- Wide 4.5V-18V Input Voltage Range
- 0.6V-7V Output Voltage Range
- 5A Continuous Output Current
- Integrated 42mÝ/17mÝ Rdson of HS/LS Power MOSFETs
- Fixed 1ms Soft-start Time
- Selectable 400KHz, 800KHz and 1.2MHz Switching Frequencies
- Selectable PFM and USM Operation Modes
- Cycle-by-Cycle Current Limiting
- Output Over-Voltage Protection
- Over-Temperature Protection
- Available in a QFN 12-leads 2mmx3mm Package

The SCT2250 is a high efficiency synchronous step-down DC-DC converter with 4.5V-18V input voltage range and adjustable output voltage down to 0.6V. It offers a small saving 2mmx3mm QFN package that supplies continuous 5A output current. The device fully integrates high-side and low-side power MOSFETs with 42mÝ/17mÝ on-resistance to minimize the conduction loss.

- High End DTV
- Set-top Box, XDSL Modem, Personal Video Recorders
- Server, Cloud-Computing, Storage
- Telecom & Networking, Small-cell Base Stations, Point-of-Load (POL)
- IPCs, Factory Automation

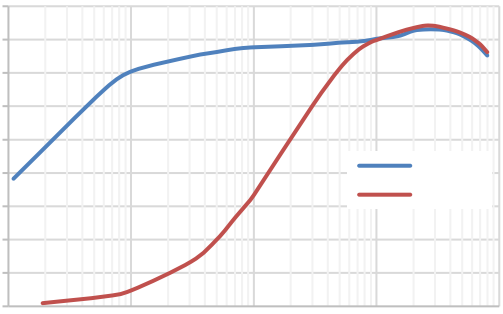
The converter requires a minimum number of external components and is available in a QFN- 12 (2mmx3mm) package.

Board Number	IC Number
EV2250-B-04A	SCT2250

Table 1. Performance Specifications are at TA = 25℃

Parameter	Condition	Value
Input Voltage	DC up to V	4.5V-18V
Output Voltage		1V ± 1%
Output Current	Continuous DC current	5A
Frequency	Default	800KHz

EV2250-B-04A Evaluation Board Top View



Vin=12V, Vout=1V, fsw=800kHz

Evaluation board EV2250-B-04A

Figure 3. Evaluation Board Schematic

Table 2. Bills of Materials

Manufacture	Comment	Designator	Description	Quantity
PANASONIC	Not Install	C1 C13,	100uF, 35V, 10mm*12.5mm (DxL),F=5mm	0
Wurth Electronik	885 012 109 014	C2, C3,	22uf, 25V, 1210	2

