

DC-DC Converters



Series HPD Single and Series HPD Dual

Isolated Regulated up to 200 Watts, Wide Input Range/200-380 VDC

Fully Regulated, Short Circuit Protected

Parallel Operation Available

Features:

- Dual isolated outputs
- Short circuit protection
- Input voltage protection
- Thermal, over temp. shutdown
- Line regulation
- Load regulation
- No external components required
- Hi density, hi efficiency design
- Remote shutdown
- Trim capabilities
- Fixed frequency-100 Khtz

The PICO HPD Series of high power DC-DC Converters, allow a wide input voltage of 200-380 VDC, while maintaining a regulated output. They are fully safeguarded for over voltage, over temperature and continuous short circuit protection.

The availability of Dual Isolated Outputs, small size, and the capability of parallel operations as standard features should reduce your design and component costs, while the fixed frequency operation helps parallel connections for higher power requirements.

This high density unit is assembled in the USA with PICO quality and component selection, allowing it to meet the most stringent commercial requirements.

Typical Characteristics:

Frequency: 100 Khtz

Base plate: Max. +85° C

Operating temperature: See thermal chart, Min. 0° C ambient, Max. +85° C base plate temp.

Test conditions: 25° C ambient

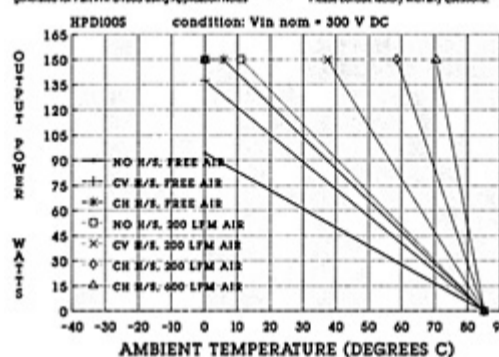
Isolation Base Input: 2121 VDC

Isolation Input Output: 4242 VDC

Isolation Output to Base: 1000 VDC

Storage temperature: -55° C to +105° C

Full thermal analysis can be determined using application notes on page 124. By using the efficiency and thermal resistance of your desired unit to the formula you can complete your evaluation. The curves below were generated for Part #HPD100S using Application Notes. Please consult factory with any questions.



Larger Version of Graph [1]

- 27 Standard Models
- 100 VDC Output Models
- Hi Density 100 Watts
- Fixed Frequency

For all variations, call factory.

For Parallel Operation: Add suffix "P" (i.e. HPD5SP). Consult factory to optimize for your application

Series HPD Single * 200 Watts * Input 200-380 VDC

| Pico Part No. | Input Voltage Range (V DC) | Output Voltage (V DC) | Max. Output Power * (W) | EFF. Full Load Typical ** (%) | Max. Load Regulation (%) *** | | Max. Line Regulation At Full Load (%) | | Output Voltage Ripple (Full Load) 1-1MHz BW (MV P-P) | Output Voltage Tolerance ** (± %) | Price (US \$) |
|---------------|----------------------------|-----------------------|-------------------------|-------------------------------|------------------------------|---------|---------------------------------------|----------|--|-----------------------------------|---------------|
| | | | | | 10-50% | 50-100% | 200-300V | 300-380V | | | |
| HPD3.3S | 200-380 | 3.3 | 75 | 73 | 1.50 | 1.50 | 1.25 | 1.25 | 50 | 1.50 | 223.54 |
| HPD5S | 200-380 | 5 | 100 | 77 | 1.25 | 1.25 | 1.00 | 1.00 | 50 | 1.50 | 223.54 |
| HPD5.2S | 200-380 | 5.2 | 100 | 77 | 1.25 | 1.25 | 1.00 | 1.00 | 50 | 1.50 | 223.54 |
| HPD9S | 200-380 | 9 | 150 | 80 | 1.25 | 1.25 | 1.00 | 1.00 | 50 | 1.00 | 223.54 |
| HPD12S | 200-380 | 12 | 200 | 82 | 1.00 | 1.00 | 0.75 | 0.75 | 50 | 1.00 | 223.54 |

| | | | | | | | | | | | |
|---------|---------|-----|-----|----|------|------|------|------|----|------|--------|
| HPD15S | 200-380 | 15 | 200 | 83 | 1.00 | 1.00 | 0.75 | 0.75 | 50 | 1.00 | 223.54 |
| HPD24S | 200-380 | 24 | 200 | 85 | 0.75 | 0.75 | 0.50 | 0.50 | 50 | 0.75 | 223.54 |
| HPD28S | 200-380 | 28 | 200 | 86 | 0.50 | 0.50 | 0.50 | 0.50 | 50 | 0.75 | 223.54 |
| HPD48S | 200-380 | 48 | 200 | 86 | 0.50 | 0.50 | 0.50 | 0.50 | 50 | 0.50 | 223.54 |
| HPD100S | 200-380 | 100 | 150 | 85 | 0.50 | 0.50 | 0.50 | 0.50 | 50 | 0.50 | 286.59 |

10% Minimum load required at all times.

