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Eval Kit Manual

AS1383

Standard Board

AS1383-WL-xx_EK_ST

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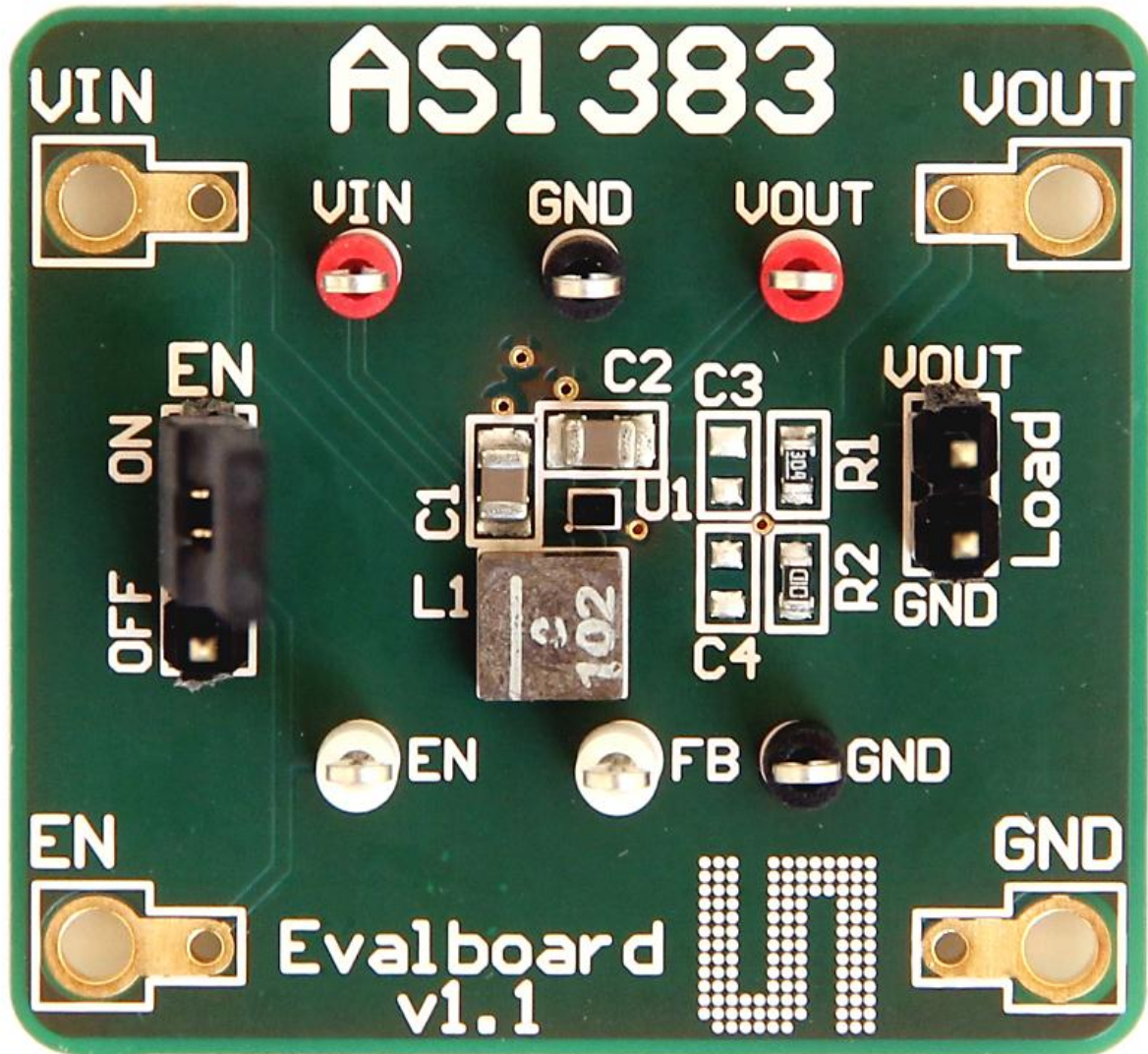
1 Introduction

This document describes the AS1383 Evaluation Kit.

The AS1383 is a synchronous, high-efficiency DC-DC boost converter available as adjustable- and fixed voltage-version.

1.1 Kit Content

Figure 1: Kit Content



Item	Comment
AS1383 Evaluation Board	Synchronous, high efficiency DC-DC boost converter

2 Getting Started

Drive the AS1383 synchronous boost converter only with the recommended settings and values as described in the datasheet.

