

V3 SERIES

2 WATT ISOLATED DC/DC CONVERTER
1000 VDC/3000 VDC Isolation
SINGLE/DUAL OUTPUT

Features:

- 7 Pin SIP/ 14 Pin DIP Package
- Low Ripple and Noise
- 1000 VDC Isolation
- Up to 3000 VDC Isolation

Applications:

- Mobile Applications
- Portable Equipment
- Local Area Network Circuits
- Telecommunication Instruments

DESCRIPTION

The low cost 2 Watt V3 Series consists of single and dual output dc/dc converters that are available in subminiature SIP or DIP package. A wide range of models offer operation from 5, 12, 24 or 48VDC input with single or dual outputs of 3.3, 5, 7.2, 9, 12, or 15VDC. These nonregulated converters can be supplied with 1000 or 3000VDC input/output isolation.

Note: The V3 Series consists of 256 different model numbers. Only the most popular models have been listed. Contact D1 International for converter requirements that are not described.

ELECTRICAL SPECIFICATIONS

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

Input Specifications:

Voltage Range $\pm 10\%$
Filter Capacitors

Isolation Specifications:

Rated Voltage 1000 VDC min.
Leakage Current 1mA
Resistance $10^9 \Omega$
Capacitance 60pF, Typ.

Output Specifications:

Voltage Accuracy $\pm 5\%$, Max.
Voltage Balance(Dual Outputs) $\pm 1\%$
Ripple & Noise (at 20MHz BW) 75mVp-p, Max.
Short Circuit Protection Momentary
Line Voltage Regulation $\pm 1.2\%/1.0\%$ of V_{in}
Load Voltage Regulation $\pm 8\%$, Load=20 ~100%
Temperature Coefficient $\pm 0.02\%/^{\circ}\text{C}$

General Specifications:

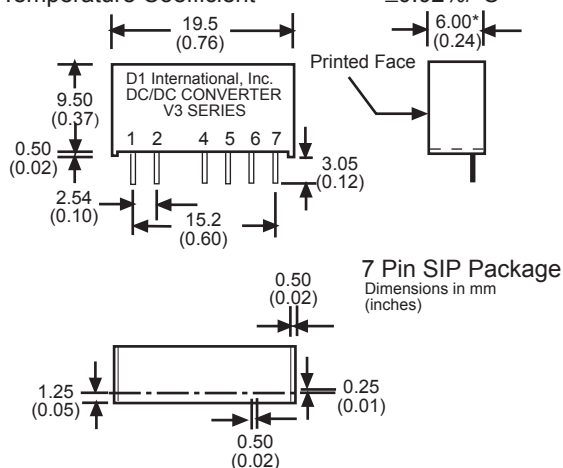
Efficiency 75% to 85%
Switching Frequency 85 KHz, Typ.

Environmental Specifications:

Operating Temperature -40°C to +85°C
-40°C to +71°C (no derating)
Storage Temperature -55°C to +125°C
Derating None Required
Humidity Up to 90%, non-condensing
Cooling Free-air convection

Physical Characteristics:

Dimensions SIP 19.50x6.00x9.50mm
0.76x0.24x0.37 inches
DIP 20.32x10.16x6.85mm
0.80x0.40x0.27 inches
Weight 2.5g
3.5g for 48VDC variants
Case Material Non-conductive black plastic



Pin #	1KVdc		3KVdc	
	Single	Dual	Single	Dual
1	+V Input	+V Input	+V Input	+V Input
2	-V Input	-V Input	-V Input	-V Input
4	-V Output	-V Output	Omitted	Omitted
5	Omitted	Common	-V Output	-V Output
6	+V Output	+V Output	Omitted	Common
7	Omitted	Omitted	+V Output	+V Output

Notes:
Tolerance x.xx = +0.25 (+0.01)
*7.20 (0.285) for 48VDC variants.