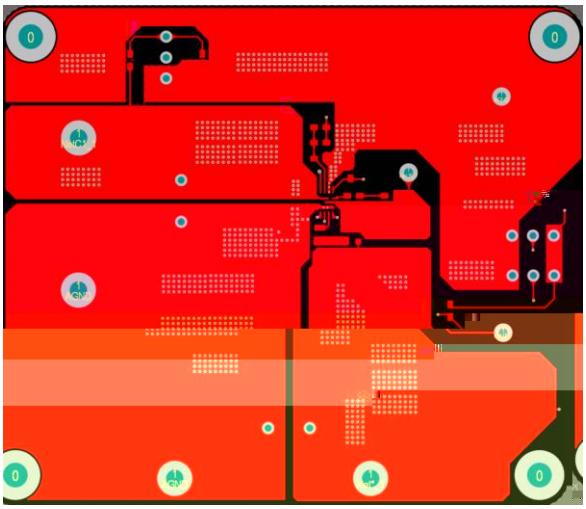


Figure 4. Top Layer

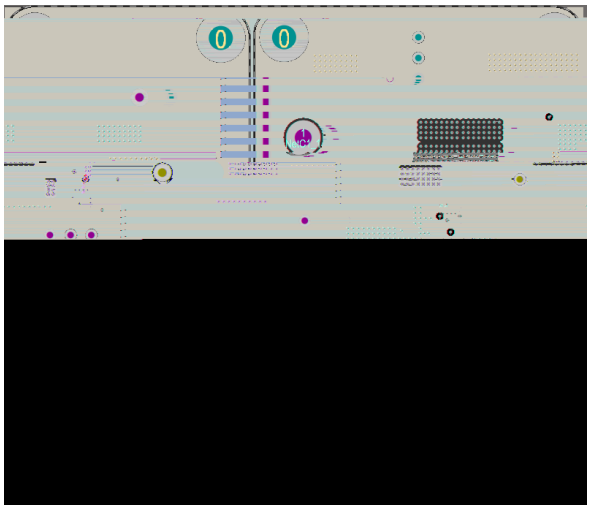


Figure 5. Inner Layer1

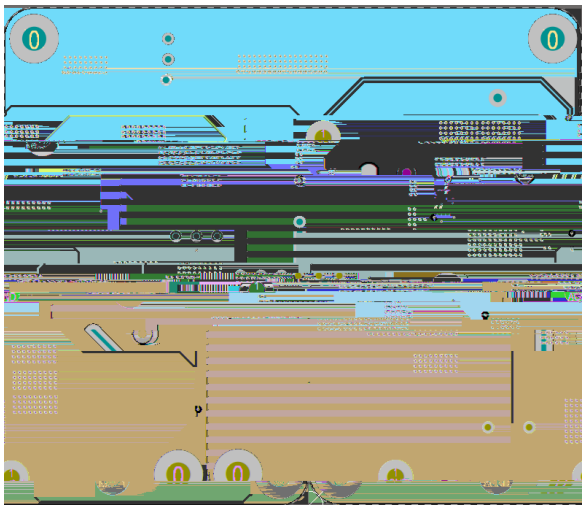


Figure 6. Inner Layer2

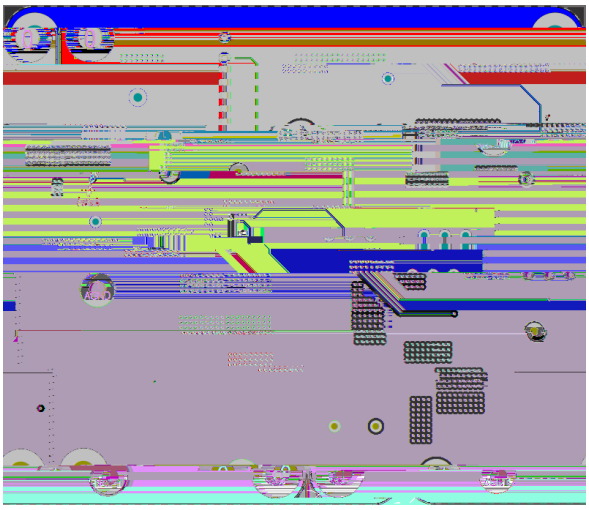


Figure 7. Bottom Layer

Vin=12V, Vout=1V, 5A loading, unless otherwise noted

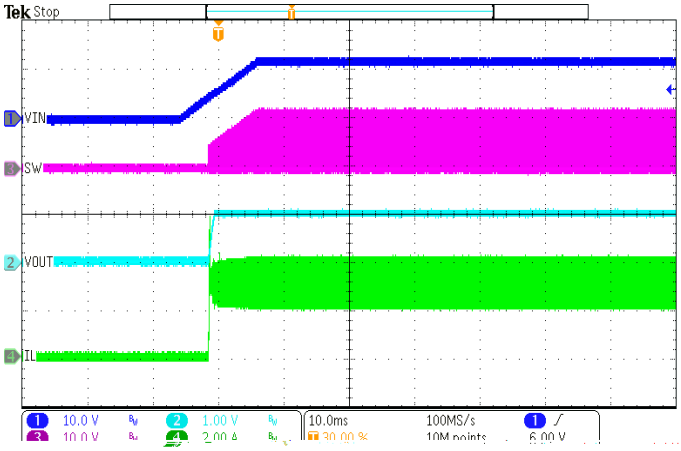


Figure 8. Power Up

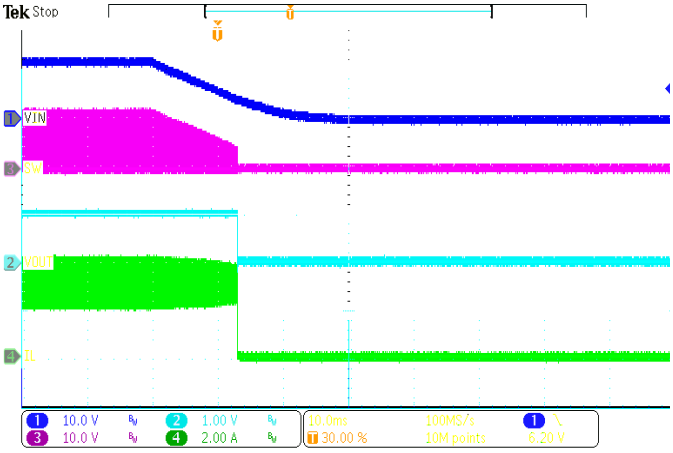


