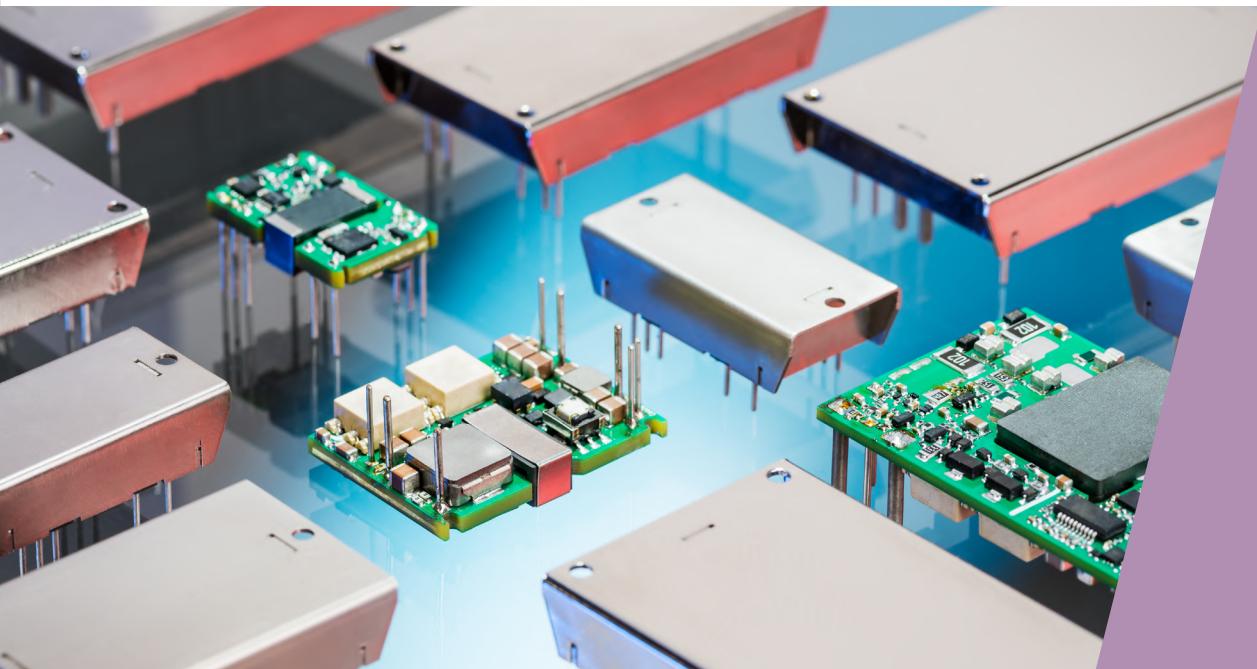
Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Form-factor	Page
VDMC25	25	28 (9...40)	3,3; 5; 9; 12; 15; 24; 28; 48	2250 VDC IN/OUT	87 %	-55...+105 °C	1/32 Brick	54
VDMC50	50				88 %		1/16 Brick	
VDMC120	120	28 (16...40)			91 %		1/8 Brick	
VDMC200*	200				91 %		1/4 Brick	
VDMC400*	400				92 %		1/2 Brick	
VDMC700*	700				93 %		Full Brick	

\* VDMC (HV) series is under development.



# DC/DC CONVERTERS

VDN, SIP-package converters  
VDRI for industrial application  
VNA, switching regulator  
VDRW for railway application  
VDA, pulse load power supplies  
VDV, multi-purpose compact converters  
VDVH, high voltage input converters  
VDR, ultra-compact converters  
VDMC, MIL-COTS requirements



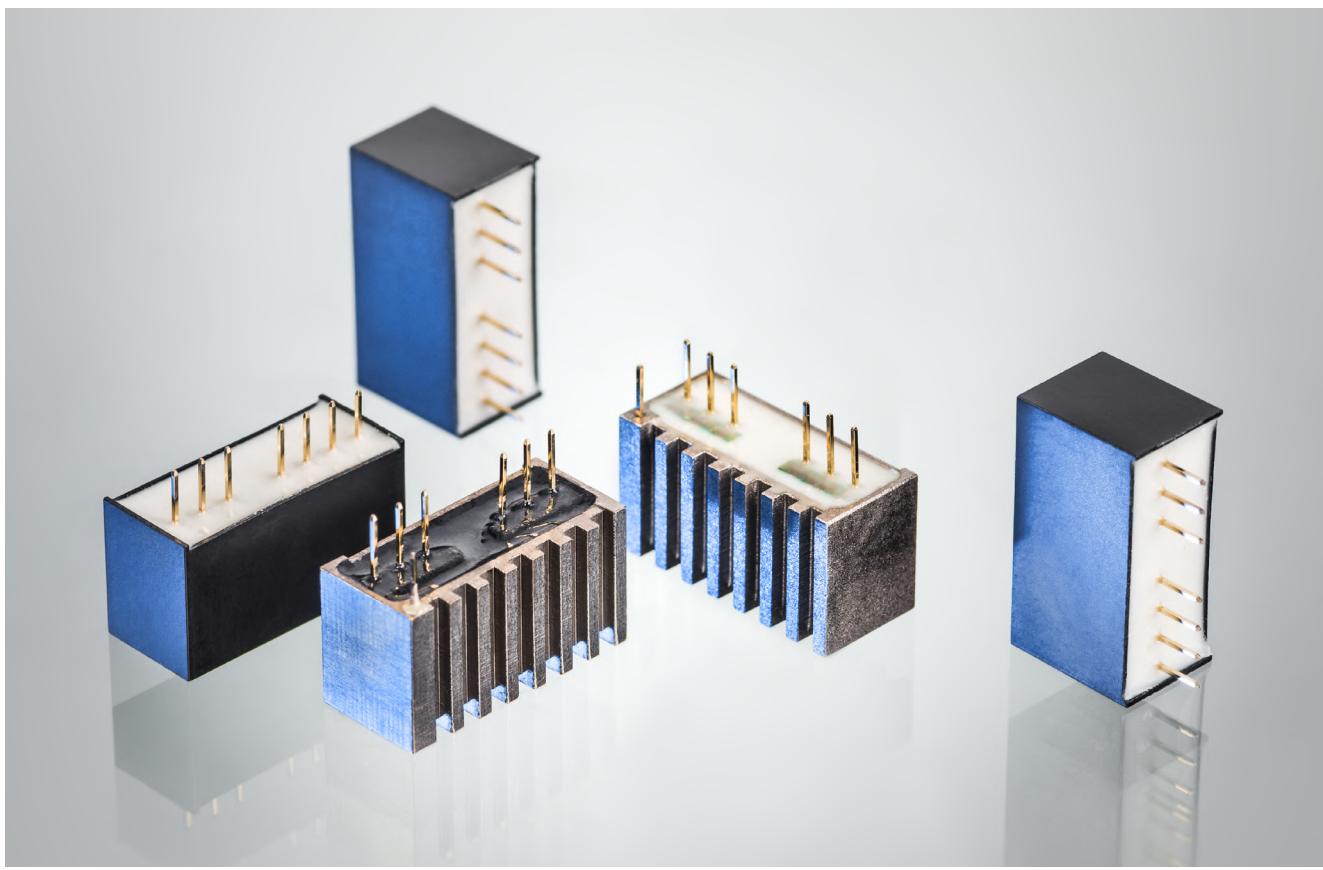
**voltbricks**

Within Energy Electronics company DC/DC converters are developed and manufactured by VOLTBRICKS PTE.LTD. – the leading manufacturer of modular power supply units and systems.

Product range of over 10 000 serial items and a dozen of product lines allow to implement almost any solution of high quality power supply in industrial and crucial applications.

Special attention in the company is paid to customized solutions. Extensive experience in development of customized power supply systems and quick adapting feature of serial products for individual requirements allow to create complex customized systems of power supply within very short lead time period.

# VDN Series, SIP-package converters



Models	Output Power, W	Nominal Input Voltage*,VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency (5 VDC output)	Dimensions, mm
VDN5	2; 5	5; 12; 24; 48	3,3; 5; 9; 12; 15	1500 VDC	80%	22,3x11,6x9,8
VDN10	10	12; 24			85%	22,3x12,1x10

## DESCRIPTION

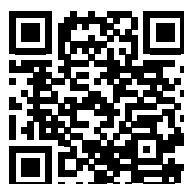
VDN is a Series of isolated DC/DC converters with output power from 2 to 10 W and wide input voltage range.

These products are produced in a compact SIP-package with small footprint.

An excellent efficiency allows wide range operating temperature. These units are designed for the most crucial applications and optimized for operating in harsh environment.

## FEATURES

- Compact SIP-8 package
- Wide input voltage range  
2:1 for 2 to 5 W  
4:1 for 10 W
- Case temperature -60...+105 °C
- High efficiency
- Metal case



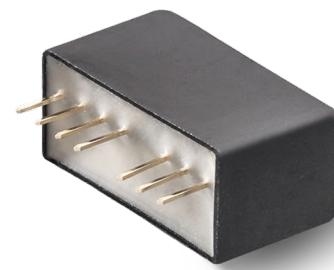
Description of VDN Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdn>

\* Nominal values, Input ranges are specified in the description on pages with models.

# VDN5

## FEATURES

- Compact SIP-8 package
- Wide input voltage range (2:1)
- Case temperature -60...+105 °C
- Remote on/off
- High efficiency
- Metal case
- PFM topology



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
2 W	5 (4,5...9)	4...15 @ 1 s	3,3	0,6
	12 (9...18)	8,5...36 @ 1 s	5	0,4
	24 (18...36)	17,50 @ 1 s	9	0,22
	48 (36...75)	34...100 @ 1 s	12	0,16
			15	0,13
			3,3	1,5
			5	1
			9	0,55
			12	0,416
			15	0,33
5 W				

## ENGINEERED IN ACCORDANCE WITH

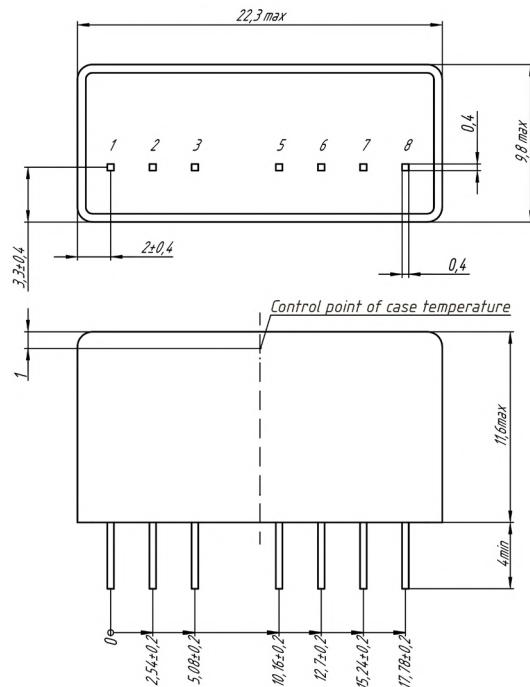
Safety Std.	Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G	
EMC Std.	MIL-STD-461F	
Aircraft Electric Spec.	MIL-STD-704E	

## PIN CONNECTION

PIN	Function	PIN	Function
1	-IN	6	+OUT
2	+IN	7	-OUT
3	ON	8	NOT USE
5	NOT USE		

## GENERAL SPECIFICATIONS

Form-factor	SIP-8
Voltage set accuracy	max ±2 %
Line and load regulation	max ±2 %
Temperature regulation	max ±2 %
Total regulation	max ±2,5 %
Ripple and noise (p-p)	max 2 % Uout. nom.
Switching frequency	600 kHz
Remote on/off	units can be powered off by control voltage
Case operating temperature	-60...+105 °C
Typical efficiency	80 % @ Uout=5 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	42 °C/W
Typical MTBF	1 263 900 Hrs
Dimensions metal case	22,3×11,6×9,8 mm
Weight	max 9 g



Dimensions in mm.

# VDN10

## FEATURES

- Compact SIP-8 package
- Ultrawide input voltage ranges (4:1)
- Case temperature -60...+105 °C
- Remote on/off
- High efficiency
- Metal Case
- Fixed switching frequency



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
10 W	12 (9...36) 24 (18...75)	9...40 @ 1 s 17...84 @ 1 s	3,3	2
			5	2
			9	1,1
			12	0,83
			15	0,67

## GENERAL SPECIFICATIONS

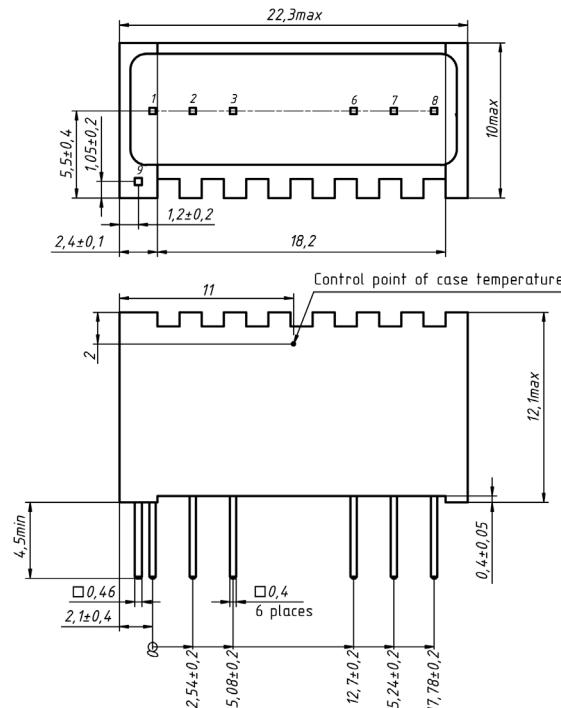
Form-factor	SIP-8
Voltage set accuracy	max ±2 %
Line and load regulation	max ±2 %
Temperature regulation	max ±2 %
Total regulation	max ±2,5 %
Ripple and noise (p-p)	max 2 % Uout.nom.
Switching frequency	450 kHz
Remote on/off	units can be powered off by control voltage
Case operating temperature	-60...+105 °C
Typical efficiency	82 % @ Uout=5 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	35 °C/W
Typical MTBF	1 263 900 Hrs
Dimensions	22,3×12,1×10 mm
Weight	max 15 g

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## PIN CONNECTION

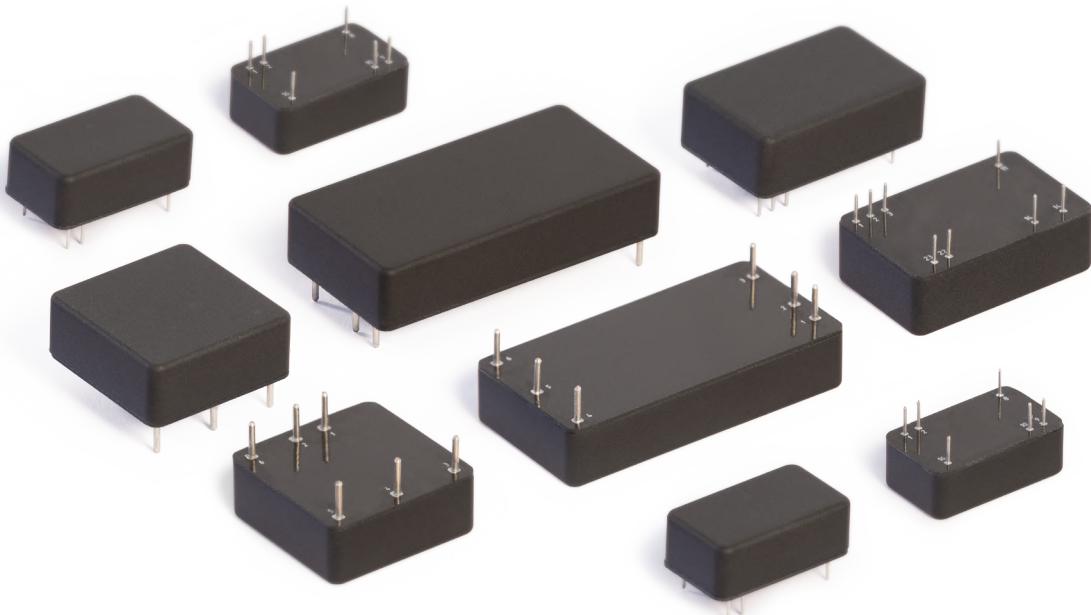
PIN	Function	PIN	Function
1	-IN	7	-OUT
2	+IN	8	NOT USE
3	ON	9	CASE
6	+OUT		



Dimensions in mm.



