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STR-ACF-12V100WPSU-GEVB

Active Clamp Fly-back AC to DC Power Supply Unit of 100W 12V Output Design.

Public Information

AC to DC Power supply unit -GEVB STR-ACF-12V100WPSU-GEVB with Strata

Reference design kit

AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB

Features

- High performance AC/DC psu solution using **NCP1622, NCP1568, NCP4306** and **NCP431.**
  - Input voltage 90Vac – 264Vac
  - Output voltage 12V, Output current 0 – 8.5A, Maximum of continuous Pout=102W is available.
  - Efficiency of maximum load > 86%
  - Included 6-pin PFC controller. This runs approximately Pout>50W and disabled Pout<50W for power saving.
  - An inrush current control component is included. It is 10 ohm NTH thermistor.
  - Latched overvoltage detection
  - Auto restart for overcurrent protection and input voltage compensation.
- Display the performance of this PSU on a screen by **a simple telemetering system and Strata.**
  - Input and output monitoring – voltage, current, power factor and power.
  - Calculate a power loss and efficiency.
- The 6-pin **PFC controller NCP1622**. This is based on an innovative VSFF method.
  - CrM operation.
  - Valley Synchronized Frequency Fold−back (VSFF): Low frequency operation is forced at low current levels (9 pre−programmed).
- **The NCP1568 which is an Active Clamp Fly-back controller** is used to the downstream converter.
  - Peak Current−Mode control with inbuilt slope compensation with options.
  - Customer Programmable Optional Transition to DCM (light load operation).
- **SR controller NCP4306** for increased efficiency, utilizes Kelvin connection to SR MOS at full load and utilizes a light load detection architecture at light load.
  - Light load detection for disabling SR operation at light load to no load.
- **Shunt regulator NCP431** for output voltage detection works low operating current and offers low consumption.

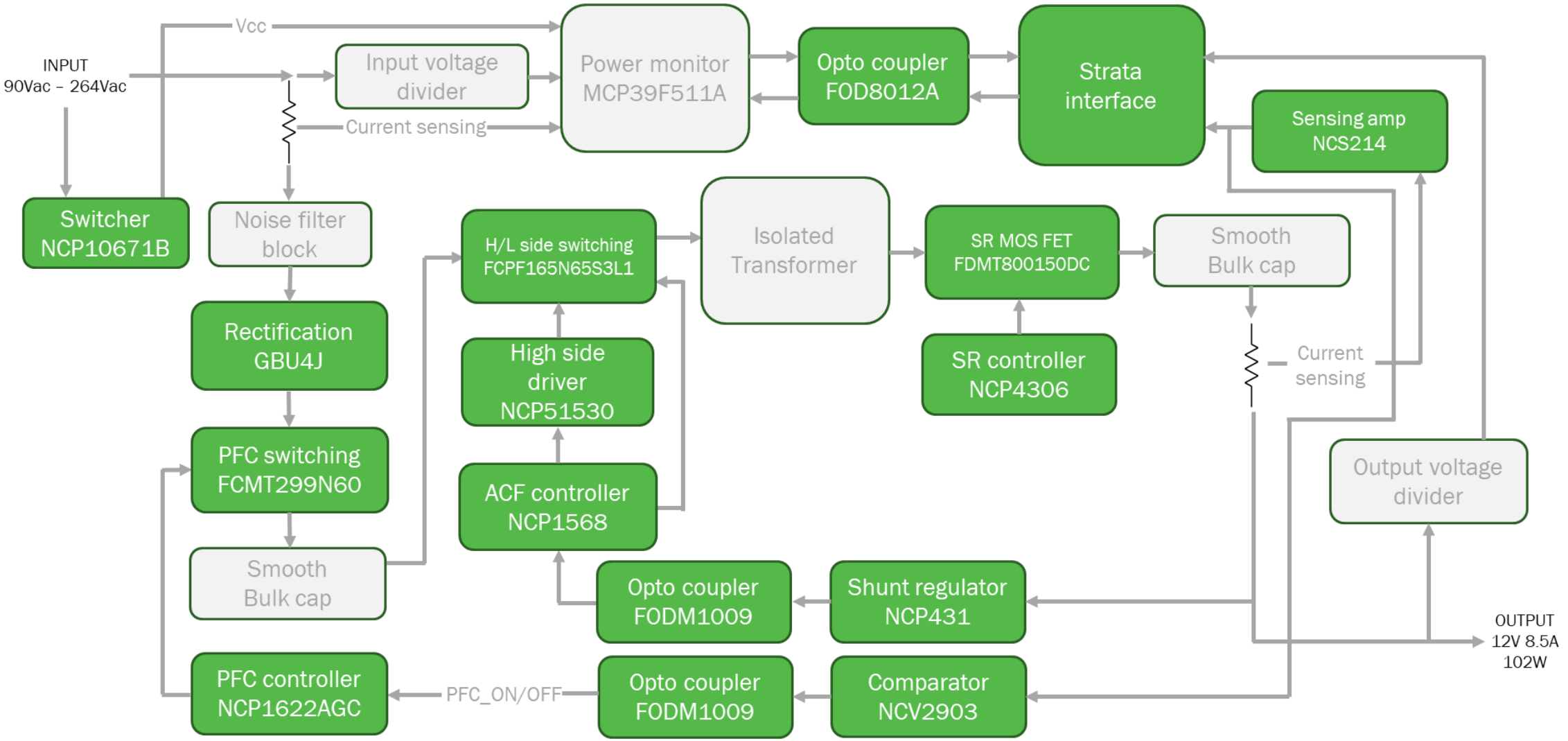
AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB

