Reference design has a maximum output power of 215 Watts

Microchip's Grid-Connected Solar Microinverter Reference Design demonstrates the flexibility and power of SMPS dsPIC Digital Signal Controllers in Grid-Connected Solar Microinverter systems. This reference design has a maximum output power of 215 Watts and ensures maximum power point tracking for PV panel voltages between 20V to 45V DC. High efficiency was achieved by implementing a novel interleaved active-clamp flyback topology with Zero Voltage Switching (ZVS).

This reference design is implemented using a single dsPIC33F "GS" digital-power DSCs from Microchip that provides the full digital control of the power conversion as well as all system management functions. As shown in this reference design the dsPIC33F 'GS' devices enable designers to easily and cost effectively develop products using advanced switching techniques / topologies that lower switching losses and improve overall system efficiency. The Grid-Connected Solar Microinverter Reference Design is royalty free when used in accordance with the licensing agreement.

Key Features:

- High efficiency: 94.5% @ nominal conditions (230Vac systems)
- Maximum power point tracking: 99.5%

- Full digital control
- Burst mode operation @ low output power
- Output power de-rating @ low PV panel voltages
- Protection against various current and voltage faults
- System Islanding to detect grid failure

Specifications:

- Recommended input power: 250W
- Maximum output power: 215W
- Maximum input DC voltage: 53V DC
- Maximum Power Point Tracking voltage: 20V to 45V
- Output current TDD < 5%
- Power factor > 0.95
- Grid Voltage

§ 230vac Nominal (210Vac – 264Vac)

§ 120Vac Nominal (90Vac – 140Vac)

- Grid Frequency

§ 50Hz Nominal (47Hz – 53Hz)

§ 60Hz Nominal (59.3Hz – 60.7Hz)

Package Contents:

- Solar Microinverter Reference Design, PV Module cables, and AC mains cable.

www.microchip.com [1]

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Links:
[1] http://www.microchip.com