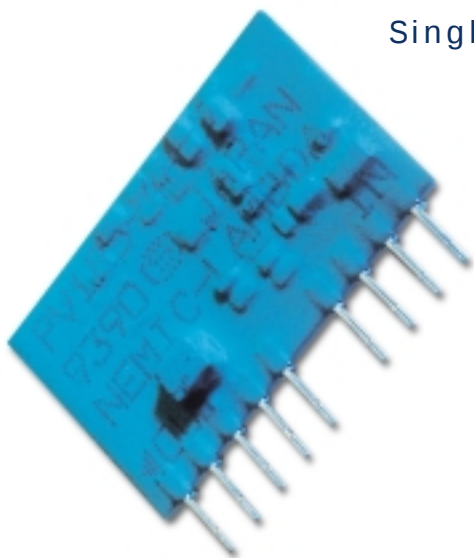




## Single Inline Package DC-DC Converters (1-3 Watts)

- ◆ SIP style footprint
- ◆ 5V, 12V, 24V, & 48V Inputs
- ◆ Single and Dual Outputs
- ◆ Adjustable Output Voltages
- ◆ Input-Output Isolation
- ◆ Overcurrent Protection

### Key Market Segments

Telecom & Datacom  
Test & Measurement  
Point of Load

## PV Features and Benefits

| Feature                            | Benefit                                 |
|------------------------------------|-----------------------------------------|
| ◆ Single Inline Package (SIP)      | ◆ Uses less pcb area                    |
| ◆ Wide input voltage range         | ◆ Accepts unregulated input voltages    |
| ◆ Isolated output                  | ◆ Can be configured for + or - outputs  |
| ◆ Wide operating temperature range | ◆ Supports Harsh Operating Environments |

## Specifications

| Output Volt.              |     | 3.3V                                                                          | 5V    | 12V     |
|---------------------------|-----|-------------------------------------------------------------------------------|-------|---------|
| ITEMS                     |     |                                                                               |       |         |
| DC Input ranges           | VDC | 5V: 4.5V-9V; 12V: 9V-18V, 24V: 18V-36V, 48V: 36V-72                           |       |         |
| Efficiency (typical)      | -   | 77%                                                                           |       |         |
| Output Voltage Accuracy   | -   | ±5%                                                                           |       |         |
| Output Voltage Adjustment | VDC | 3.3V-3.67V                                                                    | 5V-6V | 12V-15V |
| Preload                   | A   | 0                                                                             |       |         |
| Ripple & Noise            | mV  | 100mV                                                                         | 120mV |         |
| Max Line Regulation       | mV  | 20mV                                                                          |       |         |
| Max Load Regulation       | mV  | 40mV                                                                          |       |         |
| Overcurrent Protection    | A   | Auto recovery (1)                                                             |       |         |
| Overvoltage Protection    | %   | None                                                                          |       |         |
| Temperature Coefficient   | -   | 0.02%/°C                                                                      |       |         |
| Cooling                   | -   | Convection cooled                                                             |       |         |
| Isolation Voltage         | VAC | Input-Output: 500VAC 1 min. (5mA)                                             |       |         |
| Isolation Resistance      | Ohm | Greater than 100M                                                             |       |         |
| Shock                     | -   | 20G                                                                           |       |         |
| Vibration                 | -   | 10-55Hz (sweep for 1 min.) 1.5mm constant amplitude max 9G X,Y,Z 2 hours each |       |         |
| Humidity (non condensing) | -   | 30%-90% RH (non condensing)                                                   |       |         |
| Storage Humidity          | -   | 10%-95% RH (non condensing)                                                   |       |         |
| Operating Temp. Range     |     | -20 to 70°C, derate linearly to 50% load from 50 to 70°C                      |       |         |
| Storage Temperature       | °C  | -30°C to +85°C                                                                |       |         |
| Weight (Typ)              | g   | 5                                                                             |       |         |
| Size (LxWxH)              | in  | 1.12x0.33x0.91(PV1R5); 1.29x0.33x1.29(PV3)                                    |       |         |
| Warranty                  | -   | 2 years                                                                       |       |         |

Note: See Installation Manual for full details, test methods of parameters and application notes