Target Applications	AC to DC Power Supply Unit • Industrial use • General purpose power supply unit

AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB

Device & Data Sheet	Products information	BOM & Schematic
NCP1622 NCP1568 NCP51530 NCP4306 FCMT299N60 FCPF165N65S3L1 FDMT800150DC NCP10671B	NCP1622 NCP1568 NCP51530 NCP4306 FCMT299N60 FCPF165N65S3L1 FDMT800150DC NCP10671B	 BOM STR ACF PSU(NOV 2019) .pdf  on_sec_str-acf-12v100wpsu-gevb_schematic.pdf

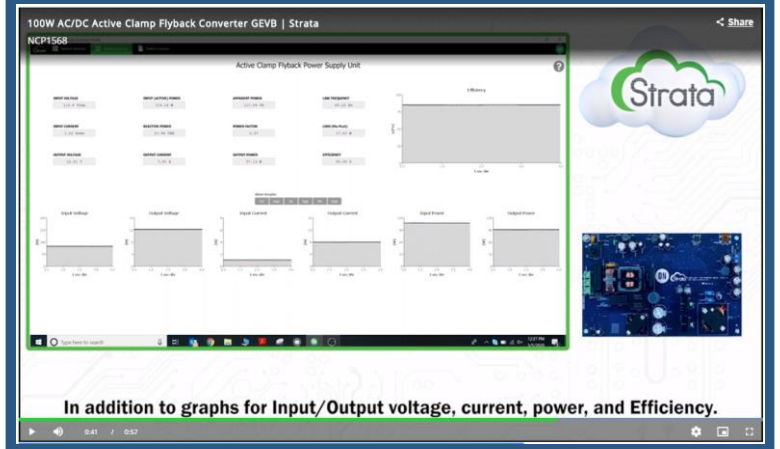
Block Diagram



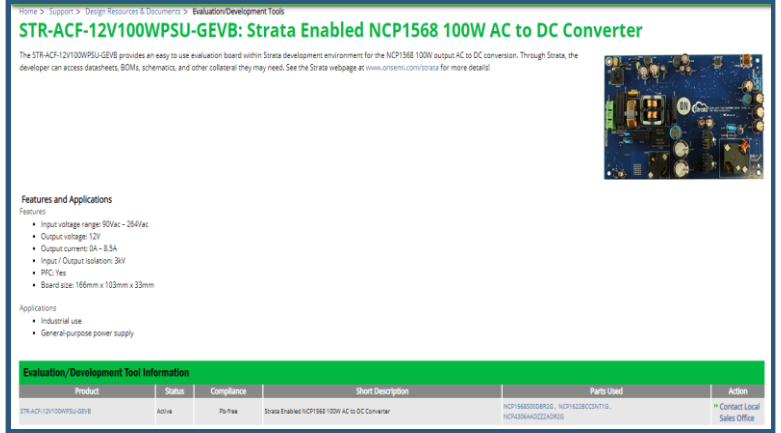
Support, Collateral & Ordering Information

Introducing the Strata Developer Studio Video
Click Here

100W AC/DC Active Clamp Flyback Converter Video
Click Here



Product Page
Click Here



Strata Interface

Telemetry