# VDRI Series for industrial application



Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Form-factor
VDRI10	6; 10	24; 48	3,3; 5; 9; 12; 15; 24; 48	1500 VDC	88 %	DIP-16
VDRI25	15; 25				89 %	DIP-24
VDRI30	20; 30				90 %	1x1 inch
VDRI60	40; 60				92 %	1x2 inch

## DESCRIPTION

DC/DC converters with output power from 6 to 60 W designed for equipment of industrial application.

Thanks to patented solutions the power density has been increased in 3 times comparing to previous generation.

These units are able to operate within wide range of case temperature, they are equipped with remote on/off function and the full range of protections (overcurrent, short-circuit, and overheating).

## FEATURES

- Output voltage adjustment
- Remote on/off
- Low-profile design
- Case operating temperature -40...+105 °C
- Minimum load not required
- Polymer potting sealing
- Short-circuit and overvoltage protection
- Power good signal
- Frequency synchronization

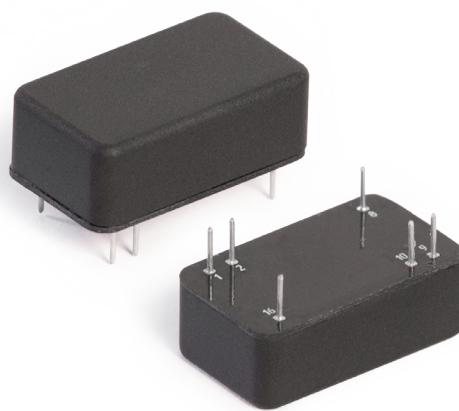


Description of VDRI Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdri>

# VDRI10

## FEATURES

- Output current up to 2 A
- Low-profile design (8 mm)
- Case operating temperature -40...+105 °C
- Typical efficiency 88 % (Uout.=24 VDC)
- Short-circuit and overvoltage protection
- Remote on/off
- Polymer potting sealing

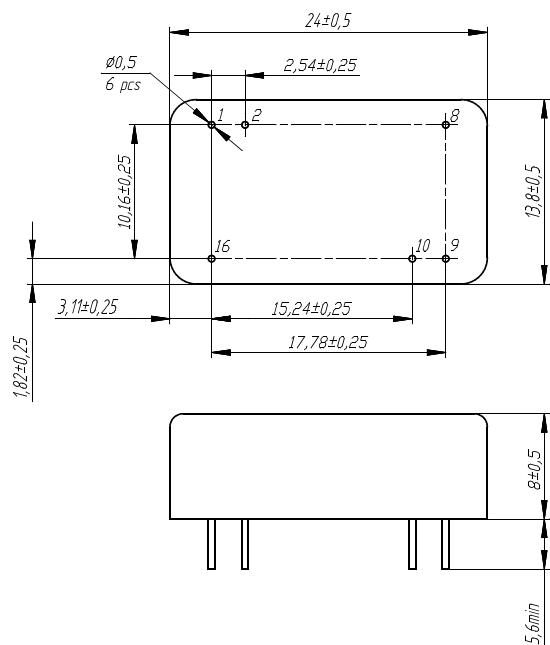


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN 60950-1, RoHS
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	-IN	9	+OUT
2	Remote On/Off	10	-OUT
8	NOT USE	16	+IN



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
6 W	24 (9...36) 48 (18...75)	8...40 @ 1 s 16...80 @ 1 s	3,3	1,82
			5	1,2
	24 (9...36) 48 (18...75)	9	0,67	
		12	0,5	
		15	0,4	
		24	0,25	
		48	0,13	
		5	2	
		9	1,11	
		12	0,83	
10 W	24 (9...36) 48 (18...75)	15	0,67	
		24	0,42	
		48	0,21	

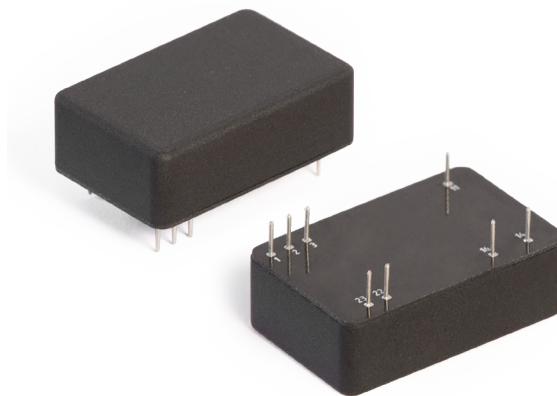
## GENERAL SPECIFICATIONS

Form-factor	DIP-16
Line and load regulation	max ±4 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overcurrent protection level	<1,8 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", I≤5 mA
Case operating temperature	-40...+105 °C
Typical efficiency	88 % @ Uout.=24 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	34 °C/W
Typical MTBF (Tcase = 75 °C, P = 70 %)	585 kHrs
Dimensions (without pinouts)	24×13,8×8 mm
Weight	max 10 g

# VDRI25

## FEATURES

- Output current up to 5 A
- Low-profile design (10,2 mm)
- Case operating temperature -40...+105 °C
- Typical efficiency 89 % (Uout.=24 VDC)
- Short-circuit and overvoltage protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

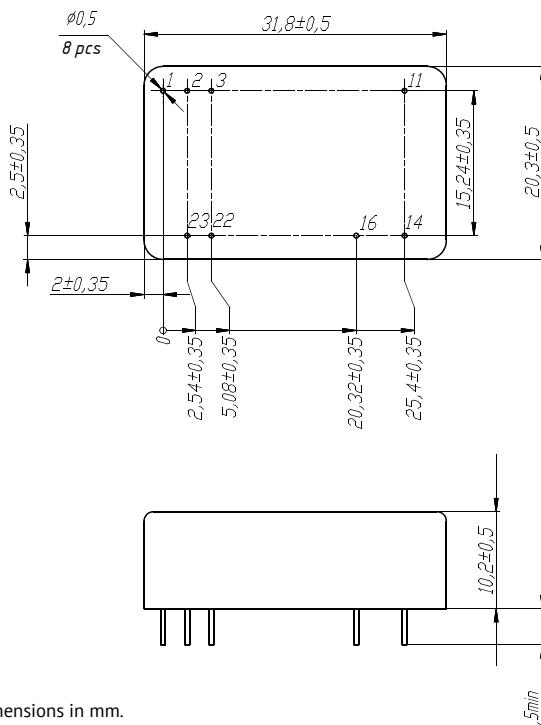


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN 60950-1, RoHS
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	Remote On/Off	14	+OUT
2,3	-IN	16	-OUT
11	TRIM	22,23	+IN



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
15 W	24 (9...36) 48 (18...75)	8...40 @ 1 s	3,3	4,55
		16...80 @ 1 s	5	3
		9	1,67	
		12	1,25	
		15	1	
		24	0,63	
		48	0,31	
		5	5	
25 W		9	2,78	
		12	2,08	
		15	1,67	
		24	1,04	
		48	0,52	

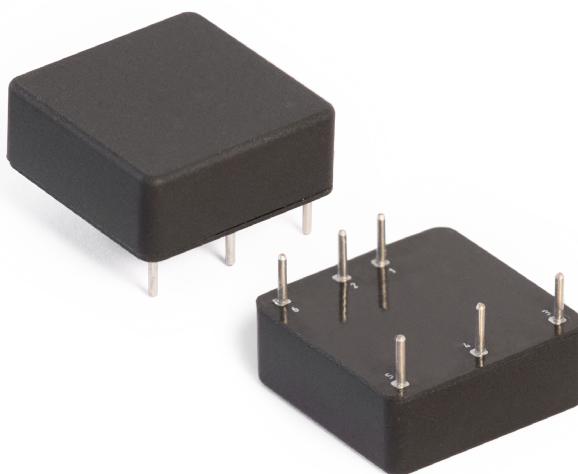
## GENERAL SPECIFICATIONS

Form-factor	DIP-24
Output voltage adjustment	±10 % Uout.nom
Line and load regulation	max ±4 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overcurrent protection level	<1,8 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I≤5 mA
Case operating temperature	-40...+105 °C
Typical efficiency	89 % @ Uout.=24 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	21 °C/W
Typical MTBF (Tcase = 75 °C, P = 70 %)	585 kHrs
Dimensions (without pinouts)	31,8×20,3×10,2 mm
Weight	max 25 g

# VDR130

## FEATURES

- Output current up to 6 A
- Low-profile design (10,2 mm)
- Case operating temperature -40...+105 °C
- Typical efficiency 90 % (Uout.=24 VDC)
- Short-circuit and overvoltage protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

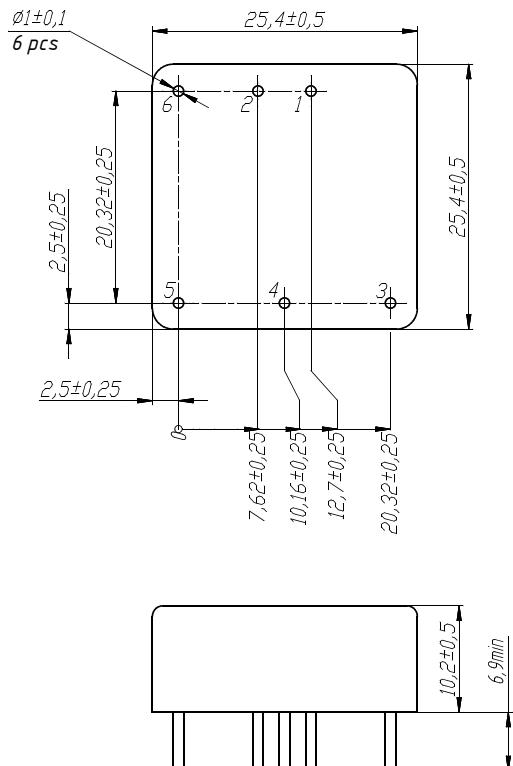


## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN 60950-1, RoHS
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	4	TRIM
2	-IN	5	-OUT
3	+OUT	6	Remote On/Off



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
20 W	24 (9...36) 48 (18...75)	8...40 @ 1 s	3,3	6
		16...80 @ 1 s	5	4
		9	2,22	
		12	1,67	
		15	1,33	
		24	0,83	
		48	0,42	
		5	6	
	30 W	9	3,33	
		12	2,5	
		15	2	
		24	1,25	
		48	0,63	

## GENERAL SPECIFICATIONS

Form-factor	1x1 inch
Output voltage adjustment	±10 % Uout.nom
Line and load regulation	max ±4 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overcurrent protection level	<1,8 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN"; <5 mA
Case operating temperature	-40...+105 °C
Typical efficiency	90 % @ Uout.=24 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	20,5 °C/W
Typical MTBF (Tcase = 75 °C, P = 70 %)	585 kHrs
Dimensions (without pinouts)	25,4×25,4×10,2 mm
Weight	max 25 g

# VDRI60

## FEATURES

- Output current up to 12 A
- Low-profile design (10,2 mm)
- Case operating temperature -40...+105 °C
- Typical efficiency 92 % (Uout.=24 VDC)
- Short-circuit and overvoltage protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

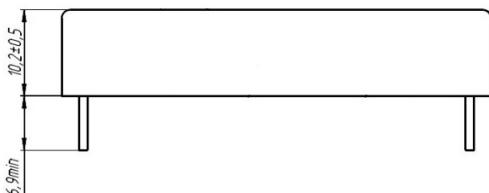
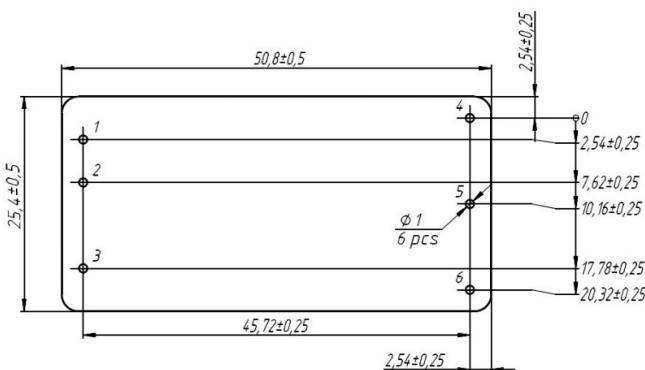


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN 60950-1, RoHS
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	4	+OUT
2	-IN	5	-OUT
3	Remote On/Off	6	TRIM



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
40 W	24 (9...36) 48 (18...75)	8...40 @ 1 s 16...80 @ 1 s	3,3	12
			5	8
			9	4,44
			12	3,33
			15	2,67
			24	1,67
			48	0,83
			5	12
60 W			9	6,67
			12	5
			15	4
			24	2,5
			48	1,25

## GENERAL SPECIFICATIONS

Form-factor	1x1 inch
Output voltage adjustment	±10% Uout.nom
Line and load regulation	max ±4% Uout.nom
Ripple and noise (p-p)	<2% Uout.nom
Overcurrent protection level	<1,8 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I≤5 mA
Case operating temperature	-40...+105 °C
Typical efficiency	92 % @ Uout.=24 VDC
Isolation voltage	1500 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	12,5 °C/W
Typical MTBF (Tcase = 75 °C, P = 70 %)	585 kHrs
Dimensions (without pinouts)	50,8x25,4x10,2 mm
Weight	max 43 g

VDN

VDRI

VNA

VDRW

VDA

VDV

VDH

VDMC

VDR

VDVH

VDV

VDRW

VDA

VDV

VDH

VDMC

VDR

VDN

VDRI

VNA

VDRW

VDA

VDV

VDH

VDMC

VDR

VDN

VDRI

VNA

VDRW

VDA

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VDH

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VDRI

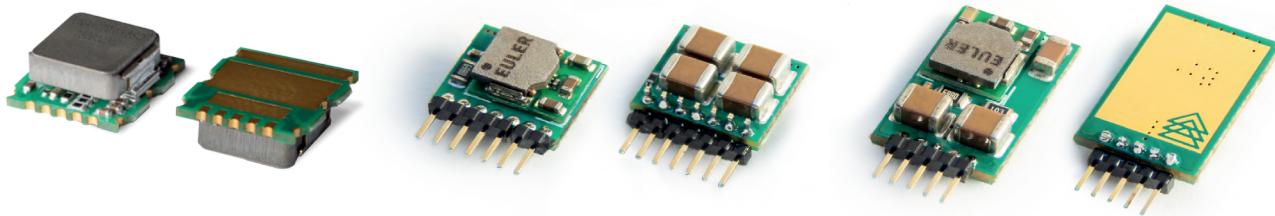
VNA

VDRW

VDA

VDV

# VNA Series



Input voltage range	Output current	Output voltage	Dimensions, mm
4..24 VDC	10 A	0,6..5,5 VDC	<3,3 mm

## DESCRIPTION

Switching voltage regulator of the EULER series - the first of compact solutions for telecommunications and general industrial applications.

Low-profile design with a 3 mm height allows to mount EULER in space between printed circuit boards of electronic equipment. It helps to provide a design flexibility and a high density of electronic components.

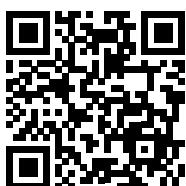
Smooth start and remote control features enable to design different distributed power architectures, without reference to the input overload capacity restrictions, and, for example, to avoid overload or short circuit protections operation of DC-DC converter, which is powering the group of several EULERs.

