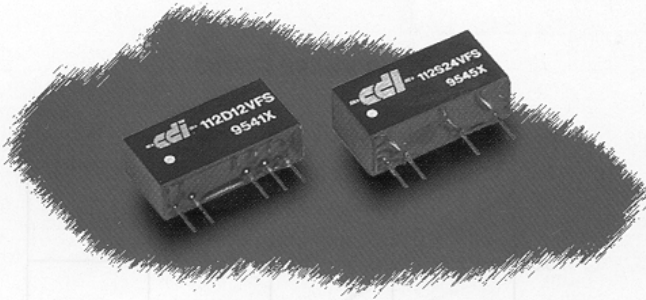


100VFS Series



KEY FEATURES

- **Miniature Single-In-Line-Package (SIP)**
- **3000 VDC Input/Output Isolation**
- **High Efficiency**
- **27 Models (Single & Dual Outputs)**
- **Wide Operating Temperature Range**
- **Requires Only 0.18 Square Inches of Board Space**
- **Low Cost**

General Description

The **100VFS** series is a family of cost effective 1W DC/DC converters specifically designed to provide ultra-high levels of isolation in a miniature package. These Single-In-Line-Package (SIP) modules take up only 0.18 square inches of board space, making them ideal for innumerable board level power distribution applications where space is critical.

Twenty seven models operate from input bus voltages of 5, 12 and 24 VDC; producing output voltage levels of 3.3 VDC, 5 VDC, 9 VDC, 12 VDC, 15VDC, ± 5 VDC, ± 9 VDC, ± 12 VDC or ± 15 VDC. High performance features include 3000 VDC input/output isolation, high efficiency operation, and output voltage accuracy of $\pm 3.0\%$. Standard features include a $\pm 10\%$ input voltage range and low output noise.

Modules are packaged in an ultra-miniature 0.77 x 0.24 x 0.40 inch Single-In-Line-Package (SIP). Operation is specified over the full operating temperature range of -25°C to $+85^{\circ}\text{C}$. Cooling is by free-air convection.

Electrical Specifications

Input Specifications:

Input Voltage Range	$\pm 10\%$
Input Filter	Internal Capacitor

Output Specifications:

Output Voltage Accuracy	$\pm 3\%$, Max.
Ripple & Noise (20 MHz BW)	65 mV Pk-Pk
Line Regulation ⁽¹⁾	See Model Selection Guide
Load Regulation ⁽²⁾	See Model Selection Guide
Minimum Load	10% of Full Load
Temperature Coefficient @ FL	$\pm 0.02\%/^{\circ}\text{C}$
Short Circuit Protection	Momentary

General Specifications:

Efficiency ⁽³⁾	See Model Selection Guide
Isolation Voltage (1 min)	3000 VDC
Isolation Capacitance	60 pF
Isolation Resistance	$10^{10}\Omega$
Switching Frequency	100 kHz

Environmental Specifications:

Operating Temperature Range	-25°C to $+85^{\circ}\text{C}$
Storage Temperature Range	-40°C to $+125^{\circ}\text{C}$
Derating	See Derating Curve
Humidity	Up to 95%, Non-Condensing
Cooling	Free-air Convection

Physical Characteristics:

Size, 5V & 12V Input Models	0.77 x 0.24 x 0.40 inches (19.5 x 6.1 x 10.2 mm)
24V Input Models	0.77 x 0.28 x 0.40 (19.5 x 7.1 x 10.2)
Weight, 5V & 12V Input Models	0.06 Oz (2.1g)
24V Input Models	0.08 Oz (2.5g)
Case Material	Non-Conductive Black Plastic

Absolute Maximum Ratings: ⁽⁵⁾

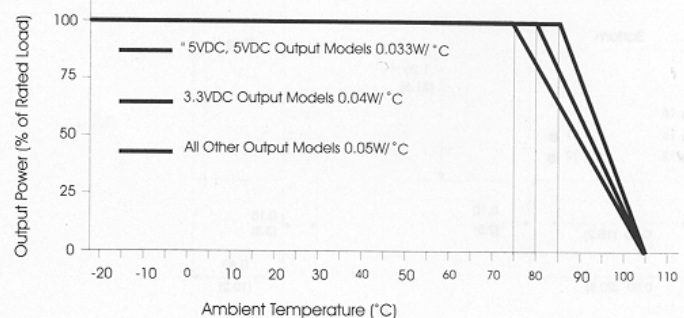
Input Voltage, 5 VDC Models	9 VDC
12 VDC Models	18 VDC
24 VDC Models	30 VDC
Output Short Circuit Duration	Momentary
Internal Power Dissipation	0.45W

Specifications typical @ $+25^{\circ}\text{C}$ with nominal input voltage and under full output load conditions, unless otherwise noted. Specifications subject to change without notice.

