

FEATURES AND APPLICATIONS

- Wide 2:1 Input Range
- 24 Pin DIL Package
- Regulated Output Voltage
- Full SMD Technology
- 1500/3500 VDC Isolation
- RoHS ✓
- Mobile/Battery Driven Applications
- Distributed Power Networks
- Data Communications Equipments
- Telecommunication Instruments
- Process/Machine Control Equipments

GENERAL DESCRIPTION

The VMS series is a family of 2W and 3W single & dual output DC-DC converters with 1,5kVDC or 3,5kVDC 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. Wide range devices operate over 2:1 input range providing stable output voltage.

Models operate from an input bus voltage of 12, 24 and 48VDC offering output voltage levels of 3.3, 5, 9, 12, 15, 18, 24, ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 , ± 18 or ± 24 VDC.

2,0W Standard for single/dual Output

Type Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]
VMS-xx3R3S2	9 -18 18-36 36-72	3,3	600
VMS-xx05S2		5,0	400
VMS-xx09S2		9,0	223
VMS-xx12S2		12,0	167
VMS-xx15S2		15,0	134
VMS-xx18S2		18,0	110
VMS-xx24S2		24,0	84
VMS-xx3R3D2	9 -18 18-36 36-72	$\pm 3,3$	± 303
VMS-xx05D2		$\pm 5,0$	± 200
VMS-xx09D2		$\pm 9,0$	± 112
VMS-xx12D2		$\pm 12,0$	± 83
VMS-xx15D2		$\pm 15,0$	± 67
VMS-xx18D2		$\pm 18,0$	± 54
VMS-xx24D2		$\pm 24,0$	± 42

3,0W Standard for single/dual Output

Type Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]
VMS-xx3R3S3	9 -18 18-36 36-72	3,3	900
VMS-xx05S3		5,0	600
VMS-xx09S3		9,0	334
VMS-xx12S3		12,0	250
VMS-xx15S3		15,0	200
VMS-xx18S3		18,0	167
VMS-xx24S3		24,0	125
VMS-xx3R3D3	9 -18 18-36 36-72	$\pm 3,3$	± 454
VMS-xx05D3		$\pm 5,0$	± 300
VMS-xx09D3		$\pm 9,0$	± 167
VMS-xx12D3		$\pm 12,0$	± 125
VMS-xx15D3		$\pm 15,0$	± 100
VMS-xx18D3		$\pm 18,0$	± 83
VMS-xx24D3		$\pm 24,0$	± 62

xx nominal input voltage:
 12 (9 – 18VDC)
 24 (18 – 36VDC)
 48 (36 – 72VDC)
 Suffix H 3,5kVDC isolation

ELECTRICAL SPECIFICATIONS

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

Input Specifications

Voltage Range	12Vdc, 9-18Vdc 24Vdc, 18-36Vdc 48Vdc, 36-72Vdc
Filter	Pi-Network

Output Specifications

Voltage Accuracy	±1%, max.
Voltage Balance (Dual Outp.)	±1%
Ripple and Noise (20 MHz BW)	60 mVp-p, max.
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Line Voltage Regulation	±0.5%, max.
Load Voltage Regulation	±0.5%, max.
Temperature Coefficient	±0.02%/°C
Max. Capacitive Load, 2W:	3,3V/±3,3V 100µF/±100µF
	5V/±5V 100µF/±100µF
	9V/±9V 68µF/±47µF
	12V/±12V 47µF/±33µF
	15V/±15V 33µF/±33µF
	24V/±24V 27µF/±20µF
Max. Capacitive Load, 3W:	3,3V/±3,3V 1000µF/±680µF
	5V/±5V 1000µF/±680µF
	9V/±9V 220µF/±68µF
	12V/±12V 100µF/±47µF
	15V/±15V 100µF/±47µF
	24V/±24V 68µF/±33µF

Isolation Specification

Rated Voltage	1500 VDC, Standard 3500 VDC, Suffix H
Leakage Current	1 mA
Resistance	10 ⁹ Ω

General Specifications

Efficiency	75% to 85%
Switching Frequency	250 KHz, typ.

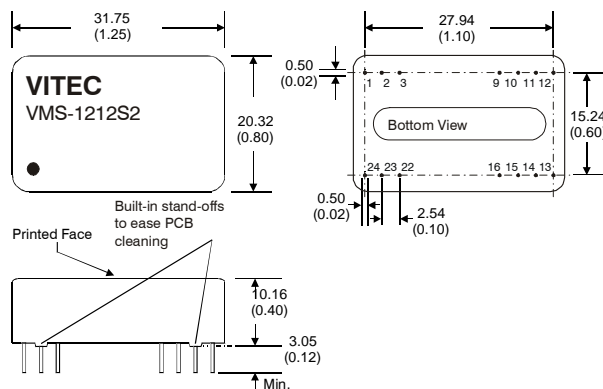
Environmental Specification

Operating Temperature	-40°C to +85°C
Max. Case Temperature	+100°C
Storage Temperature	-40°C to +125°C
Derating	None required
Humidity	max. 90%, non-condensing
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	16.3 g
Case Material:	Nickel-Coated Copper Metal

DIL 24 Package



Pin	Standard Isolation		3,5kVDC Isolation	
	Single Output	Dual Output	Single Output	Dual Output
1	+V Input	+V Input	Omitted	Omitted
2	N.C	-V Output	-V Input	-V Input
3	N.C	Common	-V Input	-V Input
9	Omitted	Omitted	N.C	Common
10	-V Output	Common	Omitted	Omitted
11	+V Output	+V Output	N.C	-V Output
12	-V Input	-V Input	Omitted	Omitted
13	-V Input	-V Input	Omitted	Omitted
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	Omitted	Omitted
16	Omitted	Omitted	-V Output	Common
22	N.C	Common	+V Input	+V Input
23	N.C	-V Output	+V Input	+V Input
24	+V Input	+V Input	Omitted	Omitted

NC...not connected

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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