## ADVANTAGES

- Compact size
- Plugged-in inductor
- Minimum external components
- High efficiency
- Ultrafast response to load changes
- Low power consumption at no-load and standby mode
- Remote On/Off and soft start
- SCP and OCP

## APPLICATIONS

- Power supply systems with intermediate bus
- Industrial and telecom equipment
- 5G equipment for mobile networks
- Equipment for servers, work stations, data processing systems
- Portable devices

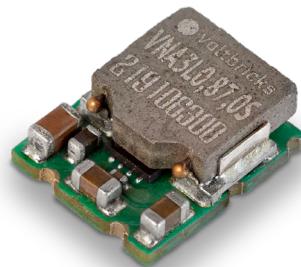


Description of VNA Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/euler>

# EULER

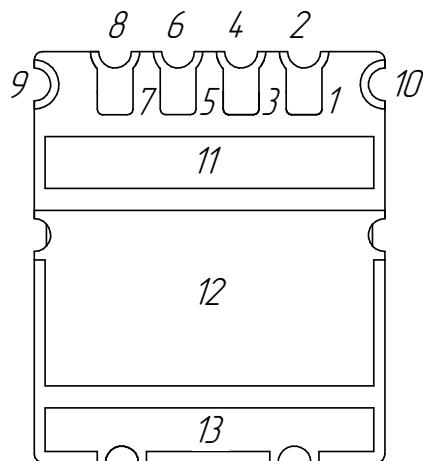
## MAIN FEATURES

Input voltage range	4.5...18 VDC
Adjustable output voltage	0.765...7 VDC
Output current	3 A
Case operating temperature range	from -40 to +125 °C
Mounting method	SMD QFN
Length × width	7.5×6.4 mm
Height	3 mm
Switching frequency	700 kHz
Weight	<0.4 g

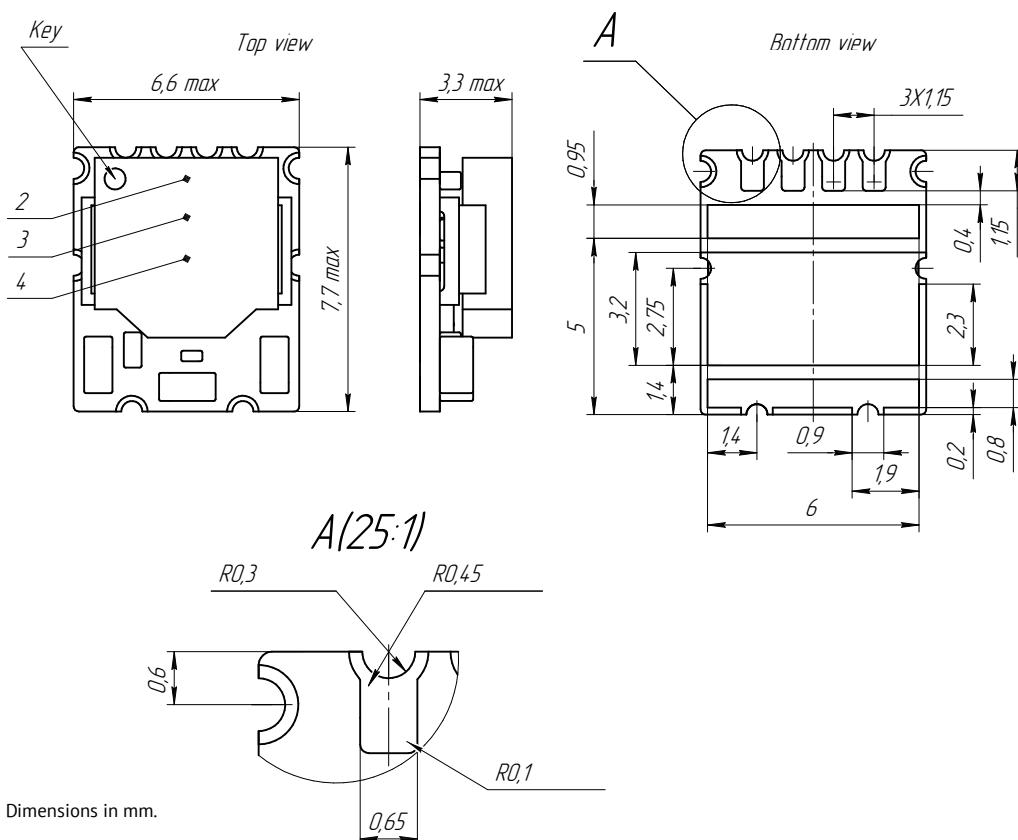


## PIN ASSIGNMENT

Output	Function
1	AGND
2	AGND
3	EN
4	EN
5	FB
6	FB
7	SS
8	SS
9	V <sub>OUT</sub>
10	V <sub>OUT</sub>
11	V <sub>OUT</sub>
12	PGND
13	V <sub>IN</sub>



EULER pinout (bottom view).

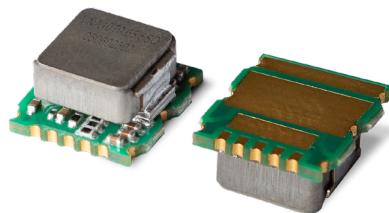


Dimensions in mm.

# ABEL

## MAIN FEATURES

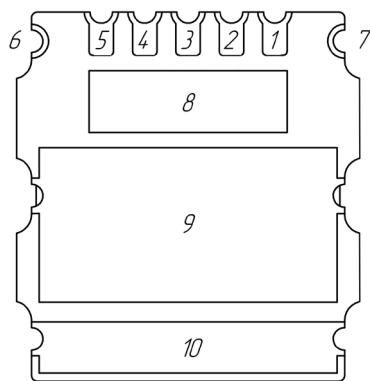
Input voltage range, $V_{IN}$	-0,3...+25 VDC
Pin voltage EN, $V_{EN}$	-0,3... $V_{IN}$ VDC
Output pin voltage PG, $V_{SS}$	-0,3...+25 VDC
Output pin voltage FB, $V_{FB}$	-0,3...+4 VDC
Crystal operating temperature range <sup>1</sup> , $T_J$	-40...+150 °C
Save temperature, $T_S$	-60...+125 °C



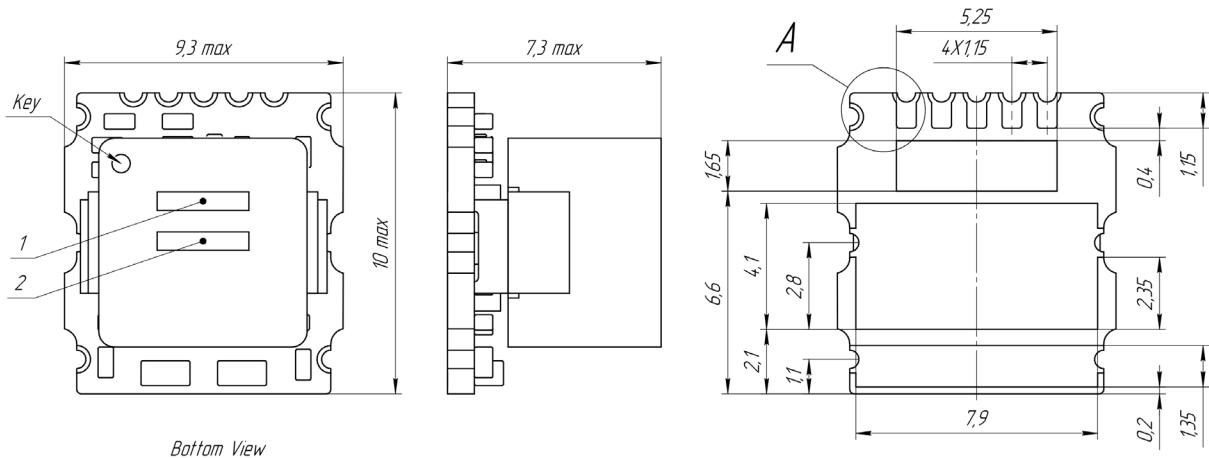
<sup>1</sup> Crystal temperature is the temperature of the module controller chip. Ambient temperature – ambient air temperature. The values are given for natural cooling of the module installed on a four-layer printed circuit board with dimensions of at least 100 × 100 mm with a foil thickness of 70 microns.

## PIN ASSIGNMENT

Output	Function
1	AGND
2	EN
3	FB
4	NC
5	PG
6	$V_{OUT}$
7	$V_{OUT}$
8	$V_{OUT}$
9	PGND
10	$V_{IN}$



Pin location of the module VNA10T0,65,5SQ (bottom view).



Dimensions in mm.

VDN

VDRI

VNA

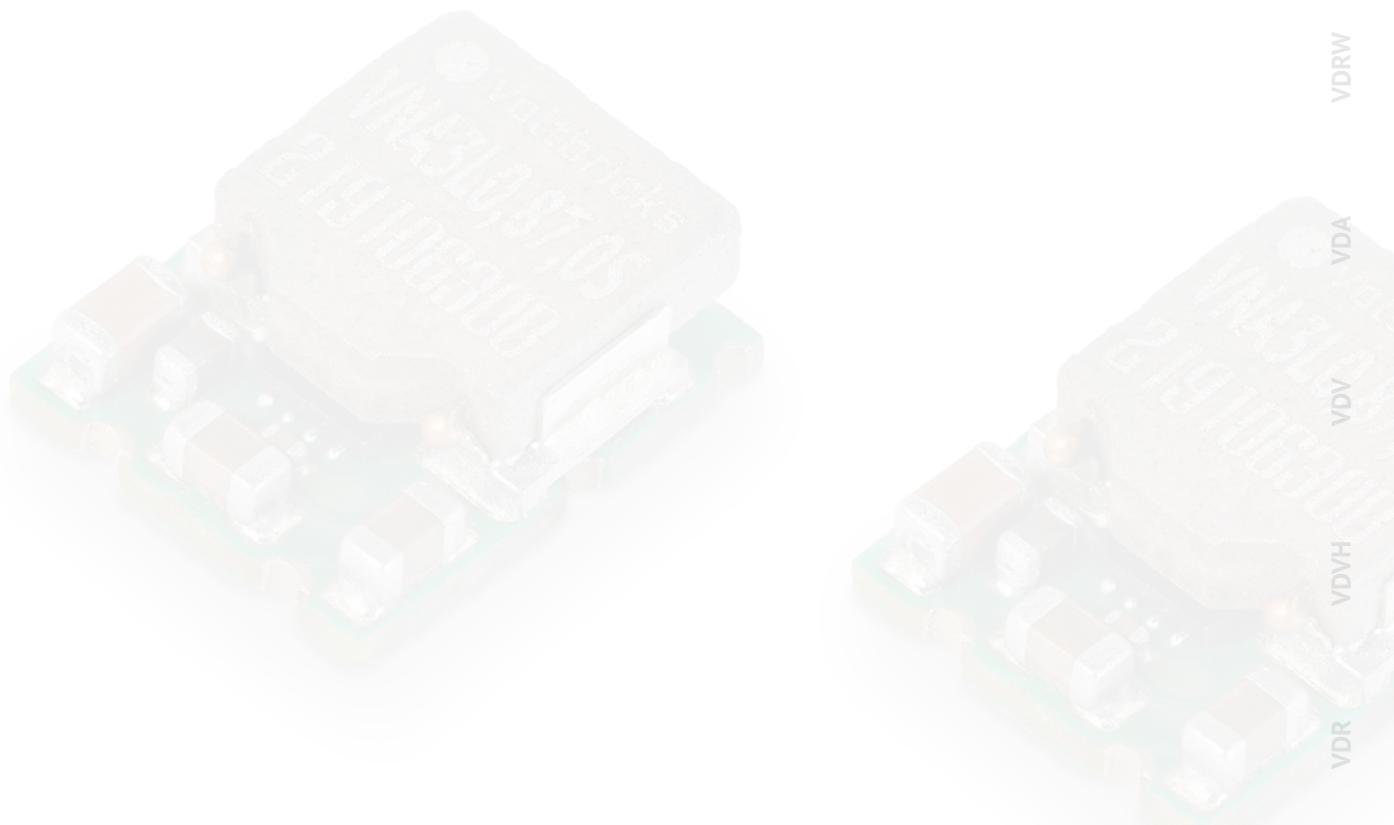
VDRW

VDA

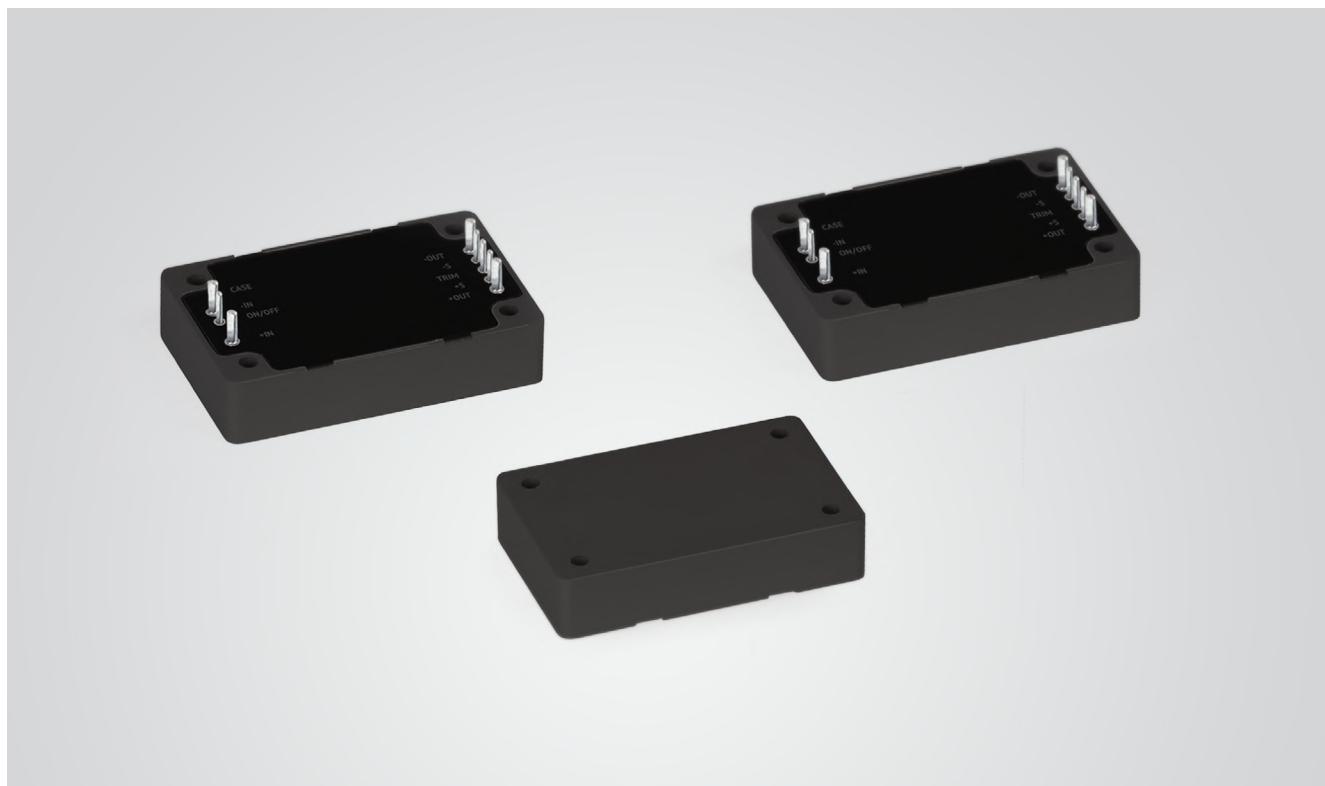
VDV

VDVH

VDMC



# VDRW Series for railway application



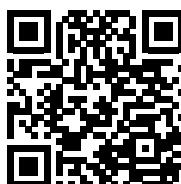
Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Form-factor
VDRW50	50	72	5; 12; 15; 24; 36; 48	2500 VDC	87%	Quarter Brick
VDRW100	100				89%	

## DESCRIPTION

Converters with power from 50 up to 100 W in brick-type case. Circuit design makes these converters compliant to EN50155 standard for railway equipment. These units are suitable for wide range of case operating temperature and resistant to vibration. They are equipped with remote on/off function and the full range of protections (overcurrent, short-circuit, and overheating), as well as service functions of remote sense.