Figure 9. Power Down

Figure 10. Switching Waveforms and Output Ripple
Iout=0.1A

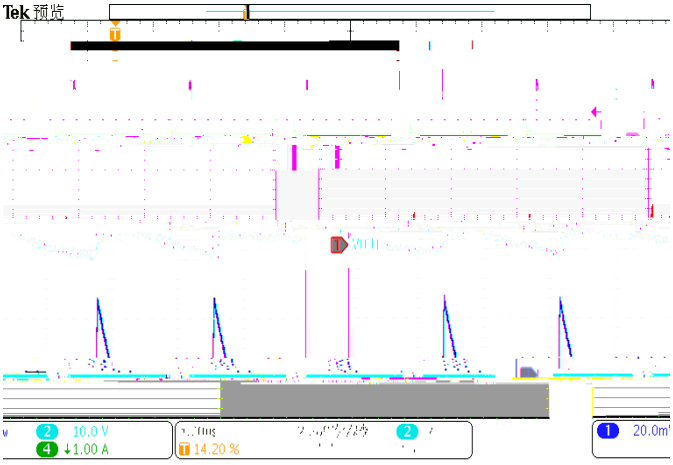


Figure 11. Switching Waveforms and Output Ripple in PFM
Iout=600mA

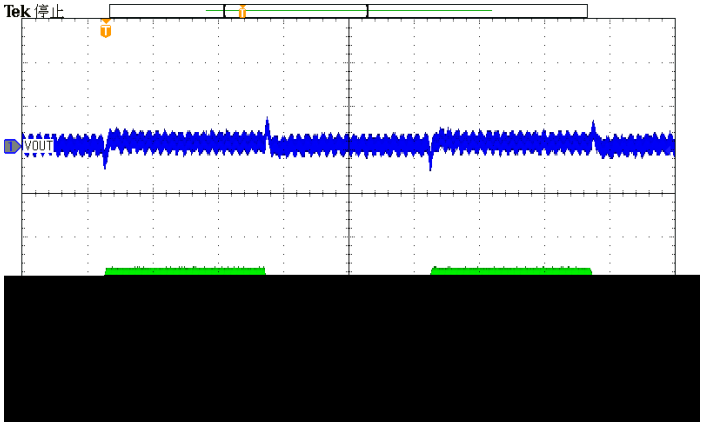


Figure 12. Load Transient
(0.2A-7.8A, SR=250mA/us)

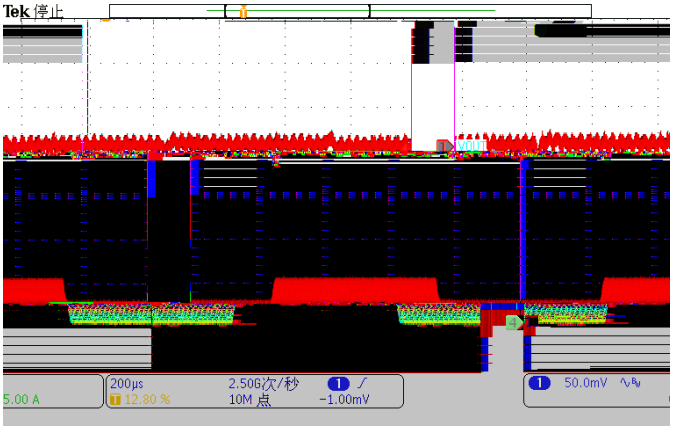


Figure 13. Load Transient
(0.2A-0.4A, SR=250mA/us)

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