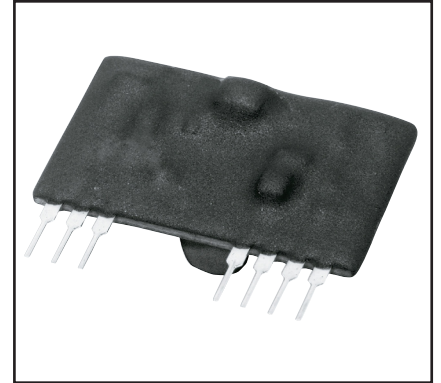
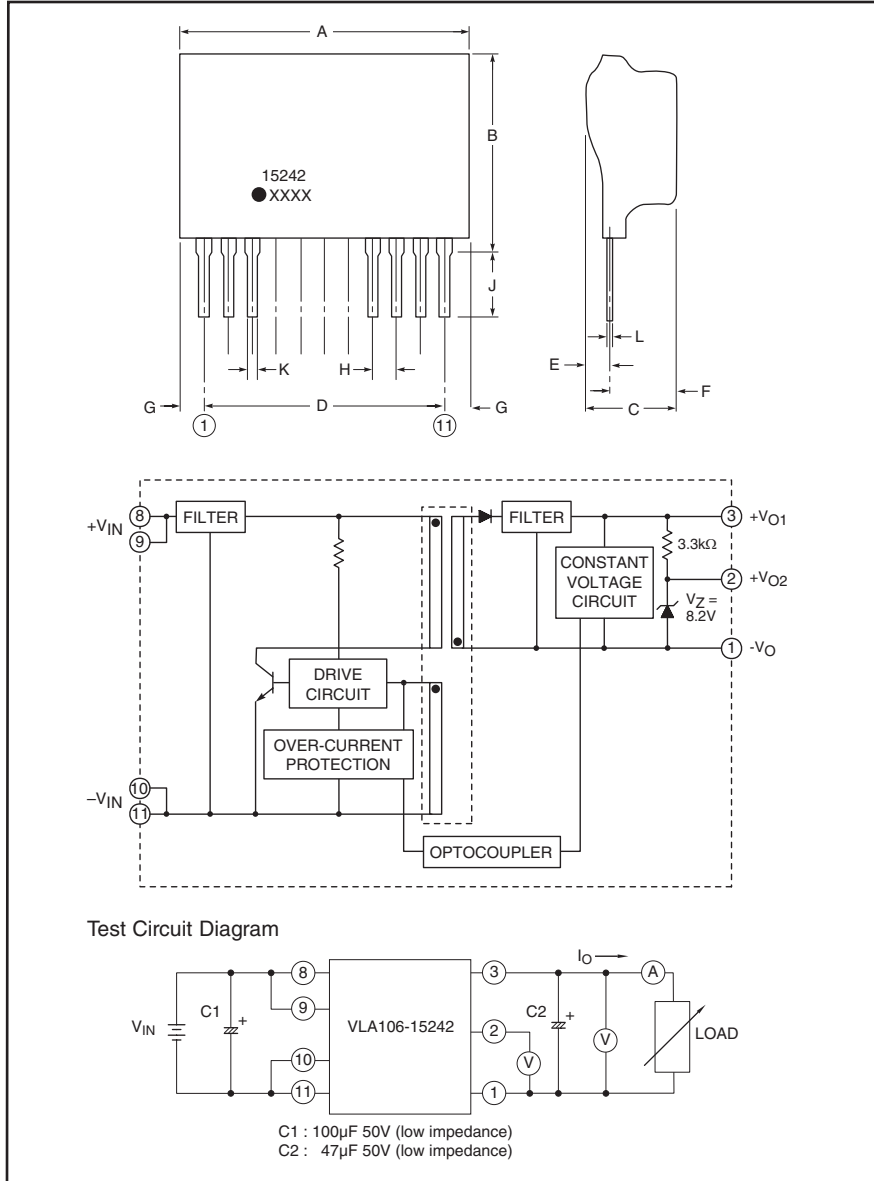


### Isolated DC/DC Converter



#### 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 $\pm$ 0.06	4.5 $\pm$ 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.



