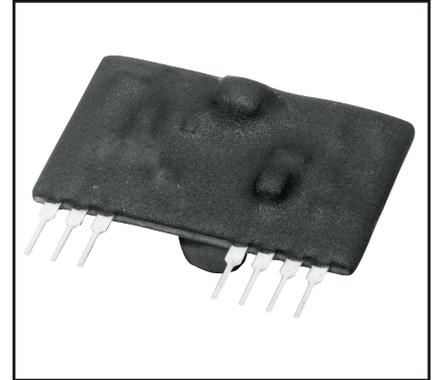
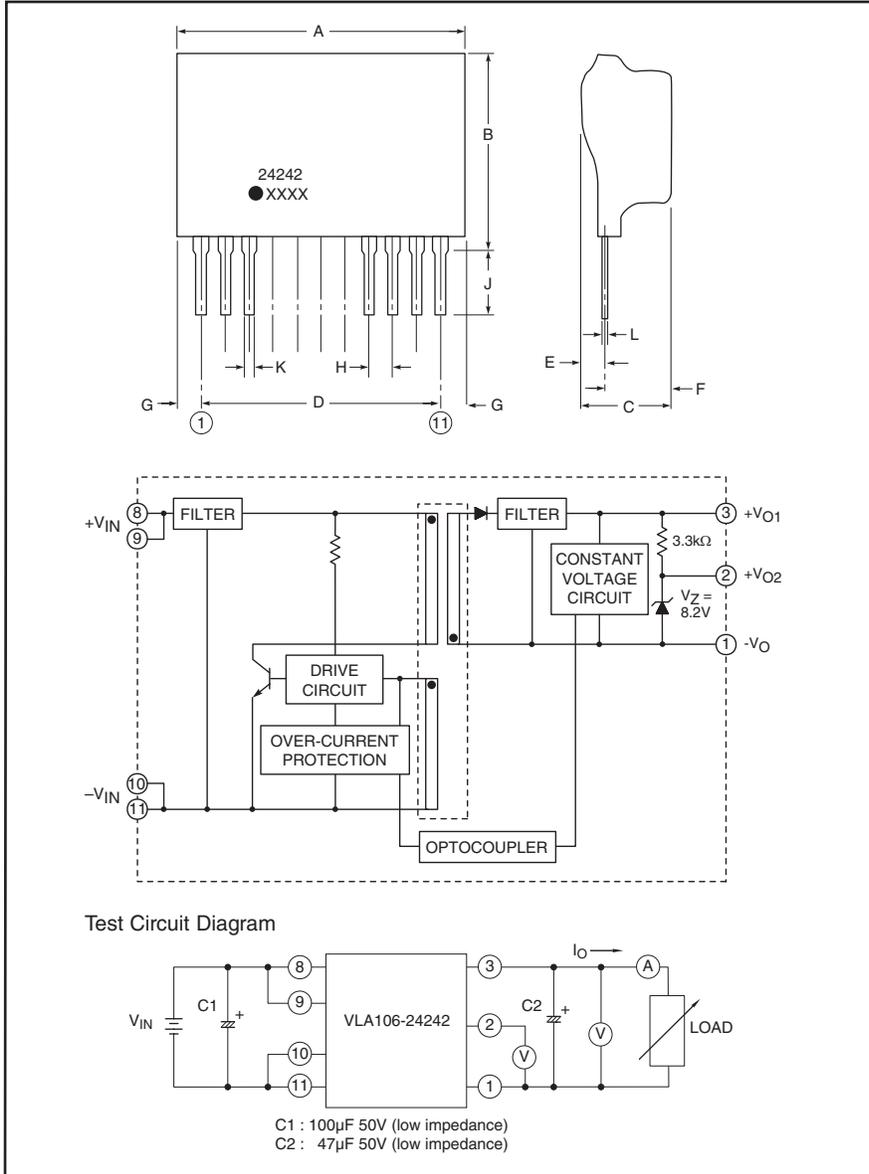


### Isolated DC/DC Converter



#### Description:

VLA106-24242 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: 21.6 to 26.4V 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.



