

FEATURES

- 8 Pin SIL Package
- Wide 4:1 Input Range
- 1500 VDC Isolation
- Continuous Short Circuit Protection
- Remote on/off Control
- Cost Effective; RoHS ✓

GENERAL DESCRIPTION

The VMY series is a family of cost effective 2 W single & dual output DC-DC converters with 1.5 kVDC isolation. These converters achieve low cost and miniature SIL size without compromising performance or field reliability.

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

4:1 Input, SIL 8 Package							
Model Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Input Current		Full Load Output Current [mA]	max. Capacitor Load [uF]	Efficiency [%] 12/24/48
			No-Load [mA] 12/24/48	Full Load [mA] 12/24/48			
VMY-xx3R3S2	4.5-18 9-36 18-75	3.3	40/25/10	196/96/47	500	1000	70/71/72
VMY-xx05S2		5	40/20/15	225/106/55	400	1000	74/78/75
VMY-xx12S2		12	40/30/15	213/105/55	167	220	78/79/75
VMY-xx15S2		15	40/30/15	213/105/54	133	100	78/79/76
VMY-xx05D2	4.5-18 9-36 18-75	± 5	30/30/15	219/111/56	± 200	± 470	77/75/74
VMY-xx12D2		± 12	30/30/15	213/108/56	± 83	± 100	78/77/74
VMY-xx15D2		± 15	40/30/15	216/106/55	± 66	± 47	77/78/75

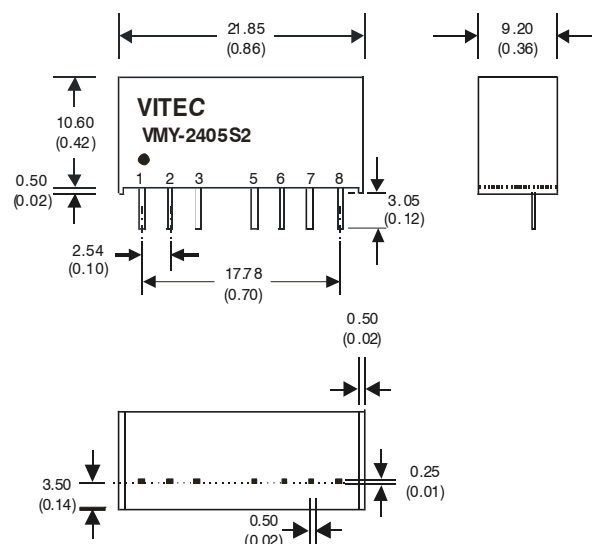
* non standard output voltages on request

xx	input voltage
12	(4.5 – 18VDC)
24	(9 – 36VDC)
48	(18 – 75VDC)

SIL 8 Package

1.5 kVDC Isolation		
Pin	Single Output	Dual Output
1	-V Input	-V Input
2	+V Input	+V Input
3	Remote On/Off	Remote On/Off
5	N.C.	N.C.
6	+V Output	+V Output
7	-V Output	Common
8	N.C.	-V Output

NC...not connected



ELECTRICAL SPECIFICATIONS

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

Input Specifications

4:1 Input Voltage Range	see table
Input Filter	Capacitor
Start up Time	30mS, typ.
Input Current	see table
Input Reflected Ripple Currents	20mA pk-pk *
* measured with a simulated source inductance of 12uH	
Remote ON/OFF Control	
ON	open or high impedance
OFF	2-4mA input current (via 1K) (OFF stand by input current 2.5mA max.)

General Specifications

Efficiency	70% to 79%, see table
Switching Frequency	100 kHz, min.
Isolation Voltage	1500 VDC
Isolation Capacitance	200 pF, max.
Isolation Resistance	10 ⁹ Ohms, min.
MTBF (MIL-HDBK-217 F)	>1.7 Mhrs @ 25°C

Physical Characteristics

Dimension SIL8	21.85 x 9.20 x 11.10 mm 0.86 x 0.36 x 0.44 inches
Case Material	Non-conductive blackplastic
Potting Material	Silicon (UL94V-0 rated)
Pin Material	C5191R-H Solder-coated
Weight	4.8g

Output Specifications

Output Voltage Accuracy	±1%, max.
Ripple and Noise (20 MHz BW)	30 mVp-p, max.
Line Voltage Regulation	±0.2%, max.
Load Voltage Regulation	±1%, max.
Cross Regulation (Dual Output)	±5%, (25% to 100% Loading)
Temperature Coefficient	±0.02%/°C
Short Circuit Protection	Continuous (Automatic Recovery)
Max. Capacitive Load	see table

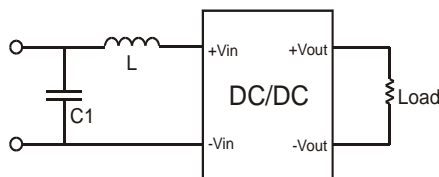
Environmental Specification (Reference)

Operating Temperature	-40°C to +85°C derating above 71°C
Max. Case Temperature	+100°C
Storage Temperature	-40°C to +125°C
Cooling	Free-air Convection
Humidity	95% reH
Designed to meet IEC60950 Safety Standard	
EMI/RFI *	EN55022 Class A
ESD	EN61000-4-2, Perf. Criteria A
RS	EN61000-4-3, Perf. Criteria A
EFT**	EN61000-4-4, Perf. Criteria A
Surge**	EN61000-4-5, Perf. Criteria A
CS	EN61000-4-6, Perf. Criteria A
PFMF	EN61000-4-8, Perf. Criteria A

* with external input filter (see below)

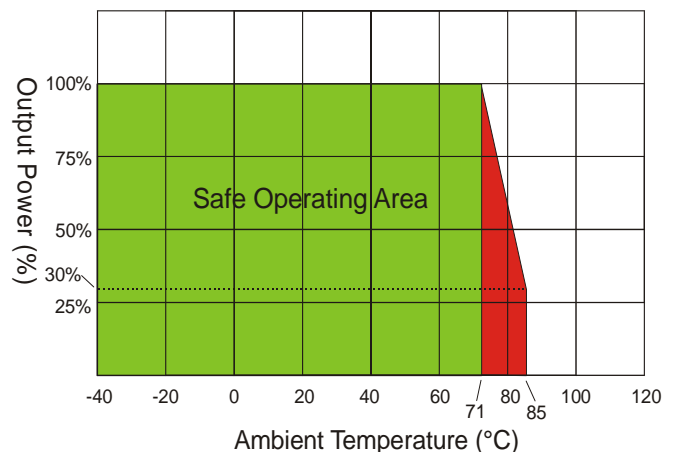
** an external filter capacitor is required: Nippon KY series, 220uF/100V

Suggest adding external input filter to meet conducted emissions:



VMY-Series	L	C1
12V Input	2.5uH	1210, 10uF/35V
24V Input	10uH	1210, 2.2uF/100V
48V Input	18uH	1210, 2.2uF/100V

Derating VMY-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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