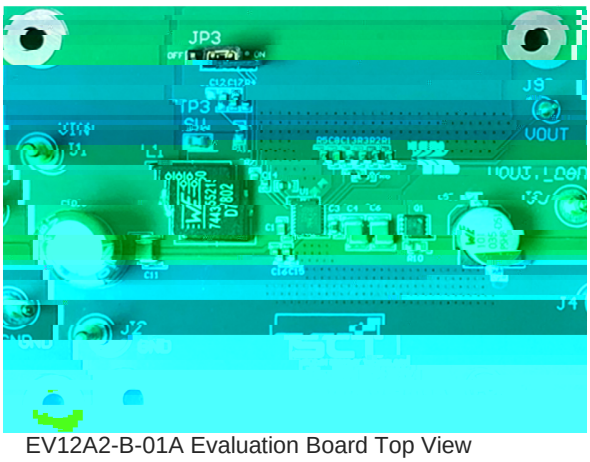
Board Number	IC Number
EV12A2-B-01A	SCT12A2

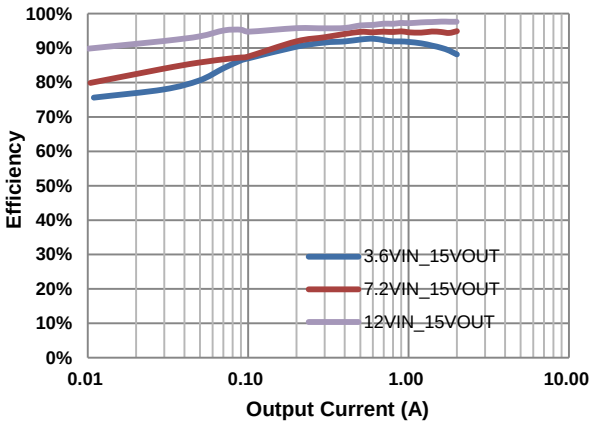
PERFORMANCE SUMMARY

Specifications are at TA = 25°C

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

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.

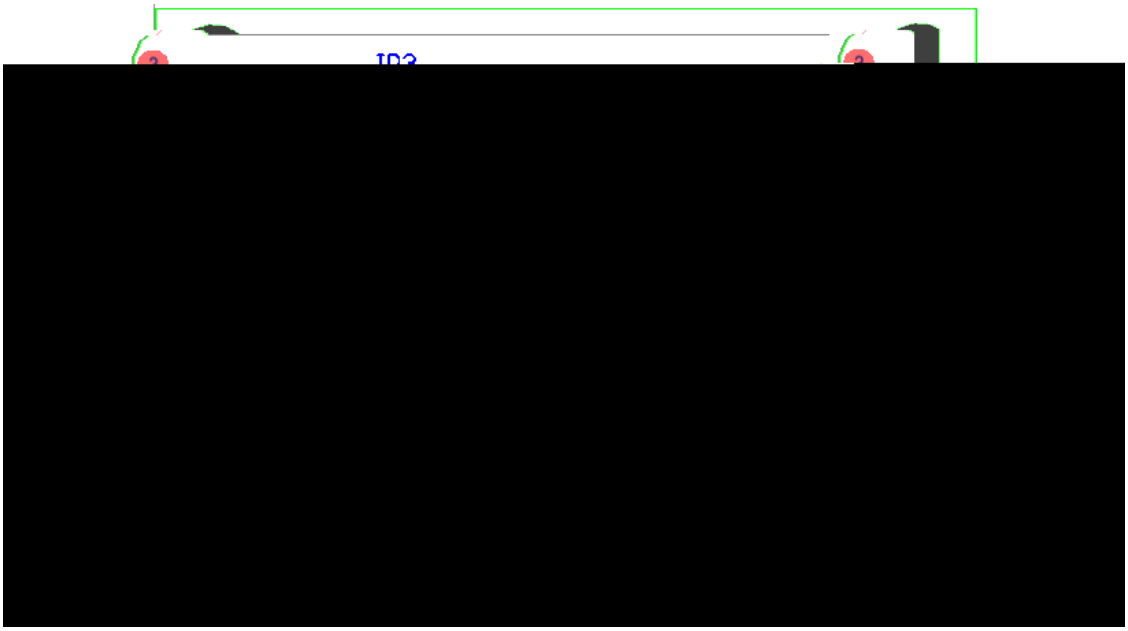


Figure 1. Proper Supply, Load and Measurement Equipment Setup

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

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

30W

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

IMPORTANT NOTICE

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