Please check www.ams.com for the latest version.

A detailed overview of AS1383 Evaluation Board is given in chapter 3, **Hardware Description**.

3 Hardware Description

The Evaluation Board has to be supplied via the connectors “VIN” (BU2) and “GND” in the range of 2.7V up to 5.5V.

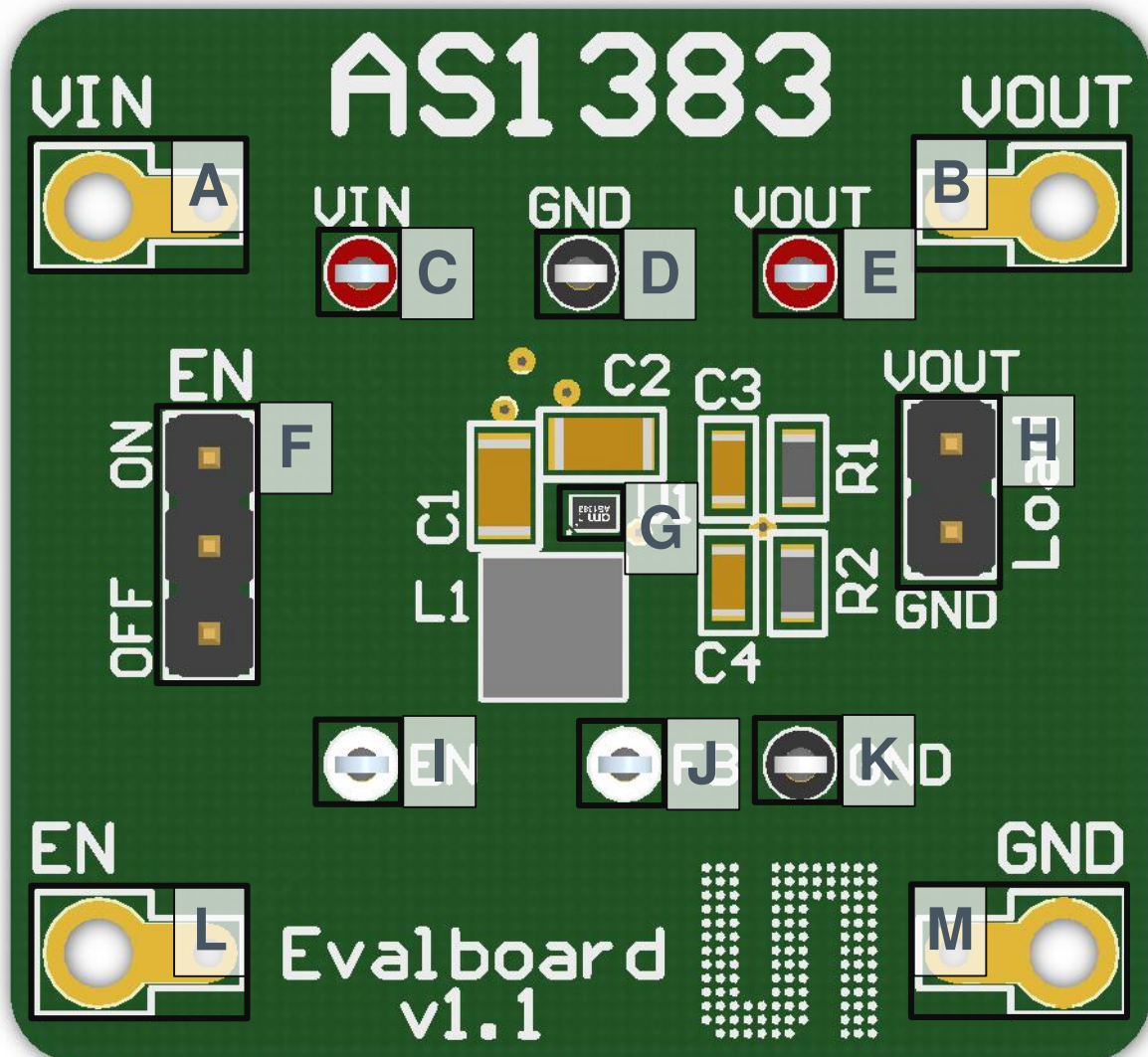
For enabling the device jumper “EN” (J2) must be set to “on”, section F in **Figure 2**.

Please use the “VOUT”- (BU1) or “Load”- (J1) connector for connecting a load to Vout.



