VMW SERIES

8 Watt DC/DC Converter
Single/Dual Output
1500 VDC Isolation

vitec dc conversion

FEATURES AND APPLICATIONS

- Wide 4:1 Input range
- 24 Pin DIL Package
- Regulated Output Voltage
- Full SMD Technology
- 1500 VDC Isolation
- Remote On/Off
- RoHS ✓
- Mobile/Battery Driven Applications
- Distributed Power Networks
- Data Communications Equipments
- Telecommunication Instruments
- Process/Machine Control Equipments

GENERAL DESCRIPTION

The VMW series is a family of 8W single & dual output DC-DC converters with 1.5kVDC isolation. These converters achieve miniature package in a 24-pin DIL compatible case with high performance features and a short circuit protection with automatic restart and tight line/load regulation. Ultra wide range devices operate over 4:1 Input voltage range providing stable output voltage.
Models operate from an input bus voltage of 24 and 48VDC offering output voltage levels of 3.3, 5,12, 15, ±5, ±12, ±15VDC.

4:1 Input single and dual Output							
Model Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Input Current		Full Load Output Current [mA]	max. Capacitor Load [uF]	Efficiency [%] 24/48
			No-Load [mA] 24/48	Full Load [mA] 24/48			
VMW-xx3R3S8	9-36 18-72	3.3	10/10	335/170	2000	1330	83/82
VMW-xx05S8		5.0	10/10	365/185	1500	1330	86/86
VMW-xx12S8		12.0	15/10	385/195	665	288	87/87
VMW-xx15S8		15.0	15/10	385/195	535	200	87/87
VMW-xx05D8	9-36 18-72	± 5.0	10/10	400/200	± 800	± 900	84/84
VMW-xx12D8		± 12.0	15/10	390/195	± 335	± 133	86/87
VMW-xx15D8		± 15.0	15/10	385/195	± 265	± 90	87/87

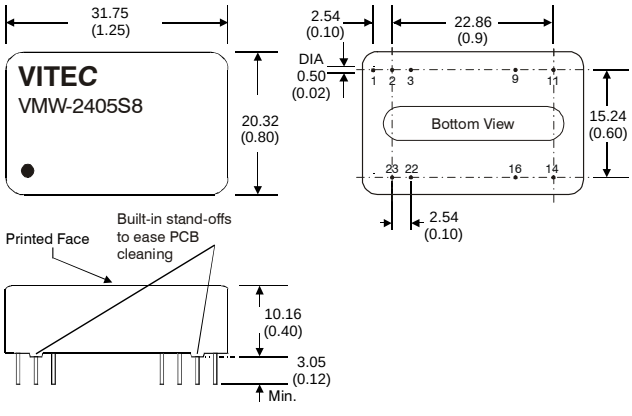
* non standard output voltages on request

xx **nominal input voltage:**
24 (9 – 36VDC)
48 (18 – 72VDC)
Suffix H **3.5kVDC isolation, on request**

DIL 24 Package

Standard Isolation		
Pin	Single Output	Dual Output
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	-V Input	-V Input
9	N.P.	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

N.C. …not connected
N.P. …no Pin



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ELECTRICAL SPECIFICATIONS

Specifications typical at +25°C, nominal Input voltage, rated output current unless otherwise specified.

Input Specifications

Voltage Range	24Vdc, 9-36Vdc 48Vdc, 18-72Vdc
Filter	Pi-Network
Input Reflected Ripple Current	20mA pk-pk
Start up Time	20mS, typ.

Output Specifications

Voltage Accuracy	±1%, max.
Ripple and Noise (20 MHz BW)	75 mVp-p, max.
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	170% of Full Load, max.
Line Voltage Regulation	±0.2%, max.
Load Voltage Regulation	±0.5%, max. (Single Models) ±1.0%, max. (Dual Models)
Cross Regulation	±5%, max. (Dual Models)
Temperature Coefficient	±0.02%/°C
Max Capacitive Load	see table

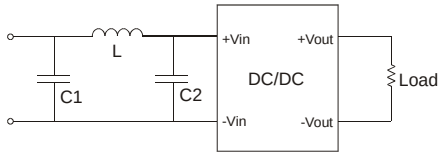
EMC Characteristics

EMI/RFI *	EN55022 Class A with External Input Filter
EN61000-4-2 (ESD)	Perf. Criteria B
EN61000-4-3 (RS)	Perf. Criteria A
EN61000-4-4 (EFT) **	Perf. Criteria B
EN61000-4-5 (Surge) **	Perf. Criteria B
EN61000-4-6 (CS) **	Perf. Criteria A
EN61000-4-8 (PFMF)	Perf. Criteria A

** an external filter capacitor is required:
Nippon KY series, 330uF/100V is recommended

* Suggest adding external input filter to meet conducted emissions (EN55022 Class A)

	L	C1	C2
VMW-8 Series	12uH	2.2uF/100V	2.2uF/100V



Isolation Specification

Rated Voltage	1500 VDC, Standard
Resistance	$10^9\ \Omega$
Capacitance	1500 pF, max.

Remote ON/OFF Control

Control voltage referenced to negative (-) input

ON-Control	3V-12V or open
OFF-Control	0V-1.2V or short Pin 1 and Pin 2/3

Off Idle Current: 5.0 mA typ.

General Specifications

Efficiency	see table
Switching Frequency	270 KHz, typ.
MTBF (MIL-HDBK-217 F)	> 1 Mhrs
Safety Standard	IEC 60950-1:2001 (designed to meet)

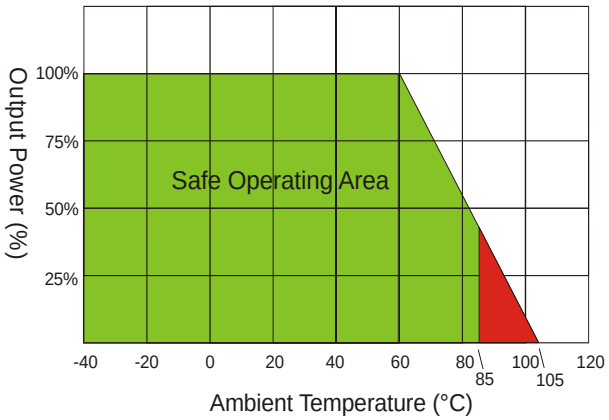
Environmental Specification

Operating Temperature	-40°C to +85°C
Max. Case Temperature	+105°C
Storage Temperature	-40°C to +125°C
Cooling	Free-air convection

Physical Characteristics

Dimension DIP	31.75 x 20.32 x 10.16 mm 1.25 x 0.80 x 0.40 inches
Weight	18.0 g
Case Material:	Nickel-Coated Copper Metal

Derating VMW-8 series



Notes:
All dimensions in millimeters (inches).
Tolerance ±0.25mm (0.01).
Specifications can be changed without prior notice.

Products are not intended for and must not be used in life support systems, human implantation, nuclear facilities or systems or any other application where product failure or malfunction of the component could lead to loss of life or catastrophic property damage

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