VLA106-24242  
Isolated DC/DC Converter

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

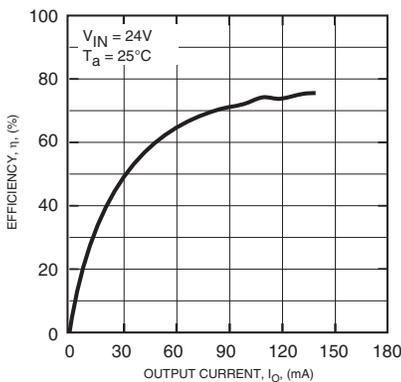
| Characteristics                               | Symbol    | VLA106-24242 | Units            |
|-----------------------------------------------|-----------|--------------|------------------|
| Input Voltage (Between Pins 8, 9, and 10, 11) | $V_{IN}$  | 27           | Volts            |
| Output Current (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.

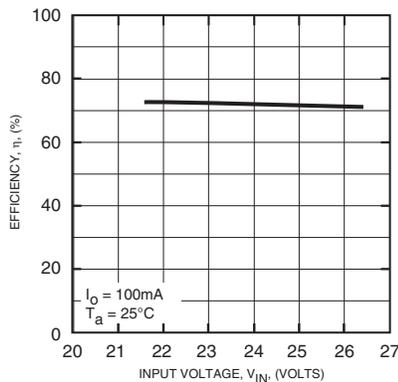
**Electrical and Mechanical Characteristics,  $T_a = 25^\circ\text{C}$ ,  $V_{IN} = 24\text{V}$  unless otherwise specified**

| Characteristics  | Symbol     | Test Conditions                                                                   | Min. | Typ. | Max. | Units |
|------------------|------------|-----------------------------------------------------------------------------------|------|------|------|-------|
| Input Voltage    | $V_{IN}$   | Recommended Range                                                                 | 21.6 | 24.0 | 26.4 | 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,<br>Between Pins 3 and 2 : No Load                           | 7.79 | 8.2  | 8.61 | Volts |
| Input Regulation | $R_{eg-I}$ | Between Pins 3 and 1,<br>$I_O = 100\text{mA}$ , $V_{IN} = 21.6 \sim 26.4\text{V}$ | —    | —    | 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, $I_O = 100\text{mA}$                                        | —    | 72   | —    | %     |

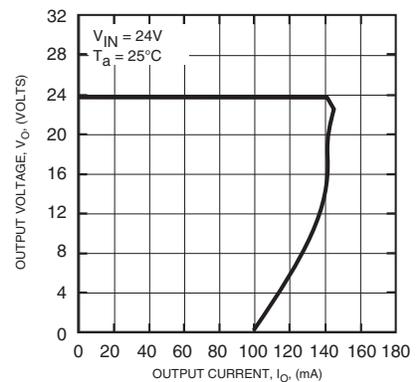
EFFICIENCY VS. OUTPUT CURRENT CHARACTERISTICS



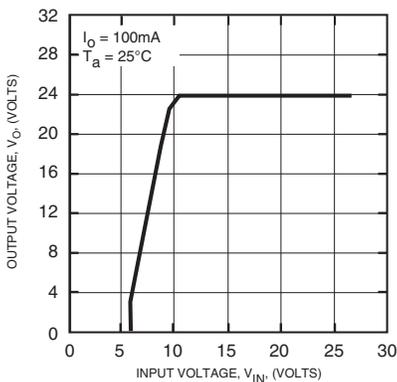
EFFICIENCY VS. INPUT VOLTAGE CHARACTERISTICS



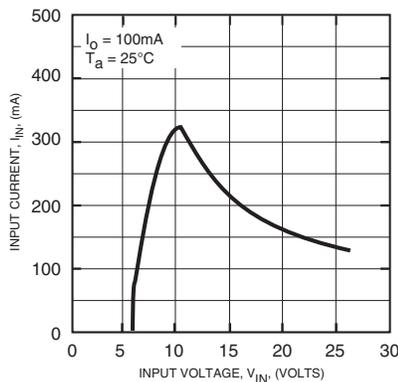
OUTPUT VOLTAGE VS. OUTPUT CURRENT CHARACTERISTICS



OUTPUT VOLTAGE VS. INPUT VOLTAGE CHARACTERISTICS



INPUT CURRENT VS. INPUT VOLTAGE CHARACTERISTICS



DERATING CHARACTERISTICS