1) Avoid operation in short circuit or overload for more than 30 seconds

## Model Selector

| Model                | Output Voltage (V) | Output Current (A) | Output Power (W) | Input Voltage (V) |
|----------------------|--------------------|--------------------|------------------|-------------------|
| <b>Single Output</b> |                    |                    |                  |                   |
| PV1R5-5-3.3          | 3.3                | 0.4                | 1.3              | 5.0               |
| PV1R5-48-3.3         | 3.3                | 0.4                | 1.3              | 48.0              |
| PV3-5-3.3            | 3.3                | 0.6                | 2.0              | 5.0               |
| PV3-48-3.3           | 3.3                | 0.6                | 2.0              | 48.0              |
| PV1R5-5-5            | 5.0                | 0.3                | 1.5              | 5.0               |
| PV1R5-12-5           | 5.0                | 0.3                | 1.5              | 12.0              |
| PV1R5-24-5           | 5.0                | 0.3                | 1.5              | 24.0              |
| PV1R5-48-5           | 5.0                | 0.3                | 1.5              | 48.0              |
| PV3-5-5              | 5.0                | 0.6                | 3.0              | 5.0               |
| PV3-12-5             | 5.0                | 0.6                | 3.0              | 12.0              |
| PV3-24-5             | 5.0                | 0.6                | 3.0              | 24.0              |
| PV3-48-5             | 5.0                | 0.6                | 3.0              | 48.0              |
| PV1R5-5-12           | 12.0               | 0.125              | 1.5              | 5.0               |
| PV3-5-12             | 12.0               | 0.25               | 3.0              | 5.0               |
| <b>Dual Outputs</b>  |                    |                    |                  |                   |
| PVD1R5-5-1212        | ±12.0              | 0.06               | 1.44             | 5.0               |
| PVD1R5-12-1212       | ±12.0              | 0.06               | 1.44             | 12.0              |
| PVD1R5-24-1212       | ±12.0              | 0.06               | 1.44             | 24.0              |
| PVD1R5-48-1212       | ±12.0              | 0.06               | 1.44             | 48.0              |
| PVD3-5-1212          | ±12.0              | 0.125              | 3.0              | 5.0               |
| PVD3-12-1212         | ±12.0              | 0.125              | 3.0              | 12.0              |
| PVD3-24-1212         | ±12.0              | 0.125              | 3.0              | 24.0              |
| PVD3-48-1212         | ±12.0              | 0.125              | 3.0              | 48.0              |

## Pinout

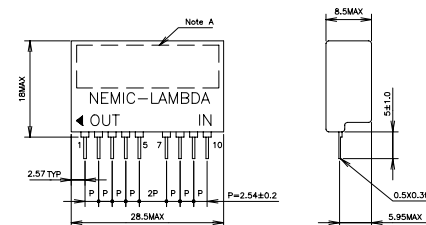
| Pin Description | Function                 |
|-----------------|--------------------------|
| -Vin            | Negative Input Terminal  |
| +Vin            | Positive Input Terminal  |
| +Vout           | Positive Output Terminal |
| -Vout           | Negative Output Terminal |
| NC              | No connection            |
| COM             | Common                   |
| TRM             | Trim                     |

## Other Lambda DC-DC Products

|    |                                                     |
|----|-----------------------------------------------------|
| X  | 10 - 20W, 24 & 48V input DC-DC converters           |
| SX | Surface Mount 20W, 24 & 48V input DC-DC converters  |
| PC | 1.5 - 6W, 5V, 12V, 24V & 48V input DC-DC converters |

For Additional Information, please visit  
[www.lambdapower.com/products/pv-series.htm](http://www.lambdapower.com/products/pv-series.htm)

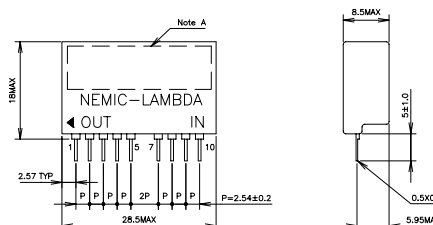
## Outline Drawing



Pin assign  
 1 : +Vout 5 : TRM  
 2,3 : NC 7,8 : -Vin  
 4 : -Vout 9,10 : +Vin

Note A : Indicate of model name, lot No. and country of manufacture.

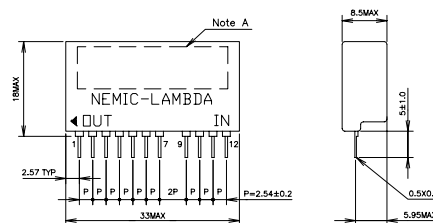
PV1R5



Pin assign  
 1 : +Vout 5 : TRM  
 2,3 : COM 7,8 : -Vin  
 4 : -Vout 9,10 : +Vin

Note A : Indicate of model name, lot No. and country of manufacture.

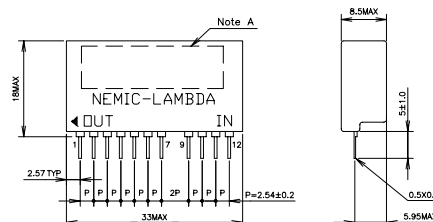
PVD1R5



Pin assign  
 1,2 : +Vout 7 : TRM  
 3,4 : NC 9,10 : -Vin  
 5,6 : -Vout 11,12 : +Vin

Note A : Indicate of model name, lot No. and country of manufacture.

PV3



Pin assign  
 1,2 : +Vout 7 : TRM  
 3,4 : COM 9,10 : -Vin  
 5,6 : -Vout 11,12 : +Vin

Note A : Indicate of model name, lot No. and country of manufacture.

PVD3