## FEATURES

- Output voltage adjustment
- Remote on/off
- Low-profile design
- Case operating temperature -40...+100 °C
- Short-circuit protection, overvoltage, thermal protection
- Minimum load not required
- Single-piece metal case with shielding plate
- Remote sense for the output voltage



Description of VDRW Series on the manufacturer's website:  
<https://voltbricks.com/en/product/vdrw>

# VDRW50

## FEATURES

- Output current up to 10 A
- Low-profile design (12,7 mm)
- Case operating temperature -40...+100 °C
- Typical efficiency 87% (Uout.=12 VDC)
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing
- Remote sense for the output voltage

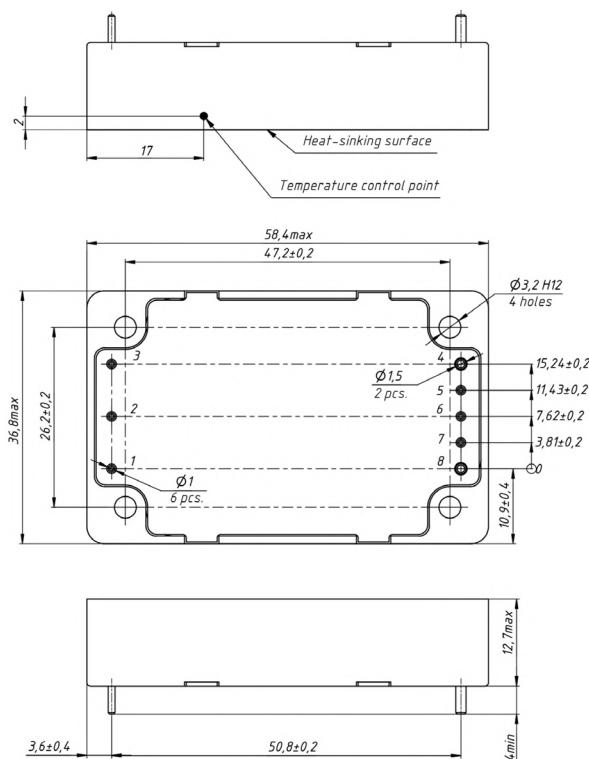


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN 60950-1
Environmental & Reliability Std.	EN 50155
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	-RS
2	ON	6	TRIM
3	-IN	7	+RS
4	-OUT	8	+OUT



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
50 W	72 (33...160)	28...166 @ 1 s	5	10
			12	4,17
			15	3,33
			24	2,08
			36	1,39
			48	1,04

## GENERAL SPECIFICATIONS

Form-factor	Quarter Brick
Output voltage adjustment	+10...-20 % Uout.nom
Line and load regulation	max ±4 % Uout.nom
Ripple and noise (p-p)	<1 % Uout.nom
Overshoot protection level	<1,3 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", 1≤5 mA
Case operating temperature	-40...+100 °C
Typical efficiency	87% @ Uout.=12 VDC
Isolation voltage	2500 VDC
Humidity	98% / 35 °C
Typical MTBF	2000 kHrs
Dimensions (without pinouts)	36,8×58,4×12,7 mm
Weight	max 79 g

# VDRW100

## FEATURES

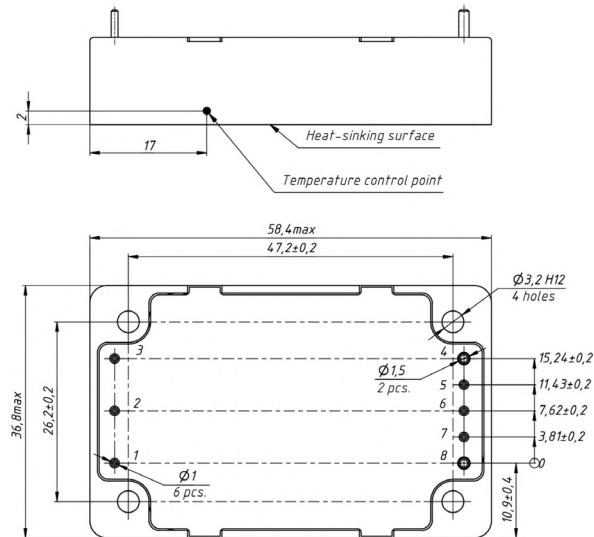
- Output current up to 20 A
- Low-profile design (12,7 mm)
- Case operating temperature -40...+100 °C
- Typical efficiency 89 % (Uout.=15 VDC)
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing
- Remote sense for the output voltage

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN 60950-1
Environmental & Reliability Std.	EN 50155
EMC Std.	EN 55022 Class B

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	-RS
2	ON	6	TRIM
3	-IN	7	+RS
4	-OUT	8	+OUT



Dimensions in mm.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
100 W	72 (33...160)	28...166 @ 1 s	5	20
			12	8,33
			15	6,67
			24	4,17
			36	2,78
			48	2,08

## GENERAL SPECIFICATIONS

Form-factor	Quarter Brick
Output voltage adjustment	+10...-20 % Uout.nom
Line and load regulation	max ±4 % Uout.nom
Ripple and noise (p-p)	<1 % Uout.nom
Overcurrent protection level	<1,3 Inom
Short-circuit protection	Auto recovery
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I<5 mA
Case operating temperature	-40...+100 °C
Typical efficiency	89 % @ Uout.=15 VDC
Isolation voltage	2500 VDC
Humidity	98 % / 35 °C
Typical MTBF	2000 kHrs
Dimensions (without pinouts)	36,8×58,4×12,7 mm
Weight	max 79 g



# VDA Series, pulse load power supplies



Models	Output Power, W	Nominal Input Voltage*, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency (28 VDC output)	Dimensions, mm
VDA500	340	28; 60; 300	7,5; 9; 12,5; 28; 36; 40; 50	750 VDC	90–92 %	120,9×38×12,85
	500		28; 36; 40; 50			

## DESCRIPTION

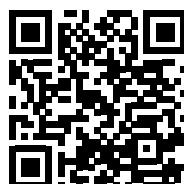
Low-profile isolated DC/DC converters for pulse current load are optimized for using in decentralized power systems such as transceiver modules and other similar power supply systems with pulse load, for example in AESA.

The compact size allows to install it as close as possible to the point of load and reduce the load regulation. Galvanically isolated differential input allows to synchronize switching frequency and to provide reliable hardware or software filtering of EMI.

High-speed voltage feedback allows to use smaller output capacitor or sometimes omit it and thus reduce the overall dimensions of the system.

## FEATURES

- For pulse load
- Output voltage adjustment
- Remote on/off
- Power good signal
- Low-profile design
- Case operating temperature –60...+125 °C
- Minimum load not required
- Frequency synchronization



Description of VDA Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vda>

\* Nominal values, Input ranges are specified in the description on pages with models.

VDA500

## FEATURES

- Output current up to 30 A
  - Switching frequency 450...530 kHz, external synchronization
  - Typical efficiency 90–92 % ( $U_{\text{out}}=28 \text{ VDC}$ )
  - Case operating temperature  $-60\dots+125^\circ\text{C}$
  - No minimum load
  - Ultrafast voltage feedback

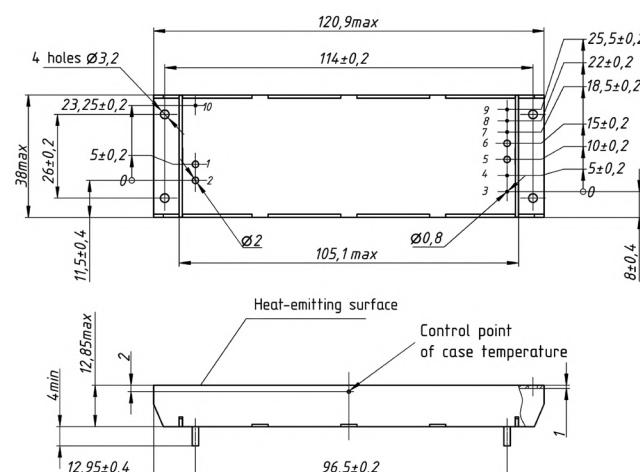


ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F

PIN CONNECTION

<b>PIN</b>	<b>Function</b>	<b>PIN</b>	<b>Function</b>
1	-IN	6	-OUT
2	+IN	7	DIAG
3	SYNC2	8	ON
4	SYNC1	9	TRIM
5	+OUT	10	CASE



Dimensions in mm

MODELS

Output Power	Input Voltage Range, VDC	Output Voltage, VDC	Rated Output Current, A
340 W	28 (22...33) 60 (44...66) 300 (270...330)	7,5	30
		9	30
		12,5	27,2
		28	12,1
		36	9,44
		40	8,5
		50	6,8
500 W	28 36 40 50	28	17,9
		36	13,9
		40	12,5
		50	10

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout.nom
Line and load regulation 0...100 %...0 load step	max ±4 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overcurrent protection level	<1,5 Pmax
Short-circuit protection	Auto recovery
Internal switching frequency	450...470 kHz
Synchronization frequency	470...530 kHz
Synchronization off-duty factor	1,25...5
Synchronization amplitude	2,4...5,5 V
Remote on/off	2,4...5,5 mA to "ON" ref.to "-OUT"
Case operating temperature	-60...+125 °C
Typical efficiency	90–92 % @ Uout.=28 VDC
Isolation voltage	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	6,4 °C/W
Typical MTBF	1 737 900 Hrs
Cooling	Conductive
Dimensions (without pinouts)	120,9×38×12,85 mm
Weight	max 190 g

# VDV Series, multi-purpose compact converters



Models	Output Power, W	Nominal Input Voltage*, VDC	Output Voltage, VDC	Isolation Voltage	Dimensions, mm
VDV8	3; 5; 8	28	5; 9; 12; 15; 24; 28	750 VDC	40x20,2x10,15
VDV12	12				50x30,2x10,15
VDV25	15; 20; 25				57,5x33,2x10,15
VDV50	30; 50				67,5x40,2x10,15
VDV80	80	27			84,5x52,7x12,85
VDV160	160	27; 60	12; 15; 24; 28; 48		107x67,7x12,85
VDV500	400				122x84,2x12,85
	500	27	15; 24; 28; 48		
VDV1000	1000	27; 60	24; 28; 48		168x122x16

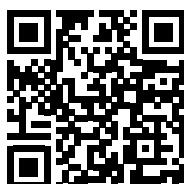
## DESCRIPTION

Compact isolated DC/DC converters of VDV Series for harsh environments and most crucial applications. These modules can have single or dual galvanically isolated output, remote on/off, short-circuit, overcurrent and thermal protection and can operate in parallel and series modes. Without optocouplers in the converter's circuit it can safely operate in conditions of ionizing radiation and high temperature. Power supplies have various protections from different factors: vibration, dirt, moisture and salt mist. These modules undergo special thermal and limit test including burn-in test with extreme on/off modes.

\* Nominal values, Input ranges are specified in the description on pages with models.

## FEATURES

- Low-profile design
- Magnetic feedback without optocouplers
- Single, dual and triple output models
- Short-circuit protection, overvoltage
- Remote on/off
- Case operating temperature -60...+125 °C
- Output voltage adjustment
- Polymer potting sealing
- Parallel operation with active current sharing



Description of VDV Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdv>

# VDV8

## FEATURES

- Output current up to 1,6 A
- Low-profile design (10,15 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Single and dual output models
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

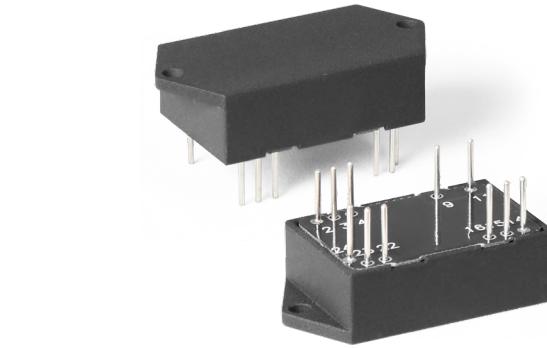
## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
3 W	28 (9...70)	8...80 @ 10 s	5	0,6
			9	0,33
			12	0,25
			15	0,2
			24	0,125
			28	0,11
5 W			5	1
			9	0,55
			12	0,42
			15	0,33
			24	0,21
			28	0,18
8 W			5	1,6
			9	0,88
			12	0,67
			15	0,53
			24	0,33
			28	0,28

Other output voltage within range 3...70 VDC is also available upon special request.

## PIN CONNECTION

PIN	Single channel	PIN	Single channel
2,3	-IN	15	TRIM
4	ON	16	-OUT
9,11	NOTE USE	22,23	+IN
14	+OUT	24	CASE



## ENGINEERED IN ACCORDANCE WITH

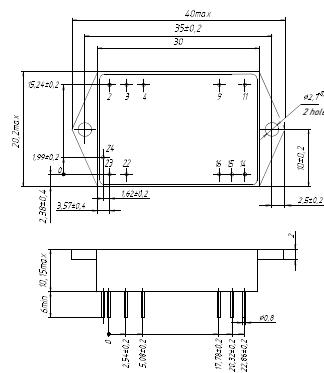
Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout. nom
Line and load regulation (0,1–1–0,1) Pmax load step @ 500 us front time	±10 % Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<1,8 Pmax for 8 W
Short-circuit protection	Auto recovery
Oversupply protection level	≤1,5 Uout. nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I≤5 mA
Case operating temperature	-60...+125 °C
Switching frequency	300 kHz ±10%
Typical efficiency	83 % @ Uout.=28 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	19,8 °C/W
Typical MTBF	1737900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	40×20,2×10,15 mm
Weight	22 g

Dimensions in mm.

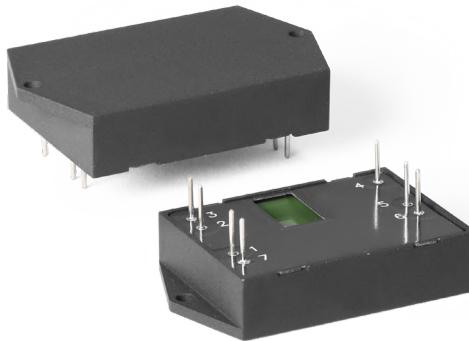
This dimensional layout refers to single-output version.  
Dual-output models are also available. Detailed information can be found in technical documentation on the manufacturer's website.



# VDV12

## FEATURES

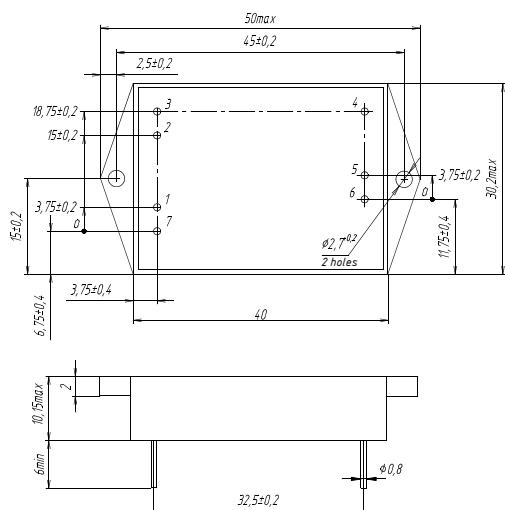
- Output current up to 2,4 A
- Low-profile design (10,15 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Single, dual and triple output models
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
12 W	28 (9...70)	8...80 @ 10 s	5	2,4
			9	1,33
			12	1
			15	0,8
			24	0,5
			28	0,43

Other output voltage within range 3...70 VDC is also available upon special request.



Dimensions in mm. This dimensional layout refers to single-output version with flanges. Dual- and triple-output models are also available.

Detailed information can be found in technical documentation on the manufacturer's website.

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout. nom
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	±10 % Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<1,8 Pmax for 12 W
Short-circuit protection	Auto recovery
Oversupply protection level	<1,5 Uout. nom
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", I<5 mA
Case operating temperature	-60...+125 °C
Switching frequency	300 kHz ±10%
Typical efficiency	86 % @ Uout.=24 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	12,5 °C/W
Typical MTBF	1 737 900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	50x30,2x10,15 mm
Weight	30 g

# VDV25

## FEATURES

- Output current up to 5 A
- Low-profile design (10,15 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Single and dual output models
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
15 W	28 (9...70)	8...80 @ 10 s	5	3
			9	1,66
			12	1,25
			15	1
			24	0,63
			28	0,53
20 W			5	4
			9	2,22
			12	1,67
			15	1,33
			24	0,83
			28	0,71
25 W			5	5
			9	2,78
			12	2,1
			15	1,67
			24	1,04
			28	0,89

Other output voltage within range 3...70 VDC is also available upon special request.

