



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Full function, 50 to 300W DC-DC converters

Features

- ◆ High Density
- ◆ Wide Range Input
- ◆ Wide output adjustment capability
- ◆ Remote On/Off
- ◆ Fixed Switching Frequency
- ◆ International Safety Approvals
- ◆ Parallel Operation
- ◆ Low component count
- ◆ Signals to support N+1 redundancy



Key Market Segments & Applications



| Specifications | | 2V | 3.3V | 5V | 12V | 15V | 24V | 28V |
|-----------------------------|-------|---|-----------|------------|----------|-------|----------|-----------|
| Input range | VDC | 24V nom: 18-36, 48V nom: 36-76V, 110V nom: 82-185V, 280V nom: 200-400V | | | | | | |
| Output Voltage Adj. Range | VDC | 1.6~2.4 | 2.64~3.96 | 2~6 | 4.8~14.4 | 6~18 | 9.6~28.8 | 11.2~33.6 |
| Line Regulation | - | 0.4% or 20mV (whichever is greater) over entire input range with constant load | | | | | | |
| Load Regulation | - | 0.8% or 40mV (whichever is greater) from no load to full load with constant input line | | | | | | |
| Ripple and Noise | pk-pk | 100mV | | 150mV | | 240mV | 280mV | |
| Series Operation | - | Possible - Refer to installation manual | | | | | | |
| Over Voltage Protection | % | 150 - 180% | | 125 - 145% | | | | |
| Overload Protection | % | Approximately 105 - 140%, automatic recovery | | | | | | |
| Remote On/Off | - | Low = ON, Open = OFF | | | | | | |
| Remote Sensing | - | Yes | | | | | | |
| Parallel operation | - | Using current share pin (PC). Will share within 5%, see app. notes for connection details | | | | | | |
| Inverter Good signal | - | Signal available for status of inverter | | | | | | |
| Auxiliary Bias Supply | - | 8V 10mA auxiliary voltage to supply power to interface circuits (AUX pin) | | | | | | |
| Thermal Protection | - | Internal sensing, self resetting | | | | | | |
| Cooling | - | Conduction or forced air. See application notes for cooling and heatsink selection | | | | | | |
| Operating Temperature Range | °C | Baseplate temperature -20°C to +85°C. -40°C start up possible - consult factory | | | | | | |
| Storage Temperature | °C | -40°C to +85°C | | | | | | |
| Temperature Coefficient | - | 0.02%/°C | | | | | | |
| Isolation | - | Input to output: 3000VAC, Input to Baseplate: 2500VAC(1) | | | | | | |
| Isolation Resistance | - | Output to Baseplate -100MOhm at 500VDC and 70%RH | | | | | | |
| Safety Agency Approval | - | UL60950-1, CSA60950-1, EN60950-1 and CE Mark. | | | | | | |
| Warranty | yrs | Two years | | | | | | |

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

(1) 24V input models input to output: 2kVAC; input to baseplate: 2kVAC

Not Recommended For New Designs

| Model Selector | | | | | | |
|----------------------------|--------------------|------------------|-------------|-------------|--------------|--------------|
| Nominal Output Voltage (V) | Output Current (A) | Output Power (W) | 24V input | 48V input | 110V input | 280V input |
| 2.0 | 15.0 | 30 | - | PH75F48-2 | PH75F110-2 | PH75F280-2 |
| 2.0 | 20.0 | 40 | PH100F24-2 | - | - | - |
| 2.0 | 30.0 | 60 | - | PH150F48-2 | PH150F110-2 | PH150F280-2 |
| 2.0 | 60.0 | 120 | - | PH300F48-2 | PH300F110-2 | PH300F280-2 |
| 3.3 | 15.0 | 45 | - | PH75F48-3 | PH75F110-3 | PH75F280-3 |
| 3.3 | 20.0 | 60 | PH100F24-3 | - | - | - |
| 3.3 | 30.0 | 90 | - | PH150F48-3 | PH150F110-3 | PH150F280-3 |
| 3.3 | 60.0 | 180 | - | PH300F48-3 | PH300F110-3 | PH300F280-3 |
| 5.0 | 15.0 | 75 | - | PH75F48-5 | PH75F110-5 | PH75F280-5 |
| 5.0 | 20.0 | 100 | PH100F24-5 | - | - | - |
| 5.0 | 30.0 | 150 | - | PH150F48-5 | PH150F110-5 | PH150F280-5 |
| 5.0 | 60.0 | 300 | - | PH300F48-5 | PH300F110-5 | PH300F280-5 |
| 12.0 | 6.3 | 75 | - | PH75F48-12 | PH75F110-12 | PH75F280-12 |
| 12.0 | 8.4 | 100 | PH100F24-12 | - | - | - |
| 12.0 | 12.5 | 150 | - | PH150F48-12 | PH150F110-12 | PH150F280-12 |
| 12.0 | 20.0 | 240 | PH300F24-12 | - | - | - |
| 12.0 | 25.0 | 300 | - | PH300F48-12 | PH300F110-12 | PH300F280-12 |
| 15.0 | 5.0 | 75 | - | PH75F48-15 | PH75F110-15 | PH75F280-15 |
| 15.0 | 6.7 | 100 | PH100F24-15 | - | - | - |
| 15.0 | 10.0 | 150 | - | PH150F48-15 | PH150F110-15 | PH150F280-15 |
| 15.0 | 20.0 | 300 | - | PH300F48-15 | PH300F110-15 | PH300F280-15 |
| 24.0 | 3.2 | 75 | - | PH75F48-24 | PH75F110-24 | PH75F280-24 |
| 24.0 | 4.2 | 100 | PH100F24-24 | - | - | - |
| 24.0 | 6.3 | 150 | - | PH150F48-24 | PH150F110-24 | PH150F280-24 |
| 24.0 | 12.6 | 300 | - | PH300F48-24 | PH300F110-24 | PH300F280-24 |
| 28.0 | 2.7 | 50 | - | PH75F48-28 | PH75F110-28 | PH75F280-28 |
| 28.0 | 3.6 | 100 | PH100F24-28 | - | - | - |
| 28.0 | 5.4 | 150 | - | PH150F48-28 | PH150F110-28 | PH150F280-28 |
| 28.0 | 10.8 | 300 | PH300F24-28 | PH300F48-28 | PH300F110-28 | PH300F280-28 |

| Pinout | |
|-----------------|---|
| Pin Description | Function |
| -Vin | Negative Input Terminal |
| +Vin | Positive Input Terminal |
| +S | Positive Remote sense |
| -S | Negative Remote sense |
| +V | Positive Output Terminal |
| -V | Negative Output Terminal |
| AUX | Bias voltage output (secondary reference) |
| IOG | DC Good |
| TRIM | Output adjustment trim pin |
| CNT | On/Off Control Terminal |
| SG | Signal (CNT RTN) |
| PC | Parallel control connection |

| Other DC-DC Products | |
|-----------------------------|---------------------------------------|
| PH Simple Func. | 50 - 300W, lower cost version of PH |
| PAQ, PAH, PAF | 50 - 700W quarter, half & full bricks |
| PX | 10-40W, 12-48V input, DC-DC |
| CC-E | 1.5-30W, 5-48V input, DC-DC |

For Additional Information, please visit us.tdk-lambda.com/lp/products/ph-series-ff.htm



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