Specification Notes:

1. Line regulation is measured by monitoring the output voltage while the module input voltage is varied from low line to high line. See Model Selection Guide.
2. Load regulation is measured at nominal input voltage while the output load is varied from 20% load to full load. See Model Selection Guide.
3. Efficiency is specified for nominal input voltage line and full output load.
4. Total output power should not exceed the specified output ratings for any particular model.
5. Absolute Maximum Ratings are specification limits that, if exceeded, could permanently damage the unit. These are not continuous operating ratings.

Fig. 1. Output Derating Curve



Distributed By:
B. J. Wolfe Enterprises
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Fax (818) 889-8417

**ULTRA-MINIATURE, SINGLE-IN-LINE
3000VDC ISOLATION
1W DC/DC CONVERTERS**

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100VFS Series

Model Selection Guide

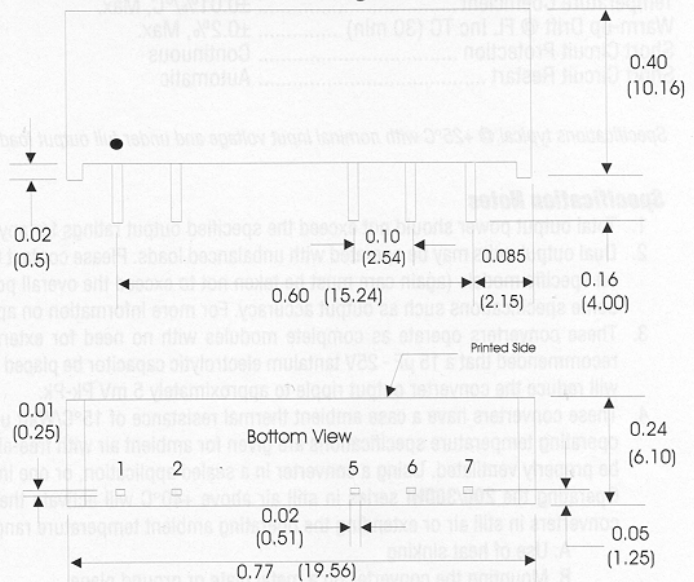
Model Number	Input			Output		Regulation		Efficiency @ FL (%)
	Nominal Voltage (VDC)	Current (mA, Max.)		Voltage (VDC)	Current (mA)	Line ⁽¹⁾ %/ V_{IN} Max	Load ⁽²⁾ % Max	
		No-Load	Full-Load					
103S5VFS	5	27	235	3.3	260	1.3	10	73
105S5VFS	5	26	281	5.0	200	1.3	10	71
109S5VFS	5	28	260	9.0	110	1.2	8	76
112S5VFS	5	28	258	12.0	84	1.2	7	78
115S5VFS	5	29	258	15.0	67	1.2	7	78
105D5VFS	5	26	278	±5.0	±100	1.3	10	72
109D5VFS	5	28	262	±9.0	±56	1.2	8	77
112D5VFS	5	28	258	±12.0	±42	1.2	7	78
115D5VFS	5	29	258	±15.0	±34	1.2	7	79
103S12VFS	12	12	96	3.3	260	1.3	8	74
105S12VFS	12	11	114	5.0	200	1.3	8	73
109S12VFS	12	12	106	9.0	110	1.2	5	78
112S12VFS	12	12	105	12.0	84	1.2	5	80
115S12VFS	12	12	104	15.0	67	1.2	5	80
105D12VFS	12	11	113	±5.0	±100	1.3	8	74
109D12VFS	12	12	106	±9.0	±56	1.2	5	79
112D12VFS	12	12	104	±12.0	±42	1.2	5	81
115D12VFS	12	12	105	±15.0	±34	1.2	5	81
103S24VFS	24	6	49	3.3	260	1.3	8	73
105S24VFS	24	7	59	5.0	200	1.3	8	71
109S24VFS	24	7	54	9.0	110	1.2	5	76
112S24VFS	24	7	54	12.0	84	1.2	5	78
115S24VFS	24	6	53	15.0	67	1.2	5	79
105D24VFS	24	6	58	±5.0	±100	1.3	8	72
109D24VFS	24	6	55	±9.0	±56	1.2	5	76
112D24VFS	24	6	53	±12.0	±42	1.2	5	79
115D24VFS	24	6	53	±15.0	±34	1.2	5	80

Pin Out - 100VFS Series

Pin	Single Output	Dual Output
1	+V Input	+V Input
2	-V Input (Gnd)	-V Input (Gnd)
5	-V Output (0v)	-V Output
6	No Pin	Output Common (0v)
7	+V Output	+V Output

Note: All dimensions are typical in inches (mm).
Tolerance: X.XX = ± 0.01, (± 0.25)
X.XXX = ± 0.002, (± 0.05)
The width of 24 VDC input models is 0.28 in (7.10 mm)

Mechanical Configurations



For Easy Ordering Use