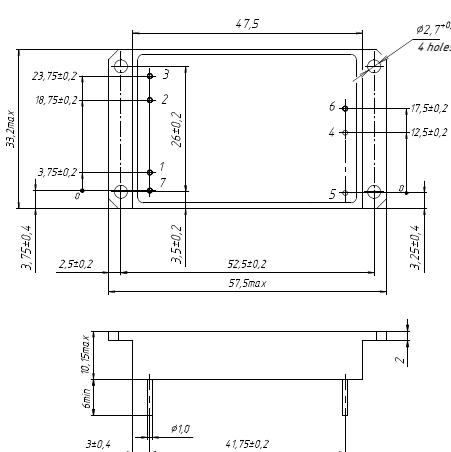


## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout. nom
Line and load regulation (0,1–1–0,1) Pmax load step @ 500 us front time	±10 % Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<2,2 Pmax for 20 W
Short-circuit protection	Auto recovery
Oversupply protection level	≤1,5 Uout. nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN",  ≤5 mA
Case operating temperature	-60...+125 °C
Switching frequency	300 kHz ±10%
Typical efficiency	87 % @ Uout.=24 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	8,7 °C/W
Typical MTBF	1737900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	57,5×33,2×10,15 mm
Weight	45 g



## PIN CONNECTION

PIN	Single channel	PIN	Single channel
1	+IN	5	-OUT
2	-IN	6	TRIM
3	ON	7	CASE
4	+OUT		

Dimensions in mm. This dimensional layout refers to single-output version with flanges. Dual-output models are also available. Detailed information can be found in technical documentation on the manufacturer's website.

# VDV50

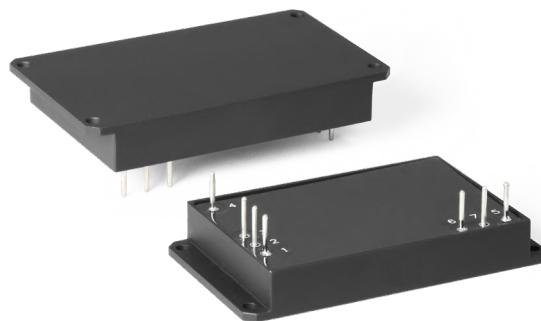
## FEATURES

- Output current up to 10 A
- Low-profile design (10,15 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Single and dual output models
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
30 W	28 (9...70)	8...80 @ 10 s	5	6
			9	3,33
			12	2,5
			15	2
			24	1,25
			28	1,07
50 W	50 W	8...80 @ 10 s	5	10
			9	5,55
			12	4,16
			15	3,3
			24	2,1
			28	1,8

Other output voltage within range 3...70 VDC is also available upon special request.

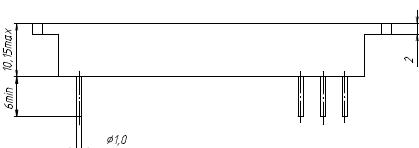
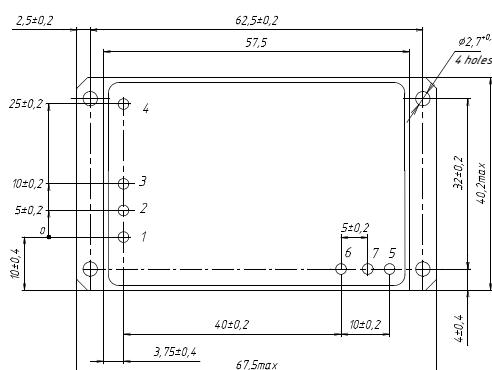


## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout.nom
Line and load regulation (0,1–0,1) Pmax load step @ 500 us front time	±10 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overload protection level	<2,2 Pmax for 40 W
Short-circuit protection	Auto recovery
Oversupply protection level	≤1,5 Uout.nom
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", I<5 mA
Case operating temperature	-60...+125 °C
Switching frequency	300 kHz ±10%
Typical efficiency	91 % @ Uout.=24 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	7,8 °C/W
Typical MTBF	1737900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	67,5×40,2×10,15 mm
Weight	65 g



## PIN CONNECTION

PIN	Single channel	PIN	Single channel
1	CASE	5	+OUT
2	+IN	6	-OUT
3	-IN	7	TRIM
4	ON		

Dimensions in mm. This dimensional layout refers to single-output version with flanges. Dual-output models are also available. Detailed information can be found in technical documentation on the manufacturer's website.

# VDV80

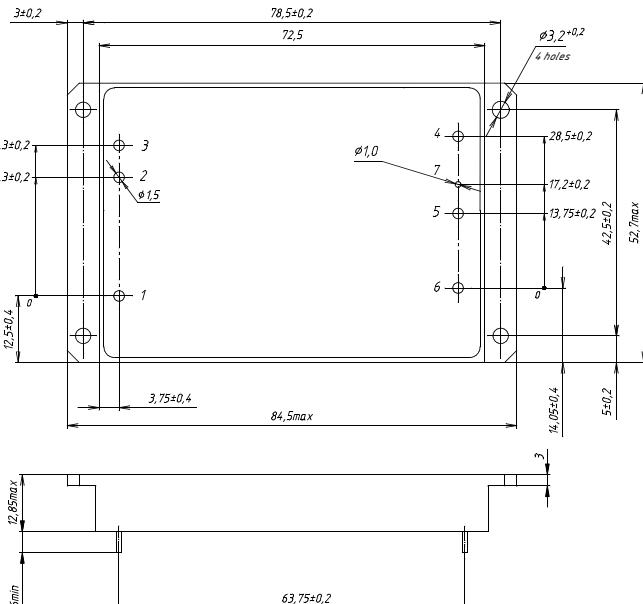
## FEATURES

- Output current up to 16 A
- Low-profile design (12,85 mm)
- Case operating temperature  $-60\dots+125\text{ }^{\circ}\text{C}$
- Magnetic feedback without optocouplers
- Typical efficiency 89 %
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
80 W	27 (17...36)	17...80 @ 1 s	5	16
			9	8,88
			12	6,7
			15	5,3
			24	3,33
			28	2,85

Other output voltage within range 3...70 VDC is also available upon special request.



Dimensions in mm.



## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ Uout. nom
Line and load regulation (0,1–1–0,1) Pmax load step @ 500 us front time	$\pm 10\%$ Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<2,2 Pmax for 80 W
Short-circuit protection	Auto recovery
Oversupply protection level	<1,5 Uout. nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I $\leq$ 5 mA
Case operating temperature	$-60\dots+125\text{ }^{\circ}\text{C}$
Switching frequency	130 kHz $\pm 10\%$
Typical efficiency	89 % @ Uout.=28 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	5,3 °C/W
Typical MTBF	1 737 900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	84,5x52,7x12,85 mm
Weight	110 g

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	+OUT
2	-IN	6	-OUT
3	ON	7	TRIM
4	CASE		

# VDV160

## FEATURES

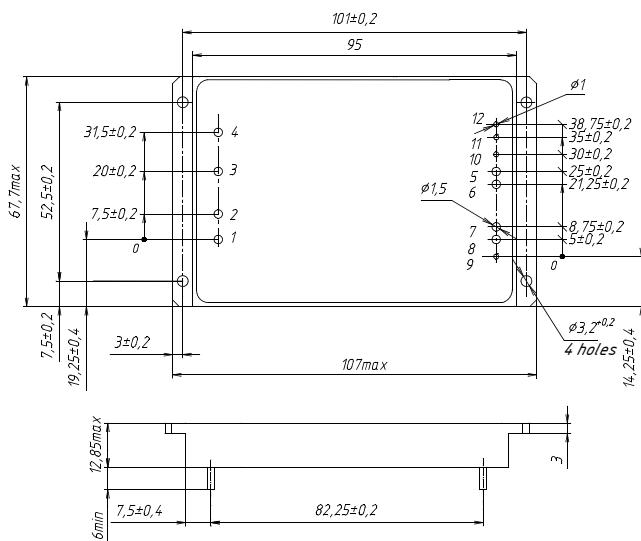
- Output current up to 30 A
- Low-profile design (12,85 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Typical efficiency 89 %
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing
- Remote sense for the output voltage
- Parallel operation



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
160 W	27 (17...36) 60 (36...75)	17...80 @ 1 s 36...84 @ 1 s	12	13,3
			15	10,6
			24	3,7
			28	5,7
			48	3,3

Other output voltage within range 3...70 VDC is also available upon special request.



Dimensions in mm.

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout.nom
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	±10 % Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overload protection level	<2,2 Pmax for 160 W
Short-circuit protection	Auto recovery
Oversupply protection level	≤1,5 Uout.nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", ≤5 mA
Case operating temperature	-60...+125 °C
Switching frequency	130 kHz ±10%
Typical efficiency	89 % @ Uout.=28 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	3,3 °C/W
Typical MTBF	1737900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	107×67,7×12,85 mm
Weight	184 g

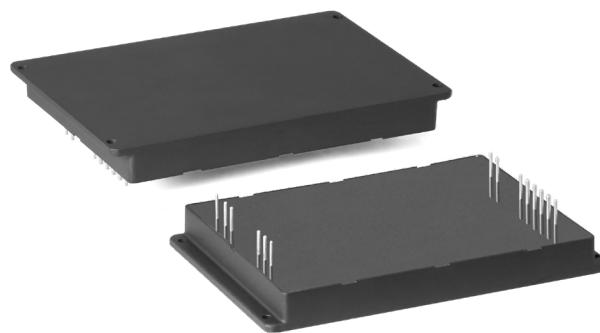
## PIN CONNECTION

PIN	Function	PIN	Function
1	ON	7,8	+OUT
2	-IN	9	+RS
3	+IN	10	-RS
4	CASE	11	TRIM
5,6	-OUT	12	PARAL

# VDV500

## FEATURES

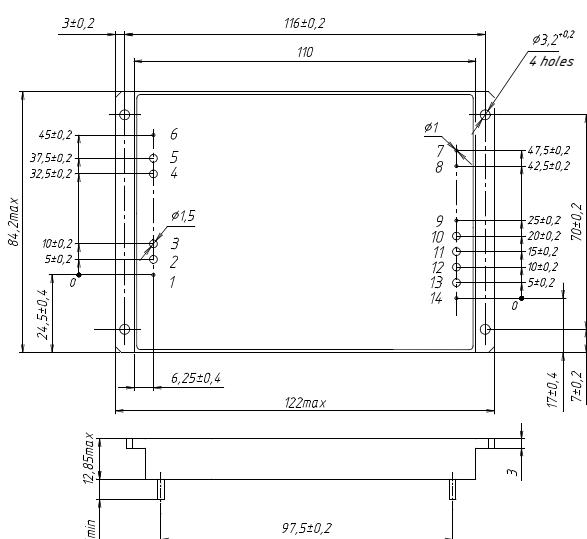
- Output current up to 30 A
- Low-profile design (12,85 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Typical efficiency 89 %
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Polymer potting sealing
- Remote sense for the output voltage
- Parallel operation



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
400 W	27 (17...36) 60 (36...75)	17...80 @ 1 s 36...84 @ 1 s	12	30
			15	26,6
			24	16,7
			28	14,2
			48	8,3
500 W	27 (17...36)	17...80 @ 1 s	15	20,8
			24	18,5
			28	17,8
			48	10,4

Other output voltage within range 3...70 VDC is also available upon special request.



Dimensions in mm.

## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout. nom
Line and load regulation (0,1–1–0,1) Pmax load step @ 500 us front time	±10 % Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<1,8 Pmax for 500 W
Short-circuit protection	Auto recovery
Overvoltage protection level	≤1,5 Uout. nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", ≤5 mA
Case operating temperature	-60...+125 °C
Switching frequency	140 kHz ±10%
Typical efficiency	89 % @ Uout.=24 VDC
Isolation voltage (I/O,I/C,O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	3 °C/W
Typical MTBF	1737900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	122×84,2×12,85 mm
Weight	250 g

## PIN CONNECTION

PIN	Function	PIN	Function
1	ON	8	TRIM
2, 3	-IN	9	-RS
4, 5	+IN	10, 11	-OUT
6	CASE	12, 13	+OUT
7	PARAL	14	+RS

# VDV1000

## FEATURES

- Output current up to 40 A
  - Low-profile design (16 mm)
  - Case operating temperature  $-60\ldots+125^\circ\text{C}$
  - Magnetic feedback without optocouplers
  - Typical efficiency 92 %
  - Short-circuit protection, overvoltage, thermal protection
  - Remote on/off
  - Output voltage adjustment
  - Polymer potting sealing
  - Remote sense for the output voltage
  - Parallel operation



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
1000 W	27 (17...36)	17..80 @ 1 s	24	40
	60 (36...75)	36..84 @ 1 s	28	35,7
			48	20,8

**ENGINEERED IN ACCORDANCE WITH**

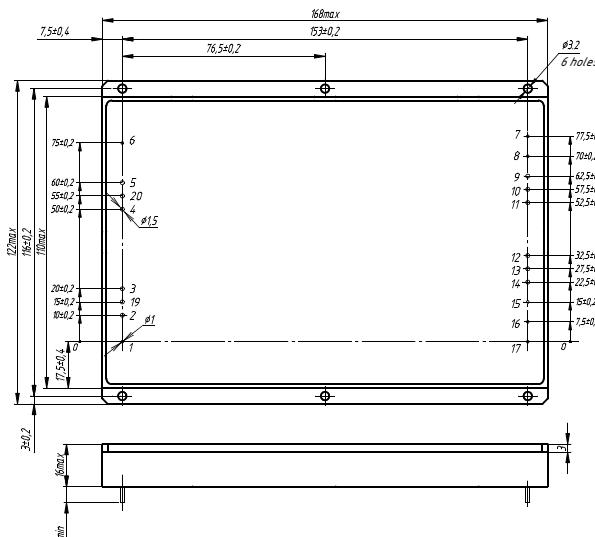
Safety Std.	Approval	EN60950-1
Environmental Test Std.		MIL-STD-810G
EMC Std.		MIL-STD-461F
Aircraft Electric Spec.		Survives 80 V transients / MIL-STD-704A

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ Uout. nom
Line and load regulation (0,1–1–0,1) Pmax load step @ 500 us front time	$\pm 10\%$ Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overload protection level	<1,8 Pmax
Short-circuit protection	Auto recovery
Oversupply protection level	$\leq 1,5$ Uout. nom
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I $\leq$ 5 mA
Case operating temperature	-60...+125 °C
Switching frequency	280 kHz $\pm 10\%$
Typical efficiency	92 % @ Uout.=24 VDC
Isolation voltage (I/O, I/C, O/C)	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	2,7 °C/W
Typical MTBF	1 737 900 Hrs
Cooling	convectional with heatsink or forced fan
Dimensions (without pinouts)	168x122x16 mm
Weight	690 g

## PIN CONNECTION

<b>PIN</b>	<b>Function</b>	<b>PIN</b>	<b>Function</b>
1	ON	9,10,11	+OUT
2,3,19	-IN	12,13,14	-OUT
4,5,20	+IN	15	-RS
6	CASE	16	TRIM
7	PGOOD	17	PARAL
8	+RS		



Dimensions in mm.