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

VLA106-15242  
Isolated DC/DC Converter

**Absolute Maximum Ratings,  $T_a = 25^\circ\text{C}$  unless otherwise specified**

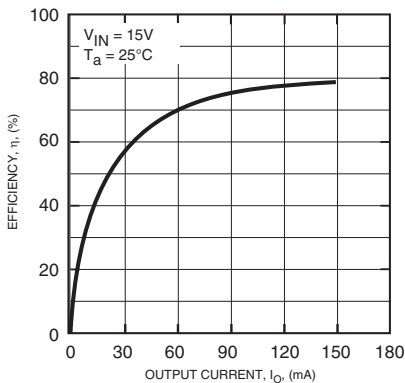
Characteristics	Symbol	VLA106-15242	Units
Input Voltage (Between Pins 8, 9, and 10, 11)	$V_{IN}$	18	Volts
Output Current (Between Pins 3 and 1)	$I_O$	100	mA
Operating Temperature (No Condensation)*	$T_{opr}$	-20 ~ 70	$^\circ\text{C}$
Storage Temperature (No Condensation)	$T_{stg}$	-20 to 85	$^\circ\text{C}$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

\*Please refer to derating characteristics.

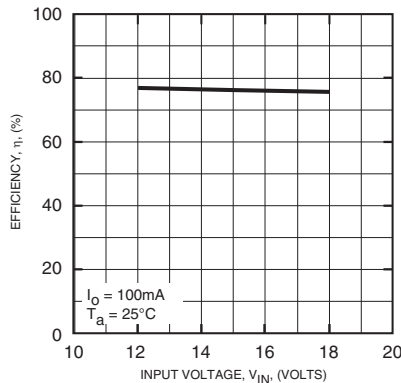
**Electrical and Mechanical Characteristics,  $T_a = 25^\circ\text{C}$ ,  $V_{IN} = 24\text{V}$  unless otherwise specified**

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, $I_O = 0 \sim 100\text{mA}$	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, $I_O = 100\text{mA}$ , $V_{IN} = 12.0 \sim 18.0\text{V}$	—	—	50	mV
Load Regulation	$R_{eg-L}$	Between Pins 3 and 1, $I_O = 0 \sim 100\text{mA}$	—	—	50	mV
Ripple Voltage	$V_{P-P}$	Between Pins 3 and 1, $I_O = 100\text{mA}$	—	—	150	mV
Efficiency	$\eta$	Between Pins 3 and 1, $I_O = 100\text{mA}$	—	75	—	%

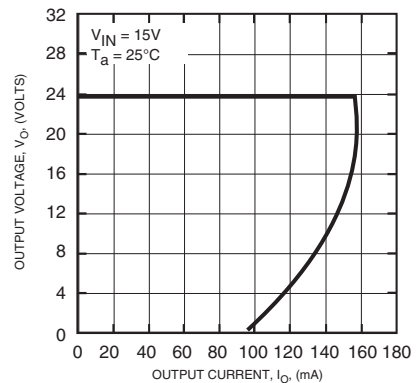
EFFICIENCY VS. OUTPUT CURRENT CHARACTERISTICS



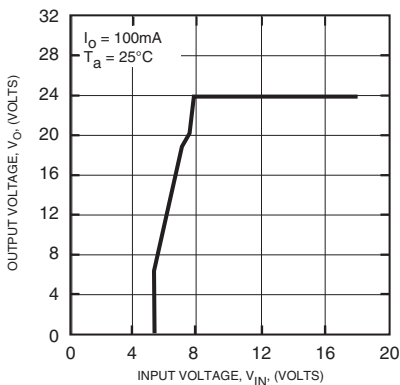
EFFICIENCY VS. INPUT VOLTAGE CHARACTERISTICS



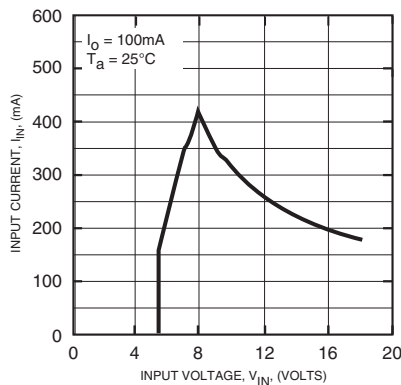
OUTPUT VOLTAGE VS. OUTPUT CURRENT CHARACTERISTICS



OUTPUT VOLTAGE VS. INPUT VOLTAGE CHARACTERISTICS



INPUT CURRENT VS. INPUT VOLTAGE CHARACTERISTICS



DERATING CHARACTERISTICS

