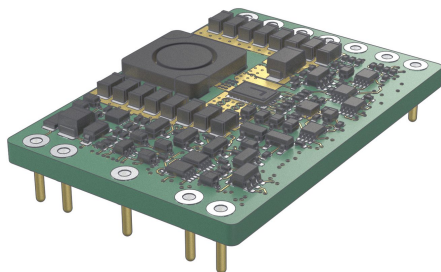


FSBB200-GaN — GaN ZVS four-switch buck-boost

FSBB200-GaN-T

Non-isolated, Regulated Four-Switch Buck-Boost, ZVS

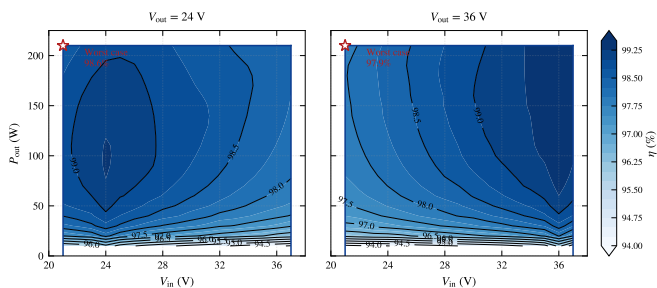


Ratings

Input	21 – 37 V
Output	12 – 40 V, adjustable
Power	+220 W
Current	up to 8 A
Switching	500 kHz
Density	16 W/cm ³
Package	45 × 31 × 10.1 mm, 45 g
Temperature	–40 to +105 °C, MTBF 2.0 Mh

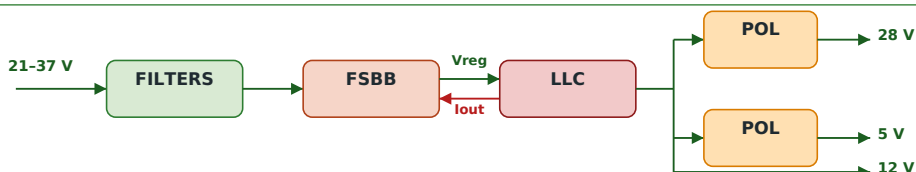
- **Full analog control:** Design based on qualified COTS components; can be reproduced in an equivalent CQ1 version with the same level of performance.
- **Full ZVS** on the four EPC GaN switches; buck, boost or pass-through from one control law, 12 through-hole pins.
- **Primary-current feedback:** the DCX current image replaces output-voltage sensing, 80 kHz bandwidth, 50 μ s recovery on a 25–75 % load step, ± 0.3 % line and ± 0.5 % load regulation.
- **Protections:** UVP, OCP, autonomous start-up and supply.

Efficiency over the operating plane



Efficiency measured on the breadboard, Vout 24 V (left) and 36 V (right): 98.6 % at the worst case 21 V / 210 W, 99.0 % at 28 V / 100 W. Control consumption excluded.

Typical application



Input filter, FSBB200-GaN pre-regulator, LLC DCX transformer (DCX200-GaN) and POL regulators: the FSBB holds the intermediate bus at the DCX set-point through the current feedback; one FSBB200 feeds up to two DCX200.