- Input voltage (Vac) / Output voltage (V)
- Input current (Irms) / Output current (A)
- Input (active) power (W)
- Apparent power (VA) / Reactive power (VAR)
- Line frequency (Hz)
- Power factor
- Output power (W) / Loss(Pin-Pout) (w)
- Efficiency (%)

Control

- No, This RDK has only telemetering.

HW Implementations

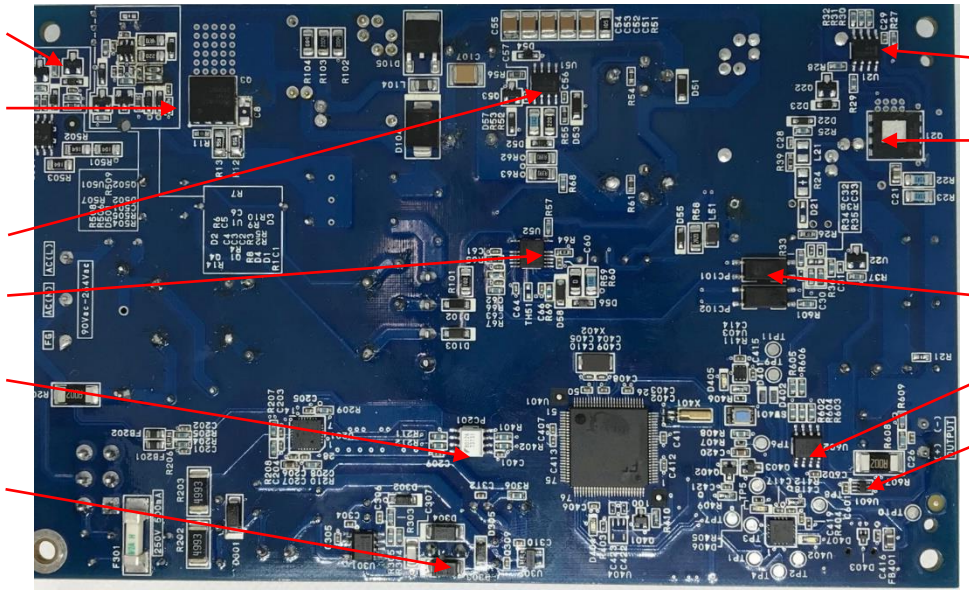
- The fuses for a protection of the failure. (F101, F301)
- Over output voltage protection (OVP latch)
- Over output current protection (OCP) with auto restart operation
- Input inrush current suppressor
- Switch for telemetry circuit control (SW301)
- Enabled PFC circuit for ACF operation >Pout=60W
- Input and output current sensing
- Output voltage divider for ADC
- MPU for Input power monitoring
- Input and output filter for power path

AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB, Images

Input

Output

FCPF165N65S3L1



NCP1622

FCMT299N60

NCP51530

NCP1568

FOD8012A

NCP10671B

NCP4306

FDMT800150DC

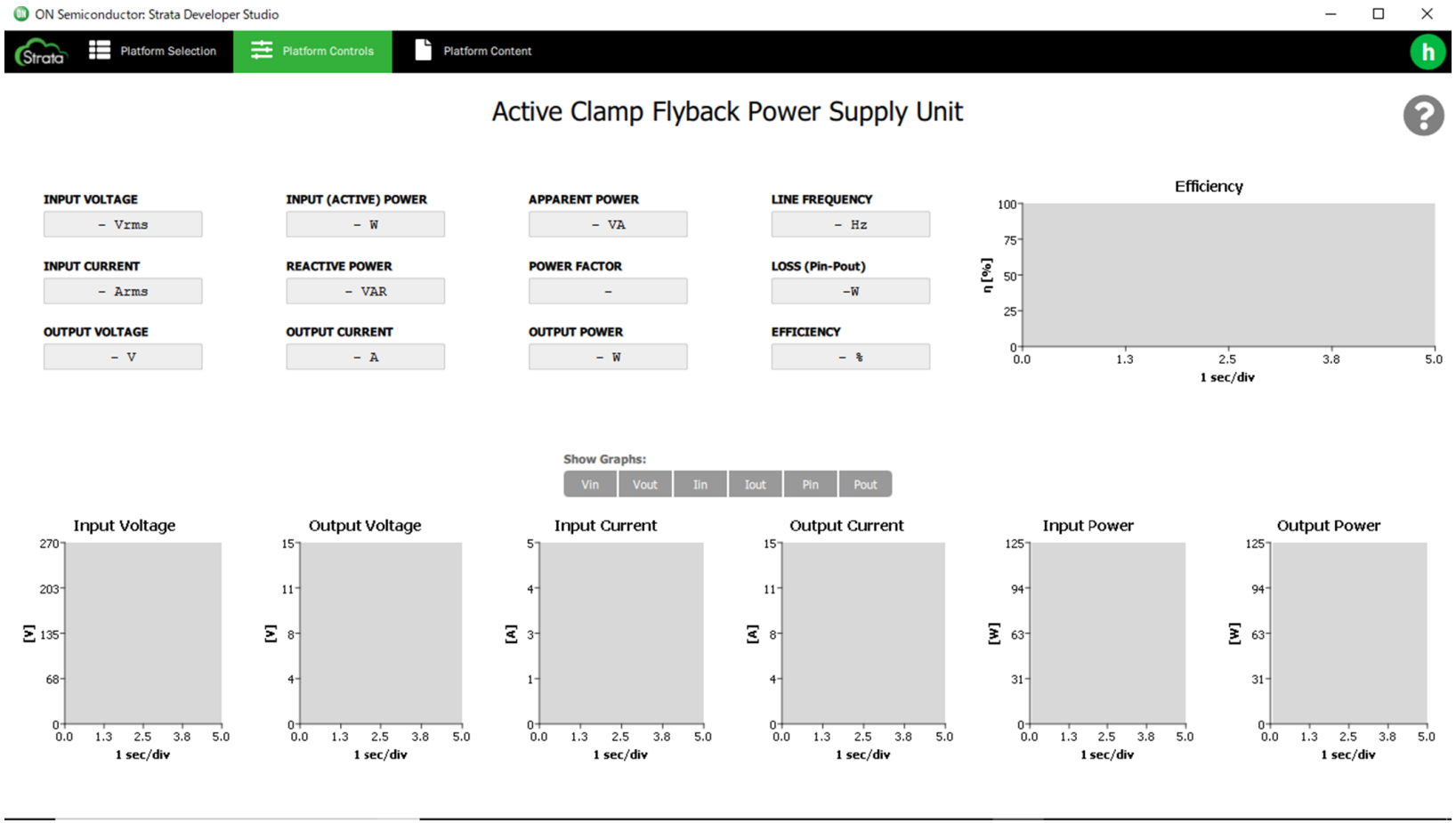
FODM1009

NCV2903

NCP214

AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB, Images

AC to DC Power supply unit - STR-ACF-12V100WPSU-GEVB, GUI image



Screen image with no-input and no-output.