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1KVdc Isolation for single output

SS=SIP DS=DIP

Model Number	Input			Output		Efficiency @FL (%)
	Nominal Voltage VDC	Current No Load	Current Full Load	Voltage VDC	Current (mA)	
V3-0505SS/DS	5	22	506	5.0	400	79
V3-0512SS/DS	5	30	488	12.0	167	82
V3-1205SS/DS	12	15	216	5.0	400	77
V3-1212SS/DS	12	15	196	12.0	167	85
V3-1215SS/DS	24	20	203	15.0	134	82
V3-2405SS/DS	24	10	108	5.0	400	77
V3-2412SS/DS	24	12	104	12.0	167	80

3KVdc Isolation for single output

SSH=SIP DSH=DIP

Model Number	Input			Output		Efficiency @FL (%)
	Nominal Voltage VDC	Current No Load	Current Full Load	Voltage VDC	Current (mA)	
V3-0505SSH/DSH	5	22	506	5.0	400	79
V3-0512SSH/DSH	5	30	488	12.0	167	82
V3-1205SSH/DSH	5	30	494	15.0	134	81
V3-1212SSH/DSH	12	15	216	5.0	400	77
V3-1215SSH/DSH	12	15	196	12.0	167	85
V3-2405SSH/DSH	24	10	108	5.0	400	77
V3-2412SSH/DSH	24	9	98	12.0	167	85
V3-2415SSH/DSH	24	8	102	15.0	133	82

1KVdc Isolation for dual output

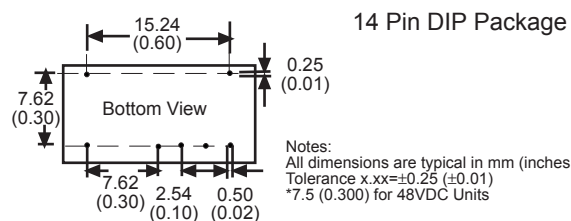
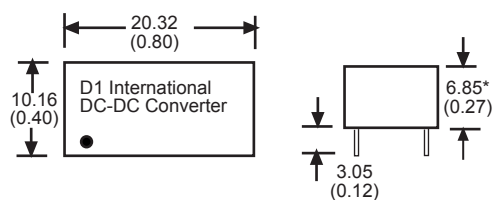
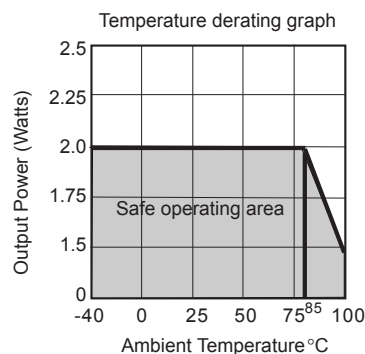
S=SIP D=DIP

Model Number	Input			Output		Efficiency @FL (%)
	Nominal Voltage VDC	Current No Load	Current Full Load	Voltage VDC	Current (mA)	
V3-0505S/D	5	28	555	±5.0	±200	72
V3-0512S/D	5	28	512	±12.0	±84	78
V3-1515S/D	5	30	500	±15.0	±67	80
V3-1205S/D	12	15	222	±5.0	±200	75
V3-1212S/D	12	15	203	±12.0	±84	82
V3-1215S/D	12	18	203	±15.0	±67	82
V3-2405S/D	24	7	111	±5.0	±200	75
V3-247R2S/D	24	8	107	±7.2	±139	78
V3-2412S/D	24	8	102	±12.0	±84	82
V3-2415S/D	24	9	100	±15.0	±67	83

3KVdc Isolation for dual output

SH=SIP DH=DIP

Model Number	Input			Output		Efficiency @FL (%)
	Nominal Voltage VDC	Current No Load	Current Full Load	Voltage VDC	Current (mA)	
V3-0505SH/DH	5	28	555	±5.0	±200	72
V3-0515SH/DH	5	30	512	±15.0	±67	78
V3-1205SH/DH	12	15	222	±5.0	±200	75
V3-1212SH/DH	12	15	203	±12.0	±84	82
V3-2405SH/DH	24	7	111	±5.0	±200	75
V3-247R2SH/DH	24	8	107	±7.2	±139	78
V3-2412SH/DH	24	8	102	±12.0	±84	82
V3-2415SH/DH	24	9	100	±15.0	±67	83



Pin #	1KVdc		3KVdc	
	Single	Dual	Single	Dual
1	-V Input	-V Input	-V Input	-V Input
7	NC	NC	NC	NC
8	Omitted	Common	+V Output	+V Output
9	+V Output	+V Output	Omitted	Common
10	Omitted	Omitted	-V Output	-V Output
11	-V Output	-V Output	Omitted	Omitted
14	+V Input	+V Input	+V Input	+V Input



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