

100 W, ultra-wide range flyback converter based on L6566BH



Features

- Wide input voltage range:
 - 230 to 690 V_{AC}
 - 250 to 1000 V_{DC}
- Output 24 V/100 W
- Short time undervoltage (long time for 50 W output) down to 150 V_{DC}/180 V_{AC}
- Selectable fixed-frequency or quasi-resonant operation
- Embedded 1 kV high voltage startup
- Modified soft-start circuit
- Optional brownout protection
- RoHS compliant

Description

The [STEVAL-ISA211V1](#) flyback converter is designed for industrial or photovoltaic sectors to be used as an auxiliary power supply.

The 24 V/100 W output with reinforced isolation can be used in several applications. The input voltage range starts from standard Europe voltage (230 V_{AC}) and ends at 690 V_{AC} or 1 kVDC. For short-time periods or lower output power, the converter can operate with voltage decreased down to 150 V_{DC}.

The [STEVAL-ISA211V1](#) is based on the [L6566BH](#) multi-mode controller and [STW12N170K5](#) 1700 V MDmesh K5 Power MOSFET, in one-switch Flyback topology with isolated output.

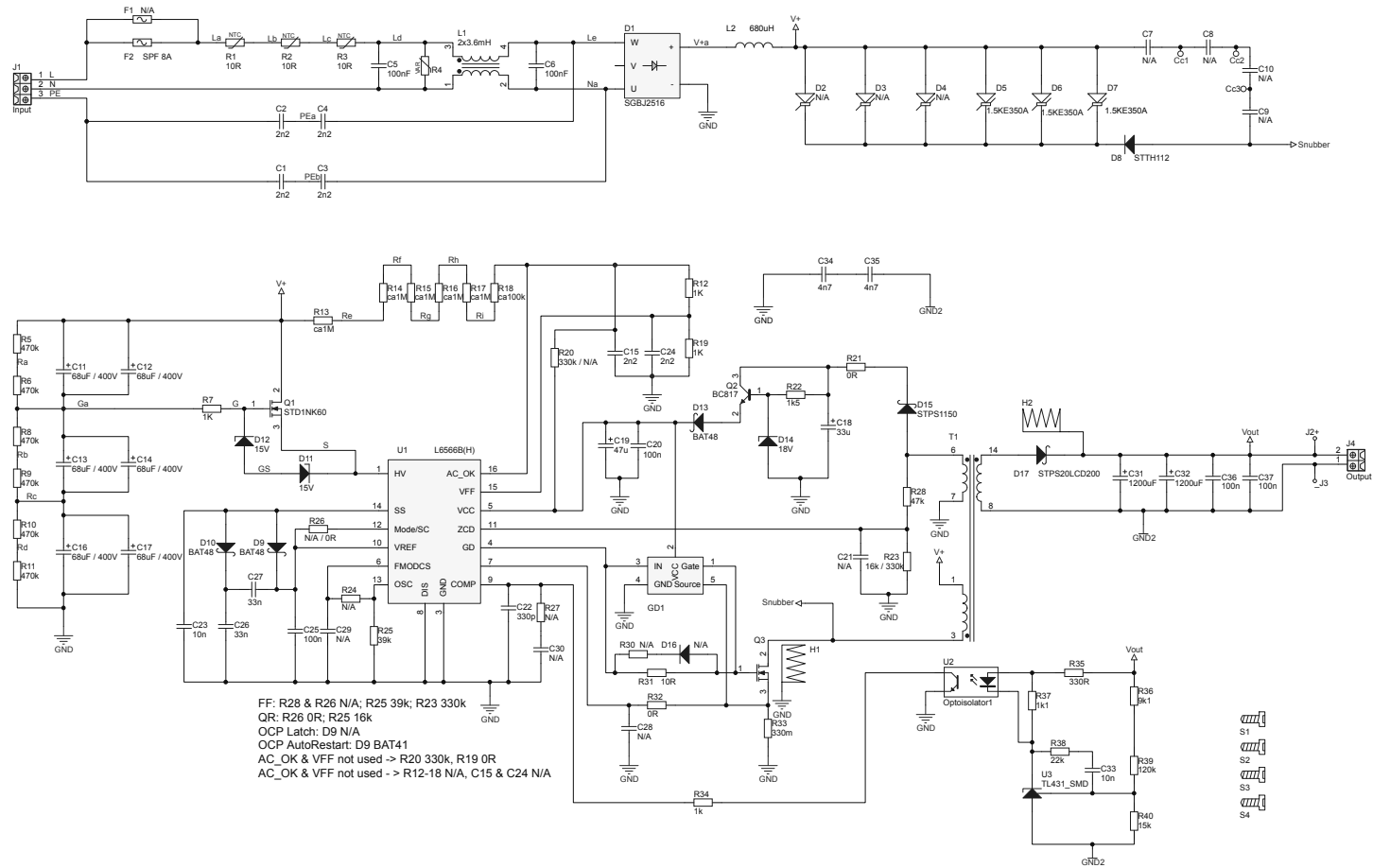
[L6566BH](#) integrates 840 V high voltage startup which is boosted by the [STD1NK60T4](#) Power MOSFET up to 1 kV.

The converter operates in fixed-frequency mode but it can be easily set to quasi-resonant mode by changing one resistor.

| Product summary | |
|--|---|
| 100 W, ultra-wide range flyback converter based on L6566BH | STEVAL-ISA211V1 |
| Multi-mode controller for SMPS | L6566BH |
| N-channel 1700 V, 2.3 Ohm typ., 5 A MDmesh K5 Power MOSFET | STW12N170K5 |
| Applications | Auxiliary SMPS Industrial Power Supply |

1 Schematic diagrams

Figure 1. STEVAL-ISA211V1 circuit schematic



Revision history

Table 1. Document revision history

| Date | Version | Changes |
|-------------|---------|------------------|
| 11-Dec-2020 | 1 | Initial release. |

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