VDN

VDR|

VNA

VDRW

VDA

VDV

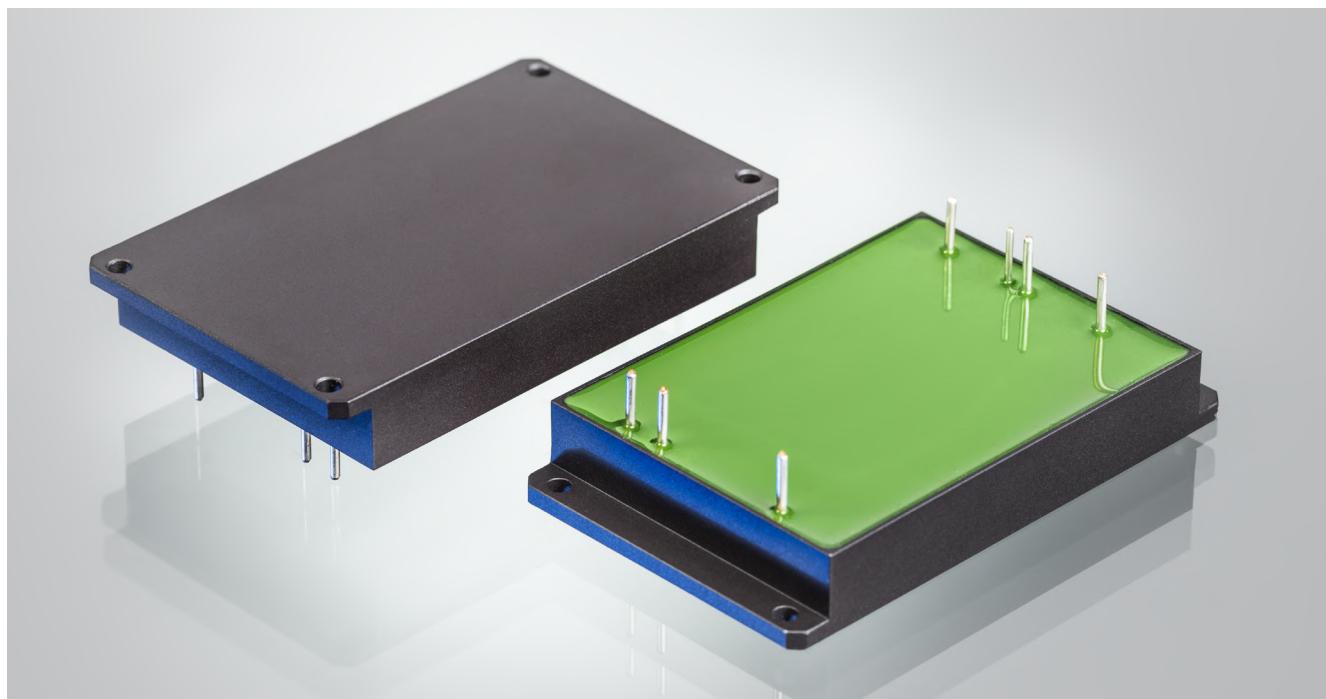
VDVH

VDMC

VDMC



# VDVH Series, high voltage input converters



Models	Output Power, W	Nominal Input Voltage*, VDC	Output Voltage, VDC	Isolation Voltage (IN/OUT)	Dimensions, mm
VDVH40	30; 40	110; 230	5; 9; 12; 15; 24; 28	2100 VDC	84,5x52,7x12,85
VDVH160	80; 120; 160				107x67,7x12,85
VDVH500	400		12; 15; 24; 28		122x84,2x12,85
	500		15; 24; 28		
VDVH1000	1000		24; 28		168x122x16

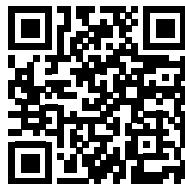
## DESCRIPTION

Compact isolated DC/DC converters of VDVH Series for harsh environments and most crucial applications. These modules can have single, dual or triple galvanically isolated output, remote on/off, short-circuit, overcurrent and thermal protection and can operate in parallel and series modes. Without optocouplers in the converter's circuit it can safely operate in conditions of ionizing radiation and high temperature. Power supplies have various protections from different factors: vibration, dirt, moisture fog and salt mist. These modules undergo special thermal and limit test including burn-in test with extreme on/off modes.

\* Nominal values, Input ranges are specified in the description on pages with models.

## FEATURES

- Low-profile design
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Case operating temperature -60...+125 °C
- Output voltage adjustment
- Parallel operation with active current sharing
- Remote feedback
- Polymer potting sealing



Description of VDV Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdvh>

# VDVH40

## FEATURES

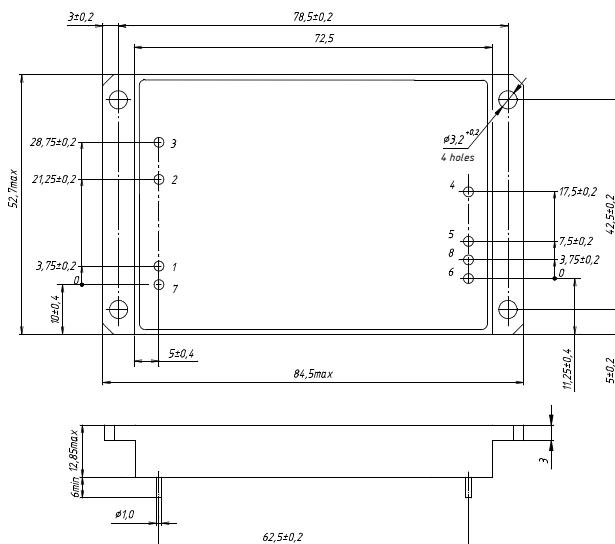
- Output current up to 8 A
- Low-profile design (12,85 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Single and dual output models
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment in single channel models
- Typical efficiency 86 %
- Polymer potting sealing

## ENGINEERED IN ACCORDANCE WITH

Safety Std. Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704F

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	-OUT
2	-IN	6,7	CASE
3	ON	8	TRIM
4	+OUT	9	-



Dimensions in mm. This dimensional layout refers to single-output version. Dual-output model is also available. Detailed information can be found in technical documentation on the manufacturer's website.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
30 W	110 (82...154) 230 (175...350)	82...170 @ 1 s	5	6
		175...400 @ 1 s	9	3,33
		12	2,5	
		15	2	
		24	1,25	
		28	1,07	
		5	8	
		9	4,44	
		12	3,33	
		15	2,67	
		24	1,67	
		28	1,42	

Other output voltage within range 3...70 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout.nom	
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	±10 % Uout.nom	
Ripple and noise (p-p)	<2 % Uout.nom	
Overload protection level	<2,2 Pmax for 40 W	
Short-circuit protection	Auto recovery	
Overshoot protection level	≤1,5 Uout.nom	
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN"; I≤5 mA	
Case operating temperature	-60...+125 °C	
Switching frequency	130 kHz ±10%	
Typical efficiency	86 % @ Uout.=15 VDC	
Isolation voltage	IN/OUT OUT/CASE	2100 VDC 700 VDC
Humidity	98 % / 35 °C	
Thermal resistance case-ambient	5,3 °C/W	
Typical MTBF	1737900 Hrs	
Dimensions (without pinouts)	84,5×52,7×12,85 mm	
Weight	110 g	

# VDVH160

## FEATURES

- Output current up to 30 A
- Low-profile design (12,85 mm)
- Case operating temperature -60...+125 °C
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Typical efficiency 88 %
- Polymer potting sealing

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704F

## PIN CONNECTION

PIN	Function for 80,160 W	PIN	Function for 80,160 W
1	ON	7,8	+OUT
2	-IN	9	+RS
3	+IN	10	-RS
4	CASE	11	TRIM
5,6	-OUT	12	PARAL

## GENERAL SPECIFICATIONS

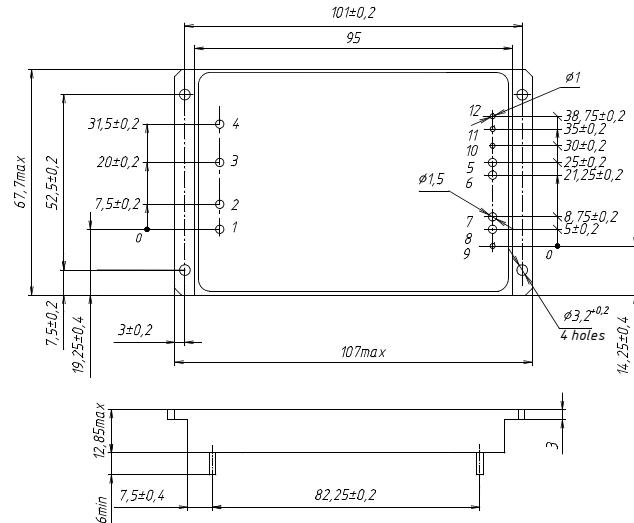
Output voltage adjustment	±5 % Uout.nom	
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	±10 % Uout.nom	
Ripple and noise (p-p)	<2 % Uout.nom	
Overload protection level	<2,2 Pmax for 160 W	
Short-circuit protection	Auto recovery	
Oversupply protection level	<1,5 Uout.nom	
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I<5 mA	
Case operating temperature	-60...+125 °C	
Switching frequency	130 kHz ±10%	
Typical efficiency	88 % @ Uout=28 VDC	
Isolation voltage	IN/OUT OUT/CASE	2100 VDC 700 VDC
Humidity	98 % / 35 °C	
Thermal resistance case-ambient	3,3 °C/W	
Typical MTBF	1 737 900 Hrs	
Dimensions (without pinouts)	107×67,7×12,85 mm	
Weight	184 g	



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
80 W	110 (82...154) 230 (175...350)	82...170 @ 1 s 175...400 @ 1 s	5	16
			9	8,88
		12	6,67	
			15	5,3
		24	3,3	
			28	2,85
		5	30	
			9	17,7
		12	13,3	
			15	10,6
		24	6,67	
			28	5,7

Other output voltage within range 3...70 VDC is also available upon special request.



Dimensions in mm. This dimensional layout refers to units of 80 W and 160 W. Dimensional layout of 120 W model can be found in technical documentation on the manufacturer's website.

# VDVH500

## FEATURES

- Output current up to 30 A
- Low-profile design (12,85 mm)
- Case operating temperature  $-60\dots+125^\circ\text{C}$
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Typical efficiency 88 %
- Polymer potting sealing
- Remote sense for the output voltage
- Parallel operation



## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704F

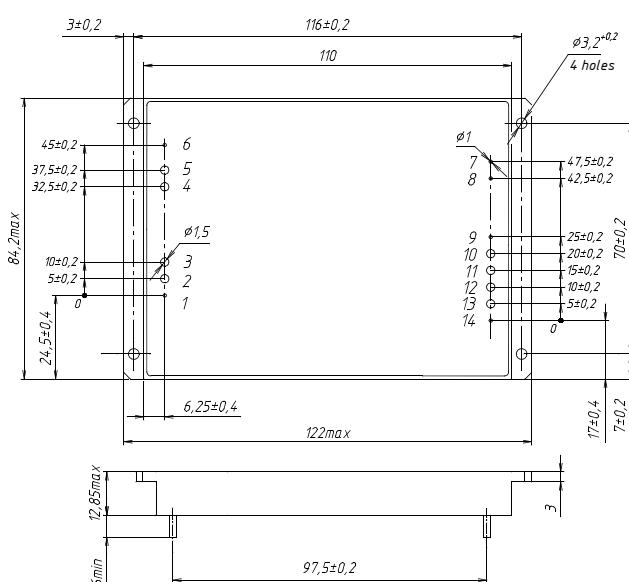
## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
400 W	110 (82...154) 230 (175...350)	82...170 @ 1 s	12	30
		175...400 @ 1 s	15	26,7
			24	16,7
			28	14,2
			15	30
500 W			24	20,8
			28	17,8

Other output voltage within range 3...70 VDC is also available upon special request.

## PIN CONNECTION

PIN	Function	PIN	Function
1	ON	8	TRIM
2,3	-IN	9	-RS
4,5	+IN	10,11	-OUT
6	CASE	12,13	+OUT
7	PARAL	14	+RS



Dimensions in mm.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\% \text{ Uout.nom}$
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	$\pm 10\% \text{ Uout.nom}$
Ripple and noise (p-p)	<2% Uout.nom
Overload protection level	<1,8 Pmax for 500 W
Short-circuit protection	Auto recovery
Oversupply protection level	$\leq 1,5 \text{ Uout.nom}$
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", $I \leq 5 \text{ mA}$
Case operating temperature	-60...+125 °C
Switching frequency	130 kHz $\pm 10\%$
Typical efficiency	88% @ $\text{Uout}=24 \text{ VDC}$
Isolation voltage	IN/OUT OUT/CASE 2100 VDC 700 VDC
Humidity	98% / 35 °C
Thermal resistance case-ambient	3 °C/W
Typical MTBF	1737900 Hrs
Dimensions (without pinouts)	122x84,2x12,85 mm
Weight	250 g

# VDVH1000

## FEATURES

- Output current up to 40 A
- Low-profile design (16 mm)
- Case operating temperature  $-60\dots+125\text{ }^\circ\text{C}$
- Magnetic feedback without optocouplers
- Power good signal
- Short-circuit protection, overvoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Typical efficiency 93 %
- Polymer potting sealing
- Remote sense for the output voltage
- Parallel operation

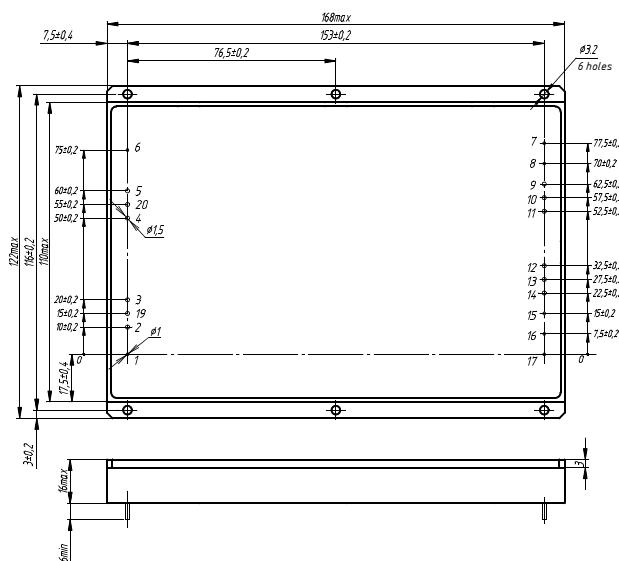


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	MIL-STD-704F

## PIN CONNECTION

PIN	Function	PIN	Function
1	ON	9,10,11	+OUT
2,3,19	-IN	12,13,14	-OUT
4,5,20	+IN	15	-RS
6	CASE	16	TRIM
7	PGOOD	17	PARAL
8	+RS		



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
1000 W	110 (82...154) 230 (175...350)	82...170 @ 1 s 175...400 @ 1 s	24	40
			28	35

Other output voltage within range 3...70 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ Uout. nom	
Line and load regulation (0,1-1-0,1) Pmax load step @ 500 us front time	$\pm 10\%$ Uout. nom	
Ripple and noise (p-p)	<2 % Uout. nom	
Overload protection level	<1,8 Pmax	
Short-circuit protection	Auto recovery	
Oversupply protection level	<1,5 Uout. nom	
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", I<5 mA	
Case operating temperature	$-60\dots+125\text{ }^\circ\text{C}$	
Switching frequency	250 kHz $\pm 10\%$	
Typical efficiency	93 % @ Uout.=28 VDC	
Isolation voltage	IN/OUT OUT/CASE	2100 VDC 700 VDC
Humidity	98 % / 35 °C	
Thermal resistance case-ambient	2,7 °C/W	
Typical MTBF	1737900 Hrs	
Dimensions (without pinouts)	168x122x16 mm	
Weight	690 g	