AS1383 supports output voltages between 2.7V and 5.0V and output loads up to 200mA.

The offered variants of AS1383 Evaluation Kit are stated under chapter 5, **Ordering & Contact Information**.

Figure 2: Evaluation Board Overview



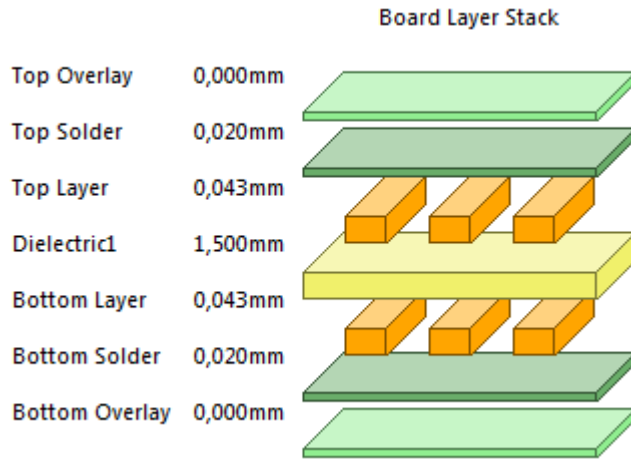
Label	Name	Designator	Description	Info
A	VIN	BU2	Supply voltage	Voltage range from 2.7V to 5.5V Connect to the pos. terminal of the supply
B	VOUT	BU1	Output Voltage	Voltage range from 2.7 to 5.0V Designated for load connection
C	VIN	TP1	Supply voltage	measurement point
D	GND	TP4	Ground	measurement point
E	VOUT	TP2	Output Voltage	measurement point

Label	Name	Designator	Description	Info
F	EN	J2	Enable	 ON: AS1383 is enabled  OFF: AS1383 is put into shutdown mode No Jumper: Connect a valid enable signal to Enable Input (BU4) EN pin should not be left floating
G	AS1383	U1	6-pin WL-CSP	High-efficiency, synchronous boost converter running at a constant frequency of 3.5MHz
H	Load	J1	Load connector	Designated for load connection
I	EN	TP3	Enable	measurement point
J	FB	TP6	Feedback	measurement point
K	GND	TP5	Ground	measurement point
L	EN	BU4	Enable Input	A logic low on this pin puts the device in shutdown mode. "EN" Jumper (J2) must be removed when using this input to enable/disable the chip.
M	GND	BU3	Ground	Connect to the neg. terminal of the supply

4 Schematics, Layers and BOM

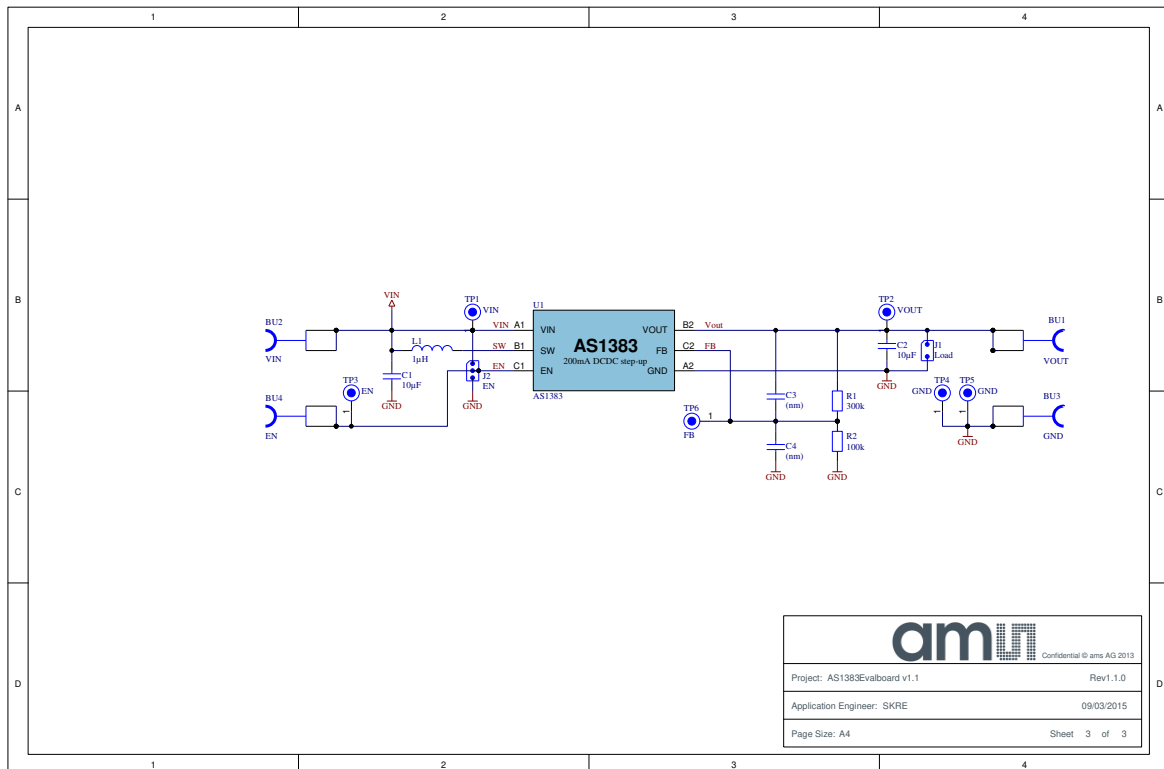
The AS1383 Evaluation Board is a 2-layer FR4 board.

