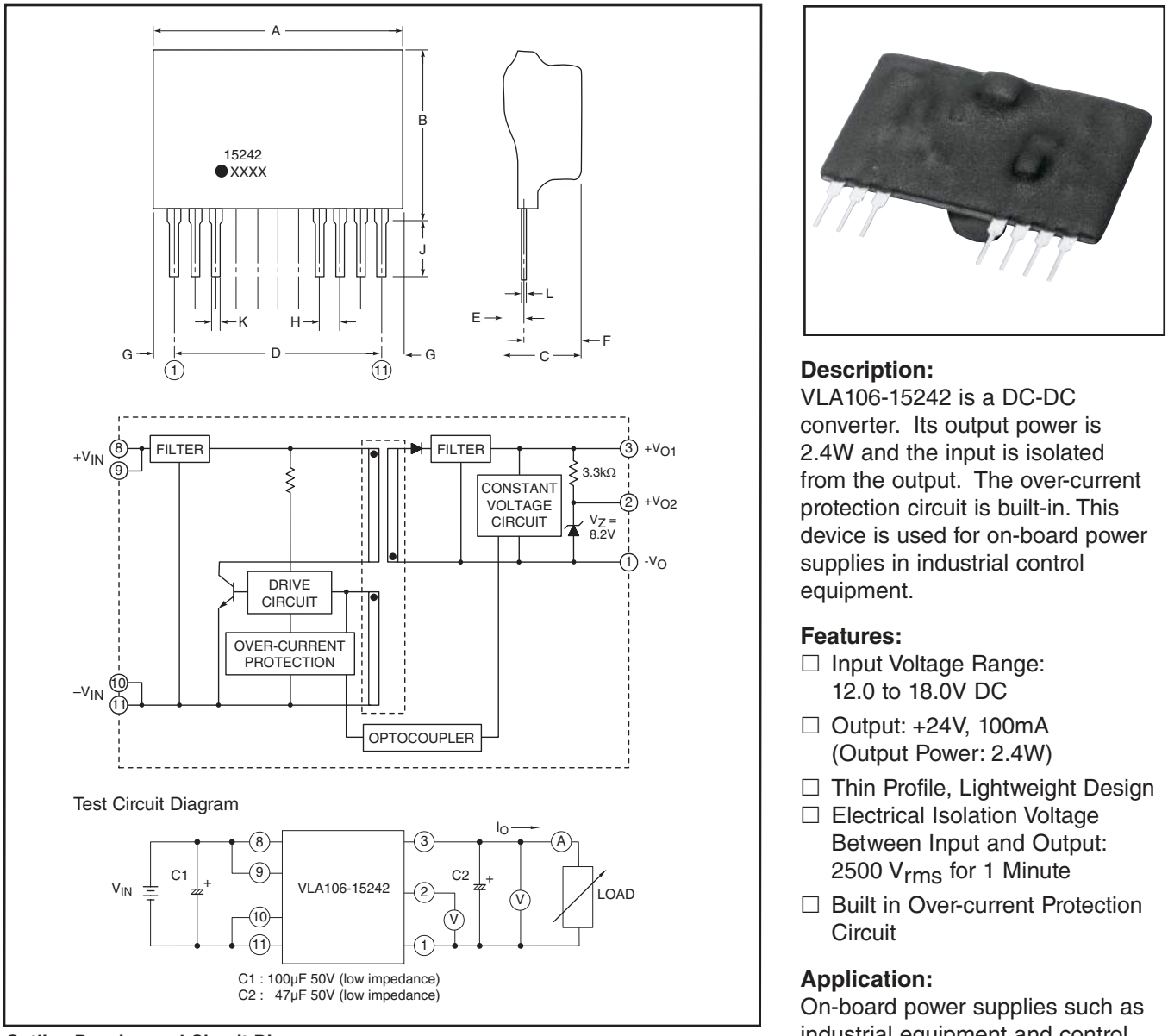
Powerex, Inc., 173 Pavilion Lane, Youngwood, Pennsylvania 15697 (724) 925-7272

VLA106-15242

Isolated DC/DC Converter



Description:
VLA106-15242 is a DC-DC converter. Its output power is 2.4W and the input is isolated from the output. The over-current protection circuit is built-in. This device is used for on-board power supplies in industrial control equipment.

Features:
- ☐ Input Voltage Range: 12.0 to 18.0V DC
- ☐ Output: +24V, 100mA (Output Power: 2.4W)
- ☐ Thin Profile, Lightweight Design
- ☐ Electrical Isolation Voltage Between Input and Output: 2500 V_{rms} for 1 Minute
- ☐ Built in Over-current Protection Circuit

Application:
On-board power supplies such as industrial equipment and control equipment.

Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters
A	1.3	33.0
B	0.945	24.0
C	0.71	18.0
D	1.0	25.4
E	0.22	5.5
F	0.53	13.5
G	0.18	4.5
H	0.10	2.54
J	0.18±0.06	4.5±1.5
K	0.02+0.004/-0.002	0.5+0.1/-0.05
L	0.01+0.01/-0.002	0.25+0.2/-0.05

Note: All dimensions listed are maximums except D.

