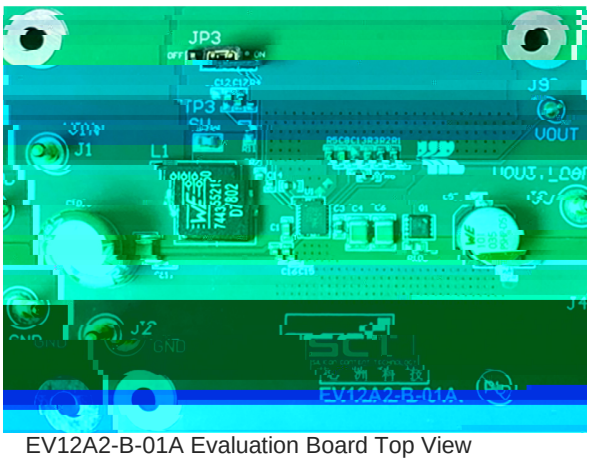
| Board Number | IC Number |
|---|---|
| EV12A2-B-01A | SCT12A2 |

## PERFORMANCE SUMMARY

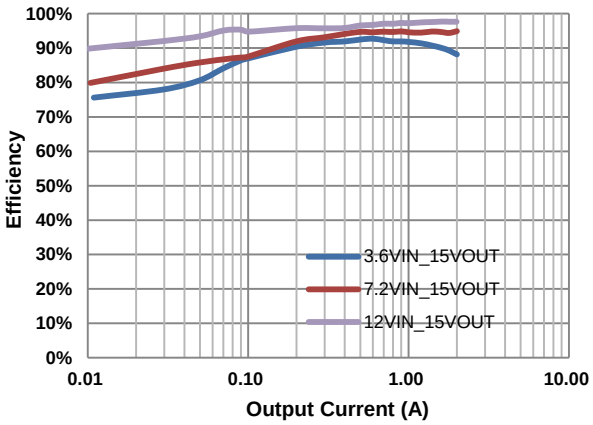
**Specifications are at TA = 25°C**

Table 1. Performance

| Parameter | Condition | Value |
|---|---|---|
| Input Voltage | DC up to 20V | 2.7V-20V |
| Output Voltage | JP3: ON PWM | 15V ± 2.5% |
| Output Current | Continuous DC current | 2A |
| Frequency | Default | 400KHz |




EV12A2-B-01A Evaluation Board Top View




Efficiency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## QUICK START PROCESURE

Evaluation board EV12A2-B-01A is easy to set up to evaluate the performance of the SCT12A2. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Place jumpers in the following positions:
   - JP3: ON Connect EN pin to $V_{CC}$ to enable IC.
2. With power off, connect the input power supply to J1 $V_{IN}$ connector and J2 GND connector. Turn on the power at the input. Make sure that the input voltage does not exceed 14V, and supports sufficient current limit.
3. Check the output voltage at J3. The output voltage should be 15V typical. Once the proper output voltage is established, adjust the load within the operating range and observe the output voltage regulation, output voltage ripple, efficiency and other parameters.
4. To use the enable function, apply a digital input to the EN pin of JP3.

NOTE.
When measuring the voltage ripple, care must be taken to avoid a long ground lead on the oscilloscope probe. Measure the input or output voltage ripple by touching the probe tip directly across relevant capacitor of VIN or VOUT. See Figure 2 for proper scope probe technique.