Figure 3: AS1383 PCB Layer Stack up



4.1 Schematic of AS1383 Evaluation Board

Figure 4: Schematic



4.2 Layers of AS1383 Evaluation Board

Figure 5: Top Layer

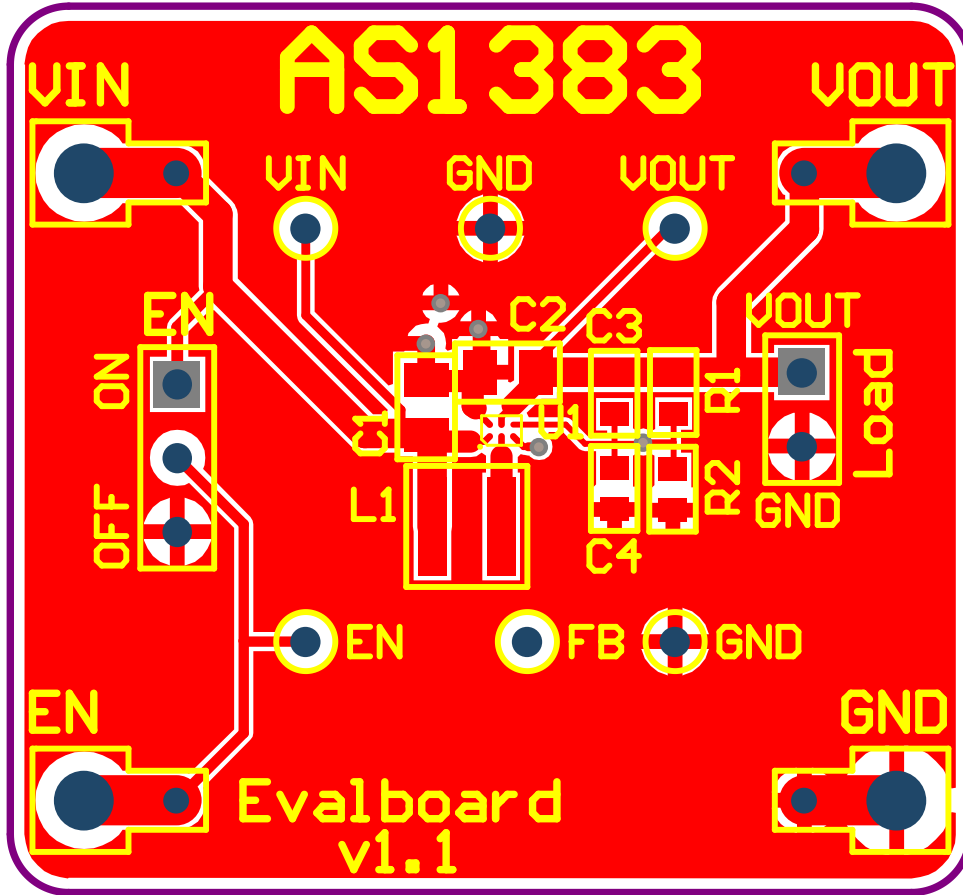
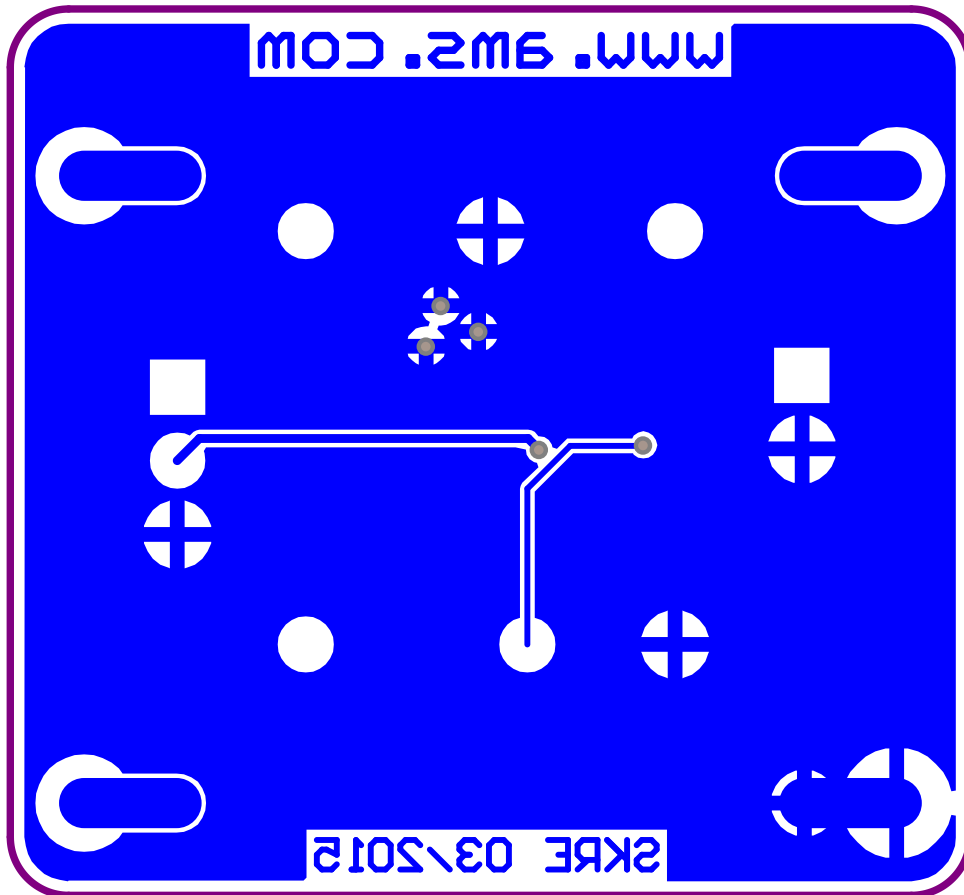