VDN

VDRI

VNA

VDRW

VDA

VDV

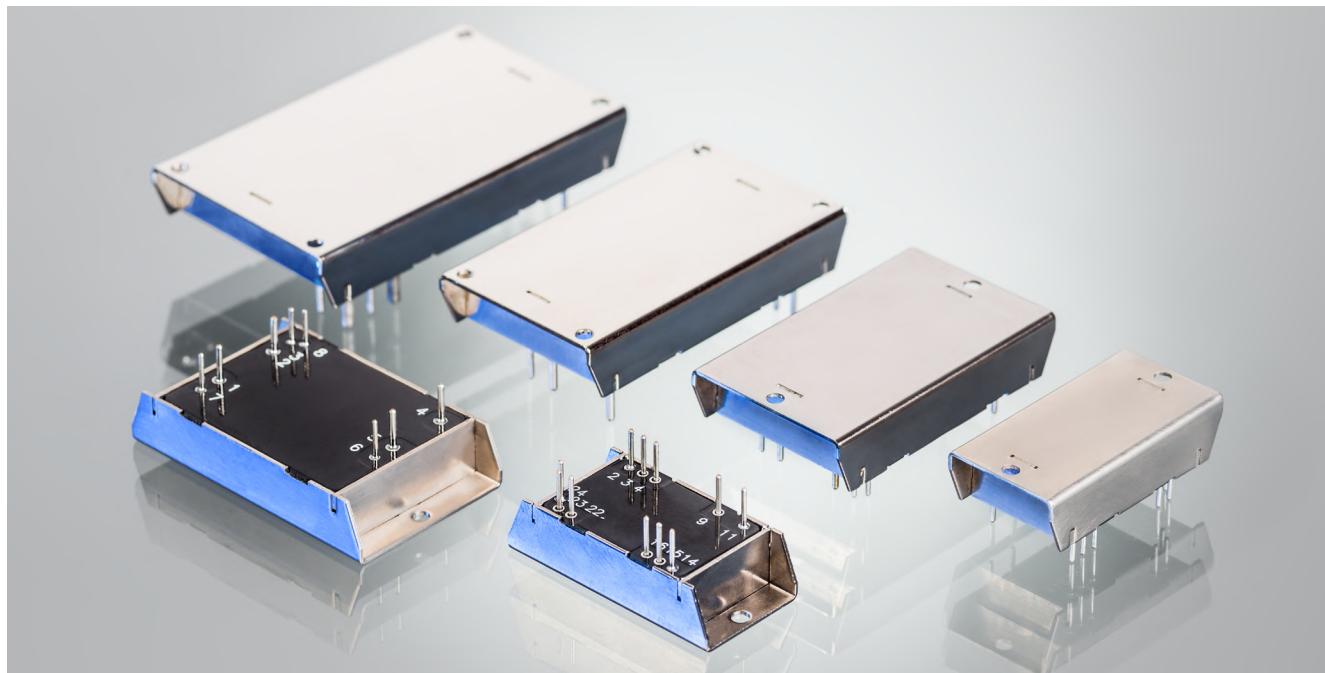
VDVH

VDR

VDMC



# VDR Series, ultra-compact converters



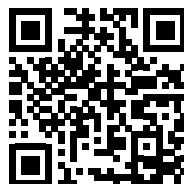
Models	Output Power, W	Nominal Input Voltage*,VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Dimensions, mm
VDR10	6; 10	12; 28; 48	3,3; 5; 9; 12; 15;	750 VDC	89 %	24,1×14×8,5
VDR25	15; 25	12; 28	24; 28		89 %	40×20,2×10,25
VDR50	40; 50				91 %	50×30,2×10,25
VDR100	75; 100				91 %	57,5×33,2×10,25
VDR160	120; 160				91 %	67,5×40,2×11,2
VDR300	250; 300	28; 48	9; 12; 15; 24; 28		91 %	84,5×52,7×12,85
VDR500	400; 500				92 %	107×67,7×12,85

## DESCRIPTION

Ultra-compact isolated DC/DC converters of VDR Series have been particularly designed for harsh environments and most crucial applications. These modules can be switched on/off by a signal, have full protection complex against overcurrent, short-circuit and overtemperature and can be connected in parallel or series. Without optocouplers in the converter's circuit it can safely operate in conditions of ionizing radiation and high temperature. Polymer potting sealing protects modules from different factors: vibration, dirt, moisture and salt mist. These modules undergo special thermal and limit test including burn-in test with extreme on/off modes.

## FEATURES

- Case operating temperature up to  $-60\dots+125$  °C
- Low-profile design
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Parallel operation with active current sharing



Description of VDR Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdr>

\* Nominal values, Input ranges are specified in the description on pages with models.

# VDR10

## FEATURES

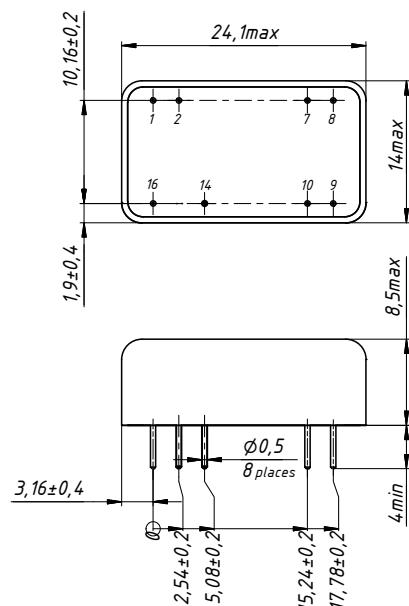
- Case operating temperature up to  $-60\ldots+125^\circ\text{C}$
- Output current up to 2 A
- Low-profile design (8,5 mm)
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage protection
- Remote on/off
- Typical efficiency 89 % ( $\text{Uout.=24 VDC}$ )

## ENGINEERED IN ACCORDANCE WITH

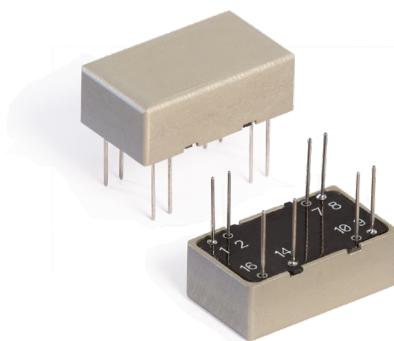
Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F

## PIN CONNECTION

PIN	Function	PIN	Function
1	-IN	10	-OUT
2	ON	14	CASE
7,8	NOT USE	16	+IN
9	+OUT		



Dimensions in mm.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
6 W	12 (9..18)	–	3,3	1,2
	28 (17..36)	17..40 @ 1 s	5	1,2
	48 (36..75)	36..84 @ 1 s	9	0,66
			12	0,5
			15	0,4
			24	0,25
			28	0,21
			3,3	2
10 W			5	2
			9	1,1
			12	0,83
			15	0,66
			24	0,41
			28	0,35

Other output voltage within range 3..80 VDC is also available upon special request.

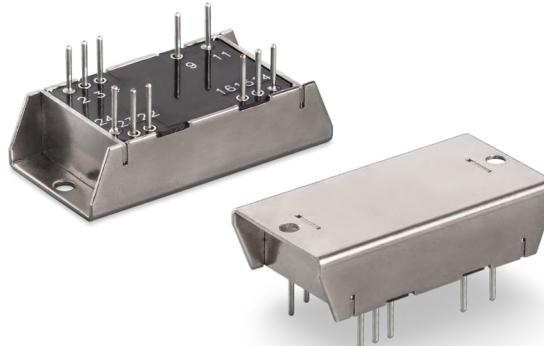
## GENERAL SPECIFICATIONS

Line and load regulation	max $\pm 6\%$ $\text{Uout. nom}$	
Ripple and noise (p-p)	<2% $\text{Uout. nom}$	
Overcurrent protection level	<2,7 Pmax	
Short-circuit protection	Auto recovery	
Switching frequency	500 kHz	
Remote on/off	Off.: 0..1,1 VDC or connection of pins "ON" and "-IN", $I \leq 5\text{ mA}$	
Case operating temperature	6 W	-60..+125 °C
	10 W	-60..+115 °C
Typical efficiency	89 % @ $\text{Uout.=24 VDC}$	
Isolation voltage	750 VDC	
Humidity	98 % / 35 °C	
Thermal resistance case-ambient	28 °C/W	
Typical MTBF	1737900 Hrs	
Dimensions (without pinouts)	24,1x14x8,5 mm	
Weight	max 20 g	

# VDR25

## FEATURES

- Case operating temperature  $-60\ldots+125^\circ\text{C}$
- Output current up to 5 A
- Low-profile design (10,25 mm)
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Typical efficiency 89 % ( $\text{Uout.}=24 \text{ VDC}$ )

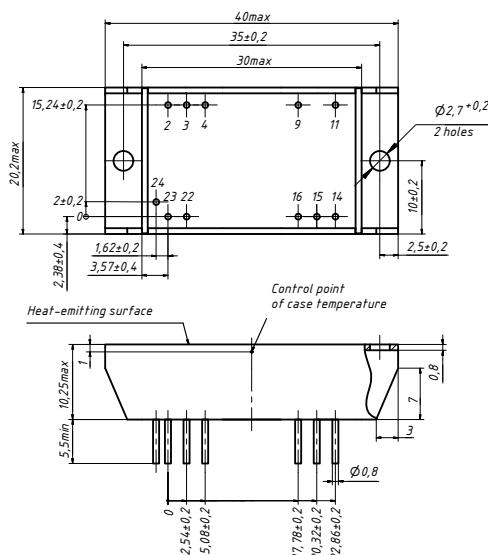


## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## PIN CONNECTION

PIN	Function	PIN	Function
2,3	-IN	15	TRIM
4	ON	16	-OUT
9,11	NOT USE	22,23	+IN
14	+OUT	24	CASE



Dimensions in mm.

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
15 W	12 (9..36) 28 (18...75)	9...40 @ 1 s	3,3	4,55
		17...84 @ 1 s	5	3
	12 15 24 28	9	1,66	1,25
		12	1,25	1
		15	0,625	0,53
		24	0,53	0,44
		28	0,89	0,78
		3,3	5	5
		5	5	5
		9	2,78	2,08
		12	1,67	1,04
		15	1,04	0,89

Other output voltage within range 3...80 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ Uout. nom
Line and load regulation	max $\pm 6\%$ Uout. nom
Ripple and noise (p-p)	<2% Uout. nom
Overcurrent protection level	<2,7 Pmax
Short-circuit protection	Auto recovery
Switching frequency	800 kHz
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", I $\leq 5$ mA
Case operating temperature	$-60\ldots+125^\circ\text{C}$
Typical efficiency	89 % @ Uout.=24 VDC
Isolation voltage	750 VDC
Humidity	99 % / 35 °C
Thermal resistance case-ambient	19,8 °C/W
Typical MTBF	1 737 900 Hrs
Dimensions (without pinouts)	40x20,2x10,25 mm
Weight	max 32 g

# VDR50

## FEATURES

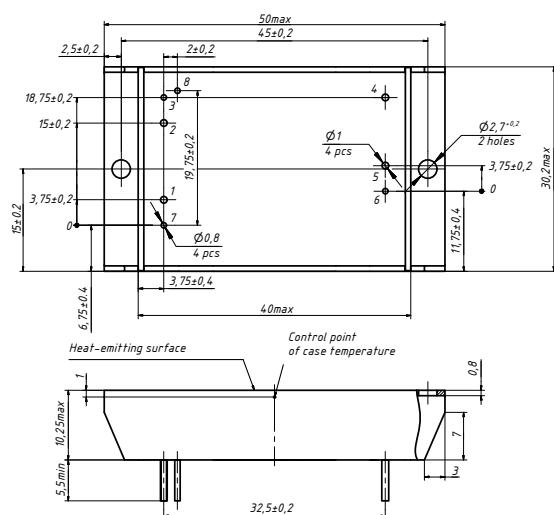
- Case operating temperature -60...+125 °C
- Output current up to 10 A
- Low-profile design (10,25 mm)
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Clock synchronization function
- Typical efficiency 91 % (Uout.=24 VDC)

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	+OUT
2	-IN	6	TRIM
3	ON	7	CASE
4	-OUT	8	SYNC



Dimensions in mm.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
40 W	12 (9...36) 28 (18...75)	9...40 @ 1 s	3,3	10
		17...84 @ 1 s	5	6
			9	4,44
	12		12	3,33
			15	2,67
			24	1,67
	28		28	1,42
			3,3	10
			5	10
			9	5,56
50 W	12		12	4,17
			15	3,33
	24		24	2,08
			28	1,78

Other output voltage within range 3...80 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	±5 % Uout. nom
Line and load regulation	max ±6 % Uout. nom
Ripple and noise (p-p)	<2 % Uout. nom
Overshoot protection level	<2,7 Pmax
Short-circuit protection	Auto recovery
Switching frequency	440 kHz
Remote on/off	Off.: 0...1,1 VDC or connection of pins "ON" and "-IN", <5 mA
Case operating temperature	-60...+125 °C
Typical efficiency	91 % @ Uout.=24 VDC
Isolation voltage	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	12,5 °C/W
Typical MTBF	1737900 Hrs
Dimensions (without pinouts)	50×30,2×10,25 mm
Weight	max 43 g

# VDR100

## FEATURES

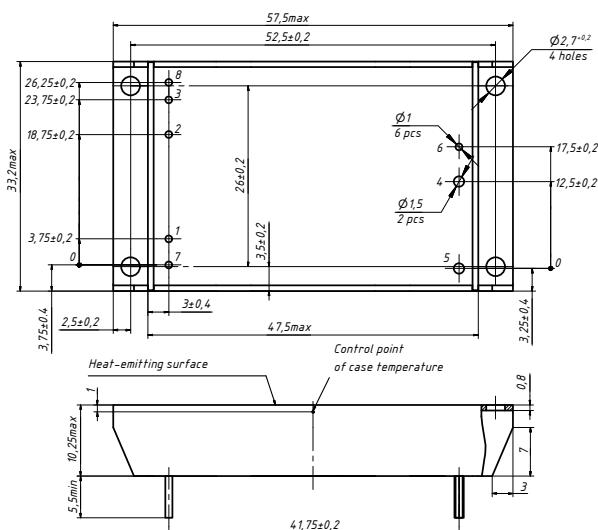
- Case operating temperature up to  $-60\ldots+125^\circ\text{C}$
- Output current up to 20 A
- Low-profile design (10,25 mm)
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Clock synchronization function
- Typical efficiency 91 % ( $\text{U}_{\text{out}}=24 \text{ VDC}$ )

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## PIN CONNECTION

PIN	Function	PIN	Function
1	+IN	5	-OUT
2	-IN	6	TRIM
3	ON	7	CASE
4	+OUT	8	SYNC



Dimensions in mm.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
75 W	12 (9..36) 28 (18..75)	9...40 @ 1 s	3,3	20
		17...84 @ 1 s	5	15
			9	8,3
			12	6,25
			15	5
			24	3,1
			28	2,6
			5	20
100 W			9	11,1
			12	8,3
			15	6,6
			24	4,1
			28	3,5

Other output voltage within range 3...80 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ $\text{U}_{\text{out}, \text{nom}}$				
Line and load regulation	max $\pm 6\%$ $\text{U}_{\text{out}, \text{nom}}$				
Ripple and noise (p-p)	< 2% $\text{U}_{\text{out}, \text{nom}}$				
Overcurrent protection level	< 1,5 $\text{P}_{\text{max}}$				
Short-circuit protection	Auto recovery				
Switching frequency	350 kHz				
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", $I \leq 5 \text{ mA}$				
Case operating temperature	<table border="1"> <tr> <td>75 W</td> <td>75 W</td> </tr> <tr> <td>100 W</td> <td>-60...+115 °C</td> </tr> </table>	75 W	75 W	100 W	-60...+115 °C
75 W	75 W				
100 W	-60...+115 °C				
Typical efficiency	91 % @ $\text{U}_{\text{out}}=24 \text{ VDC}$				
Isolation voltage	750 VDC				
Humidity	98 % / 35 °C				
Thermal resistance case-ambient	8,7 °C/W				
Typical MTBF	1 737 900 Hrs				
Dimensions (without pinouts)	57,5x33,2x10,25 mm				
Weight	max 65 g				

# VDR160

## FEATURES

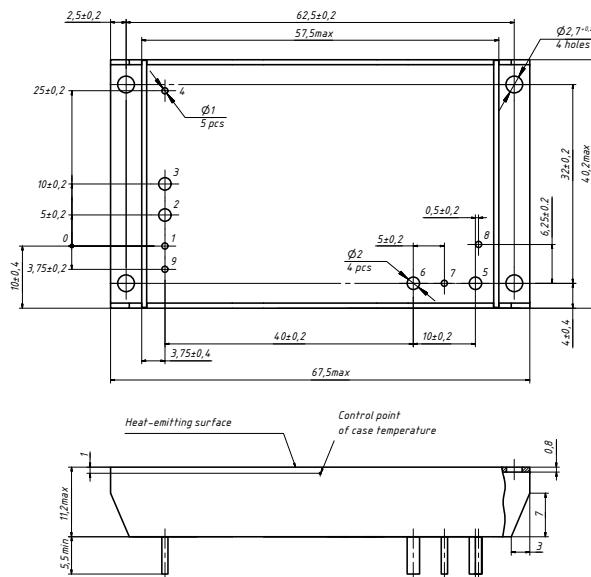
- Case operating temperature up to  $-60\dots+125\text{ }^\circ\text{C}$
- Output current up to 40 A
- Low-profile design (11,2 mm)
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Clock synchronization function
- Typical efficiency 91 % ( $\text{Uout.=5 VDC}$ )
- Parallel operation

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F
Aircraft Electric Spec.	Survives 80 V transients / MIL-STD-704A

## PIN CONNECTION

PIN	Function	PIN	Function
1	CASE	6	-OUT
2	+IN	7	TRIM
3	-IN	8	PARAL
4	ON	9	SYNC
5	+OUT		



Dimensions in mm.



## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
120 W	12 (9...36) 28 (18...75)	9...40 @ 1 s	3,3	36,7
		17...84 @ 1 s	5	24
		9	13,3	
		12	10	
		15	8	
		24	5	
		28	4,2	
		5	32	
160 W		9	17,7	
		12	13,3	
		15	10,6	
		24	6,6	
		28	5,7	

Other output voltage within range 3...80 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ $\text{Uout. nom}$	
Line and load regulation	max $\pm 6\%$ $\text{Uout. nom}$	
Ripple and noise (p-p)	<2% $\text{Uout. nom}$	
Overcurrent protection level	<1,5 Pmax	
Short-circuit protection	Auto recovery	
Switching frequency	280 kHz	
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", $I \leq 5\text{ mA}$	
Case operating temperature	120 W 160 W	-60...+125 $^{\circ}\text{C}$ -60...+115 $^{\circ}\text{C}$
Typical efficiency	91 % @ $\text{Uout.=5 VDC}$	
Isolation voltage	750 VDC	
Humidity	98 % / 35 $^{\circ}\text{C}$	
Thermal resistance case-ambient	7,8 $^{\circ}\text{C/W}$	
Typical MTBF	1 737 900 Hrs	
Dimensions (without pinouts)	67,5x40,2x11,2 mm	
Weight	max 105 g	

# VDR300

## FEATURES

- Case operating temperature up to  $-60\ldots+125^\circ\text{C}$
  - Output current up to 40 A
  - Low-profile design (12,85 mm)
  - Copper case with mounting flanges
  - Magnetic feedback without optocouplers
  - Short-circuit protection, overvoltage, undervoltage, thermal protection
  - Remote on/off
  - Output voltage adjustment
  - Clock synchronization function
  - Typical efficiency 91 % ( $\text{U}_{\text{out}}=24 \text{ VDC}$ )
  - Parallel operation

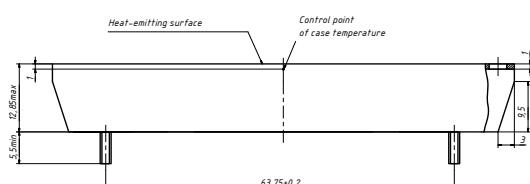
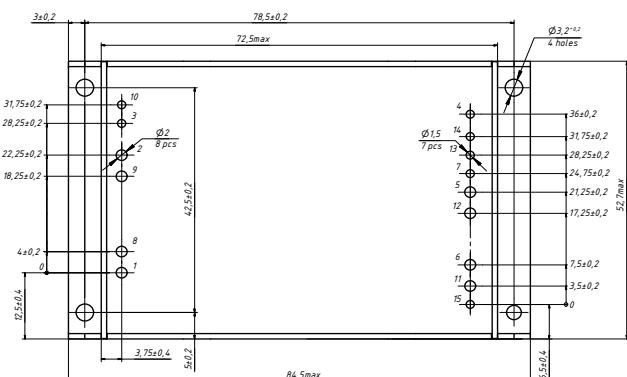


**ENGINEERED IN ACCORDANCE WITH**

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F

## PIN CONNECTION

<b>PIN</b>	<b>Function</b>	<b>PIN</b>	<b>Function</b>
1,8	+IN	7	+RS
2,9	-IN	10	SYNC
3	ON	13	TRIM
4	CASE	14	PARAL
5,12	+OUT	15	-RS
6,11	-OUT		



Dimensions in mm

## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
250 W	28 (17...36) 48 (36...75)	17...40 @ 1 s 36...84 @ 1 s	9	27,7
			12	20,8
			15	16,6
			24	10,4
			28	8,9
300 W			9	33,3
			12	25
			15	20
			24	12,5
			28	10,7

Other output voltage within range 3...80 VDC is also available upon special request.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ Uout.nom
Line and load regulation	max $\pm 6\%$ Uout.nom
Ripple and noise (p-p)	<2 % Uout.nom
Overcurrent protection level	<1,5 Pmax
Short-circuit protection	Auto recovery
Switching frequency	250 kHz
Remote on/off	Off: 0...1,1 VDC or connection of pins "ON" and "-IN", I $\leq$ 5 mA
Case operating temperature	250 W 300 W -60...+125 °C -60...+115 °C
Typical efficiency	91 % @ Uout=24 VDC
Isolation voltage	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	5,3 °C/W
Typical MTBF	1 737 900 Hrs
Dimensions (without pinouts)	84,5×52,7×12,85 mm
Weight	max 160 g

# VDR500

## FEATURES

- Case operating temperature up to  $-60\ldots+125^\circ\text{C}$
- Output current up to 50 A
- Low-profile design (12,85 mm)
- Copper case with mounting flanges
- Magnetic feedback without optocouplers
- Short-circuit protection, overvoltage, undervoltage, thermal protection
- Remote on/off
- Output voltage adjustment
- Clock synchronization function
- Typical efficiency 92 % ( $\text{Uout.}=24 \text{ VDC}$ )
- Parallel operation
- Remote sense for the output voltage

## ENGINEERED IN ACCORDANCE WITH

Safety Std.Approval	EN60950-1
Environmental Test Std.	MIL-STD-810G
EMC Std.	MIL-STD-461F



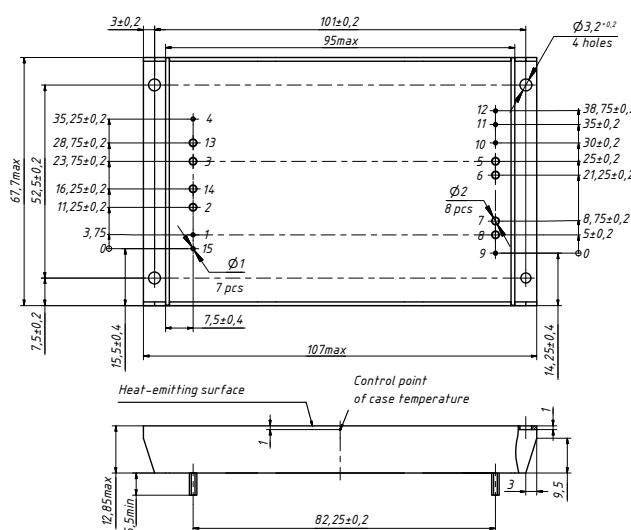
## MODELS

Power	Input Voltage Range, VDC	Transient Voltage, V	Output Voltage, VDC	Rated Output Current, A
400 W	28 (17..36) 48 (36..75)	17..40 @ 1 s 36..84 @ 1 s	9	40
			12	33,3
			15	26,6
			24	16,7
			28	14,2
			9	50
			12	41,6
			15	33,3
500 W			24	20,8
			28	17,8

Other output voltage within range 3..80 VDC is also available upon special request.

## PIN CONNECTION

PIN	Function	PIN	Function
1	ON	9	+RS
2,14	-IN	10	-RS
3,13	+IN	11	TRIM
4	CASE	12	PARAL
5,6	-OUT	15	SYNC
7,8	+OUT		

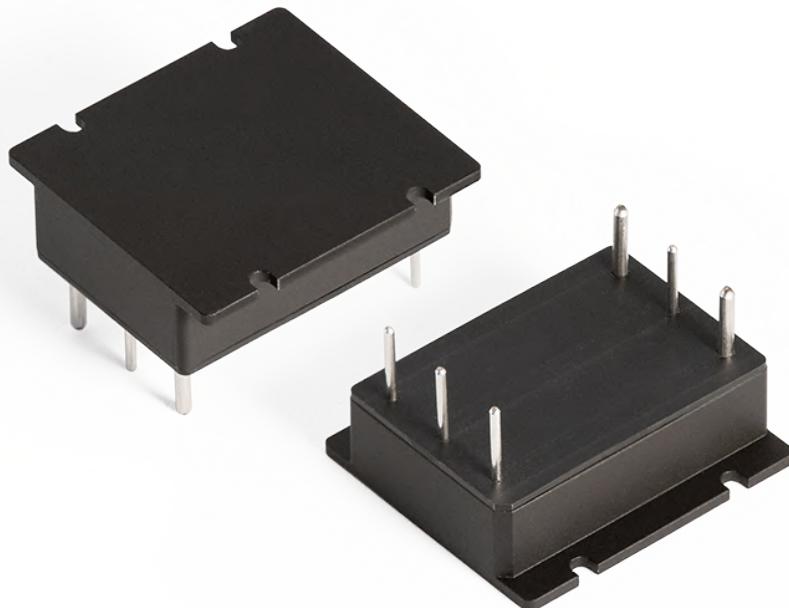


Dimensions in mm.

## GENERAL SPECIFICATIONS

Output voltage adjustment	$\pm 5\%$ $\text{Uout. nom}$
Line and load regulation	max $\pm 6\%$ $\text{Uout. nom}$
Ripple and noise (p-p)	<2 % $\text{Uout. nom}$
Overcurrent protection level	<1,5 $\text{Pmax}$
Short-circuit protection	Auto recovery
Switching frequency	200 kHz
Remote on/off	Off.: 0..1,1 VDC or connection of pins "ON" and "-IN", $I_{sink} = 5 \text{ mA}$
Case operating temperature	400 W 500 W $-60\ldots+125^\circ\text{C}$ $-60\ldots+115^\circ\text{C}$
Typical efficiency	92 % @ $\text{Uout.}=24 \text{ VDC}$
Isolation voltage	750 VDC
Humidity	98 % / 35 °C
Thermal resistance case-ambient	3,3 °C/W
Typical MTBF	1737900 Hrs
Dimensions (without pinouts)	107x67,7x12,85 mm
Weight	max 270 g

# VDMC, high reliable DC/DC converters



Models	Output Power, W	Nominal Input Voltage, VDC	Output Voltage, VDC	Isolation Voltage	Typical Efficiency	Operating Temperature	Form-factor
VDMC25	25	28 (9...40)	8...50 @ 0,1с	3,3; 5; 9; 12; 15; 24; 28; 48	2250 VDC IN/OUT	87 %	1/32 Brick
VDMC50	50					88 %	1/16 Brick
VDMC120	120	28 (16...40)	10...50 @ 0,1с			91 %	1/8 Brick
VDMC200	200					91 %	1/4 Brick
VDMC400	400					92 %	1/2 Brick
VDMC700	700					93 %	Full Brick

## ОПИСАНИЕ

DC/DC converters with nominal output power designed for high reliable industrial applications.

Circuit engineering solutions allow to meet MIL-STD-704 (aircraft power supply) and MIL-STD-1275 (ground vehicle power supply).

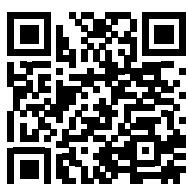
VDMC converters have wide case operating temperature range, remote On/Off, overcurrent and short-circuit protection.

## ОСОБЕННОСТИ

- Case operating temperature -55...+105
- Low-profile design
- Overcurrent, overvoltage and short-circuit protection
- Remote On/Off
- Typical efficiency 88 %
- Polymeric potting

## DESIGNED TO MEET

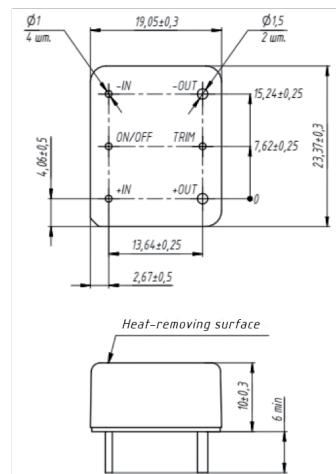
Aircraft power supply	MIL-STD-704
Ground vehicles power supply	MIL-STD-1275
EMC	MIL-STD-461
Safety requirements	MIL-STD-810G



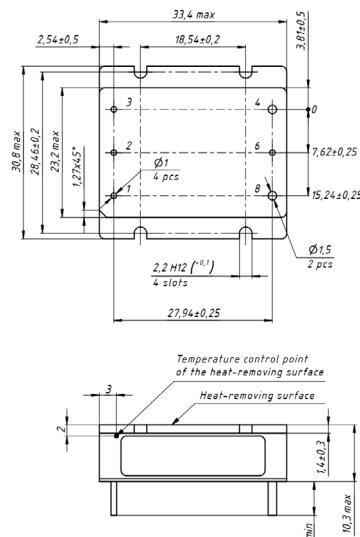
Description of VDMC Series  
on the manufacturer's website:  
<https://voltbricks.com/en/product/vdmc>

**VDMC25**

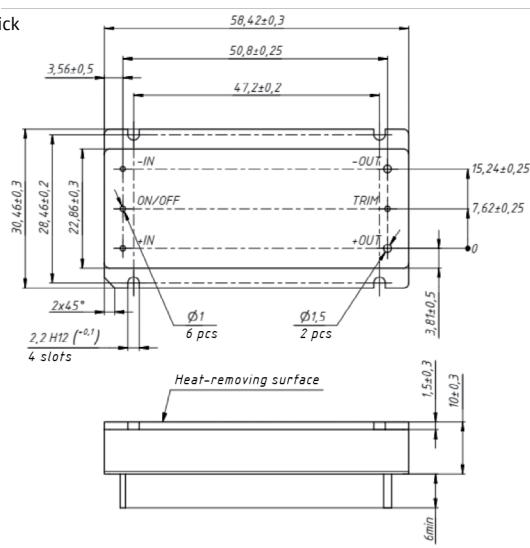
1/32 Brick

**VDMC50**

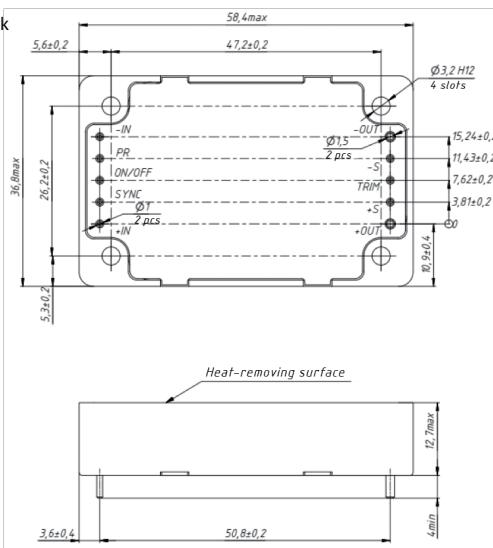
1/16 Brick

**VDMC120**

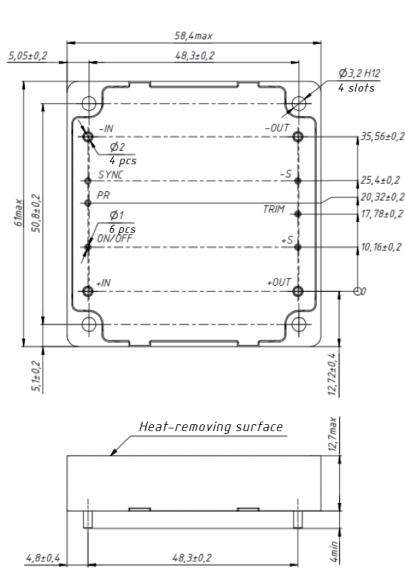
1/8 Brick

**VDMC200**

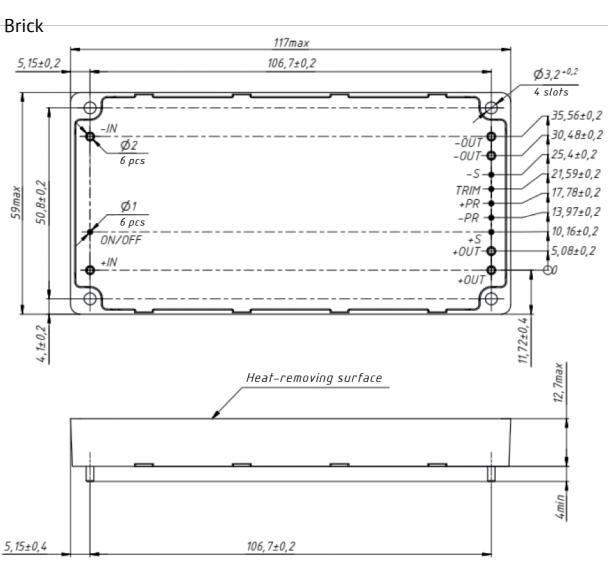
1/4 Brick

**VDMC400**

1/2 Brick

**VDMC700**

Full Brick



Dimensions in mm.

# voltbricks

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