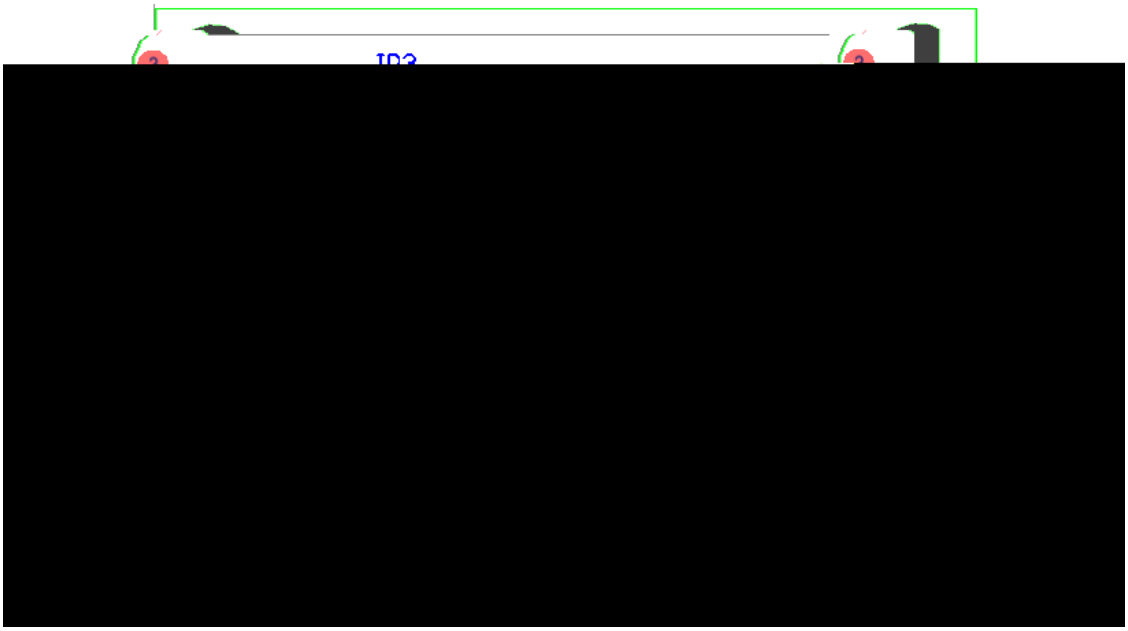

Figure 1. Proper Supply, Load and Measurement Equipment Setup

Figure 2. Measuring Voltage Ripple Across Terminals or Directly Across Ceramic Capacitor



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## SCHEMATIC DIAGRAM

Figure 3. Evaluation Board Schematic

## BILL OF MATERIALS

Table 2. Bills of Materials

| Manufacture | Comment | Designator | Description | Quantity |
|---|---|---|---|---|
| Silicon Content Technology | SCT12A2 | U1 | SCT12A2, 21V/15A Synchronous Boost Converter DFN-20L 3.5mmX4.5mm with thermal pad | 1 |
| Wurth Elektronix | 61300211121 | JP3 | Header, 100mil, 2x1, Tin, TH | 1 |
| | | J1, J2, J3, J4 | Terminal Block, 2.2mm, 1-Pos, TH | 4 |
| Wurth Elektronix | 885 012 206 071 | C1, C16, C17 | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X5R, 0603 | 3 |
| Wurth Elektronix | 885 012 206 063 | C8 | CAP, CERM, 4700 pF, 50 V, +/- 10%, X5R, 0603 | 1 |
| Wurth Elektronix | C0603C105K8PACTU | C14 | CAP, CERM, 1uF, 10V, +/-10%, X5R, 0603 | 1 |
| Wurth Elektronix | 885012109014 | C11 | CAP, CERM, 22 uF, 25 V, +/- 10%, X5R, 1210 | 1 |
| Wurth Elektronix | 885012209028 | C4, C6 | CAP, CERM, 10 uF, 25 V, +/- 10%, X5R, 1210 | 2 |
| Wurth Elektronix | C0603C105K3PACTU | C3 | CAP, CERM, 1 uF, 25 V, +/- 10%, X5R, 0603 | 1 |
| Wurth Elektronix | 875115652007 | C5 | Aluminium Polymer Capacitors, 35V, 100uF, SMT | 1 |
| Wurth Elektronix | 870055675009 | C10 | Aluminium Polymer Capacitors, 35V, 100uF, TH | 1 |
| Murata | GRM1885C1H470JA01D | C13 | CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, 0603 | Not Installed |
| Murata | GRM188R71H102KA01D | C12 | CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603 | Not Installed |
| Murata | GRM188R71H473KA61D | C15 | CAP, CERmer 83,, Ef Mu t urthn | 1 |


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**30W**

# EV12A2-B-01A User's Guide
## 30W Fully Integrated Synchronous Boost Converter in 20-Pin DFN

## IMPORTANT NOTICE

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**Silicon Content Technology Co., Ltd.**
#1 Floor 2 Building 15, Yard 33 Dijin Road, Haidian District, Beijing 100095
(86 10) 64779806 FAX: (86 10) 64779806 www.silicontent.com
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