Figure 6: Bottom Layer



4.3 BOM

Figure 7: Bill of Material

Bill of Materials			ams			
Company: ams AG Application Engineer: SKRE Product Number: AS1383 ARS Project Name: - Boardtype & Version: Evalboard v1.1 Release Date: 09/03/2015 Revision: Rev1.1.0						
#	Designator	Comment	Component Description	Manufacturer	Manufacturer Part Number	Quantity
	C1, C2	10µF	Murata 10µF 10V X5R,SMD 0805	Murata	GRM219R61A106ME47	2
	J1	Load	TE CONNECTIVITY / AMP - 826629-2 HEADER, 1ROW, 2POS	TE CONNECTIVITY / AMP	826629-2	1
	J2	EN	TE CONNECTIVITY / AMP - 826629-3 HEADER, 1ROW, 3POS	TE CONNECTIVITY / AMP	826629-3	1
	L1	1µH	COILCRAFT - XFL4020-102MEC - POWER INDUCTOR 1UH, 11A, 20%, 64MHZ	COILCRAFT	XFL4020-102MEC	1
	R1	300k	RES SMD 300K OHM 1% 1/10W 0603	Vishay Dale	CRCW0603300KFKEA	1
	R2	100k	RES 100K OHM 1/10W 1% 0603 SMD	Vishay Dale	CRCW0603100KFKEA	1
	TP1, TP2	VIN, VOUT	VERO - 20-313137 - RED BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-313137	2
	TP3, TP6	EN, FB	VERO - 20-313139 - WHITE BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-313139	2
	TP4, TP5	GND	VERO - 20-2137 - BLACK BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-2137	2
	U1	AS1383		ams		1
Approved by			Notes			14

Assembled components on Evalboard may vary from BOM

5 Ordering & Contact Information

Ordering Code	Description
AS1383-WL-xx_EK_ST	AS1383 Eval Kit Standard Board
AS1383-WL-AD_EK_ST	AS1383 Adjustable Eval Kit Standard Board

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7 Revision Information

Initial release 1-00