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Absolute Maximum Ratings, T_a = 25°C unless otherwise specified

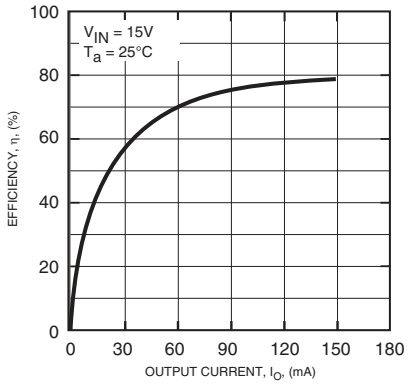
Characteristics	Symbol	VLA106-15242	Units
Input Voltage (Between Pins 8, 9, and 10, 11)	V_{IN}	18	Volts
Output Current (Between Pins 3 and 1)	I_O	100	mA
Operating Temperature (No Condensation)*	T_{opr}	-20 ~ 70	°C
Storage Temperature (No Condensation)	T_{stg}	-20 to 85	°C
Input-Output Isolation Voltage (AC, 1 Minute)	V_{ISO}	2500	V_{rms}

*Please refer to derating characteristics.

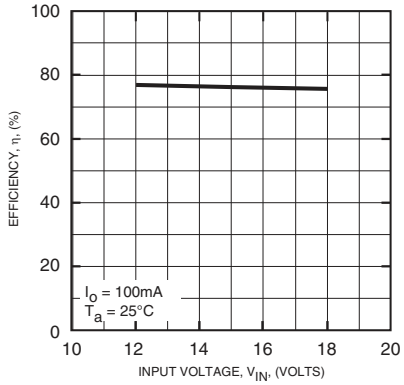
Electrical and Mechanical Characteristics, T_a = 25°C, V_{IN} = 24V unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Input Voltage	V_{IN}	Recommended Range	12	15	18	Volts
Output Voltage 1	V_{O1}	Between Pins 3 and 1, I_O = 0 ~ 100mA	22.8	24.0	25.2	Volts
Output Voltage 2	V_{O2}	Between Pins 2 and 1, Between Pins 3 and 2 : No Load	7.79	8.2	8.61	Volts
Input Regulation	R_{eg-I}	Between Pins 3 and 1, I_O = 100mA, V_{IN} = 12.0 ~ 18.0V	—	—	50	mV
Load Regulation	R_{eg-L}	Between Pins 3 and 1, I_O = 0 ~ 100mA	—	—	50	mV
Ripple Voltage	V_{P-P}	Between Pins 3 and 1, I_O = 100mA	—	—	150	mV
Efficiency	η	Between Pins 3 and 1, I_O = 100mA	—	75	—	%

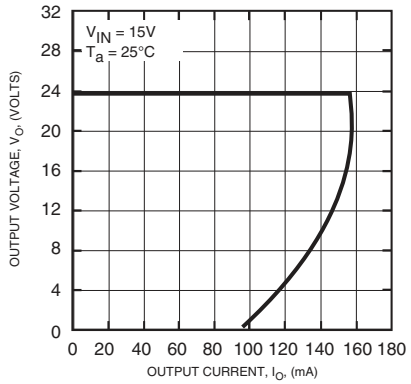
EFFICIENCY VS. OUTPUT CURRENT CHARACTERISTICS



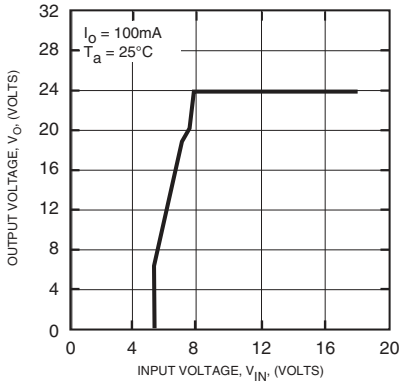
EFFICIENCY VS. INPUT VOLTAGE CHARACTERISTICS



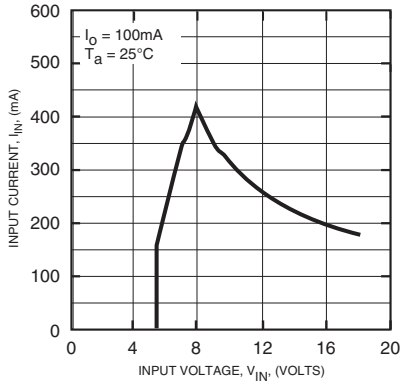
OUTPUT VOLTAGE VS. OUTPUT CURRENT CHARACTERISTICS



OUTPUT VOLTAGE VS. INPUT VOLTAGE CHARACTERISTICS



INPUT CURRENT VS. INPUT VOLTAGE CHARACTERISTICS



DERATING CHARACTERISTICS