* Using proper thermal management, maximum temp. of +85° C (case)

** Reading taken at nominal 300 VDC input

Series HPD Dual * 150 Watts * Input 200-380 VDC

| Pico Part No. | Input Voltage Range (V DC) | Output Voltage (V DC) | Max. Output Power * (W) | EFF. Full Load Typical ** (%) | Max. Load Regulation (%) *** | | Max. Line Regulation At Full Load (%) | | Output Voltage Ripple (Full Load) 1-1MHz BW (MV P-P) | Output Voltage Tolerance ** (± %) | Price (US \$) |
|---------------|----------------------------|-----------------------|-------------------------|-------------------------------|------------------------------|---------|---------------------------------------|----------|--|-----------------------------------|---------------|
| | | | | | 10-50% | 50-100% | 200-300V | 300-380V | | | |
| HPD5D | 200-380 | 5 | 50/50 | 77 | 1.25 | 1.25 | 1.00 | 1.00 | 50 | 1.50 | 298.56 |
| HPD9D | 200-380 | 9 | 75/75 | 80 | 1.25 | 1.25 | 1.00 | 1.00 | 50 | 1.00 | 298.56 |
| HPD12D | 200-380 | 12 | 75/75 | 82 | 1.00 | 1.00 | 0.75 | 0.75 | 50 | 1.00 | 298.56 |
| HPD15D | 200-380 | 15 | 75/75 | 83 | 1.00 | 1.00 | 0.75 | 0.75 | 50 | 1.00 | 298.56 |
| HPD24D | 200-380 | 24 | 75/75 | 85 | 0.75 | 0.75 | 0.75 | 0.75 | 50 | 0.75 | 298.56 |
| HPD28D | 200-380 | 28 | 75/75 | 86 | 0.75 | 0.75 | 0.50 | 0.50 | 50 | 0.75 | 298.56 |
| HPD48D | 200-380 | 48 | 75/75 | 86 | 0.50 | 0.50 | 0.50 | 0.50 | 50 | 0.50 | 298.56 |

10% Minimum load required at all times.

* Using proper thermal management, maximum temp. of +85° C (case)

** Reading taken at nominal 300 VDC input

****HIGH VOLTAGE SERIES PD

UP TO 350 VDC - 150 WATTS - INPUT 200-380 VDC

| PICO PART NO. | INPUT VOLTAGE RANGE (VDC) | OUTPUT VOLTAGE DC | MAX. OUTPUT POWER (W)* | EFF. @ FULL LOAD TYPICAL (%)** | MAX. LOAD REGULATION (%)** | | MAX. LINE REGULATION AT FULL LOAD (%) | | OUTPUT VOLTAGE RIPPLE FULL LOAD 1-1MHz BW (%) | OUTPUT VOLTAGE Tolerance (±%)** | PRICE (US \$) |
|---------------|---------------------------|-------------------|------------------------|--------------------------------|----------------------------|---------|---------------------------------------|----------|---|---------------------------------|---------------|
| | | | | | 20-50% | 50-100% | 200-300V | 300-380V | | | |
| PD125S | 200-380 | 125 | 150 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 214.99 |
| PD150S | 200-380 | 150 | 150 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 214.99 |
| PD175S | 200-380 | 175 | 150 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 214.99 |
| PD200S | 200-380 | 200 | 150 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 286.66 |
| PD225S | 200-380 | 225 | 125 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 286.66 |
| PD250S | 200-380 | 250 | 125 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 286.66 |
| PD275S | 200-380 | 275 | 100 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 286.66 |
| PD300S | 200-380 | 300 | 100 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 358.32 |
| PD325S | 200-380 | 325 | 100 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 358.32 |
| PD350S | 200-380 | 350 | 100 | 85 | 0.5 | 0.5 | 0.3 | 0.3 | 1 | 0.5 | 358.32 |

10% Minimum load required at all times

*Using proper thermal management maximum temp of +85°C (case)

**Reading taken at nominal 300 VDC input

****UL approval pending

For immediate engineering assistance or to place an order: **Call Toll Free: 800-431-1064**

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