



Eval Kit Manual

AS1345x

Standard Board

AS1345x-WL-AD_EK_ST

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1 Introduction

This document describes the AS1345x WLP Evaluation Kit.

The AS1345x high efficiency DC-DC step-up converter contains an internal N-channel and an internal P-channel output isolation switch. The device operates from a 2.9V to 5.0V supply and can boost voltages up to 18V.

A hysteretic control scheme is used to provide the highest operating efficiency over a wide range of input and output load conditions. The internal MOSFET switches reduce the external component count and a high switching frequency allows the use of tiny surface mount components.

The AS1345x employ a factory set current limit to reduce ripple and external component size in low output current applications.

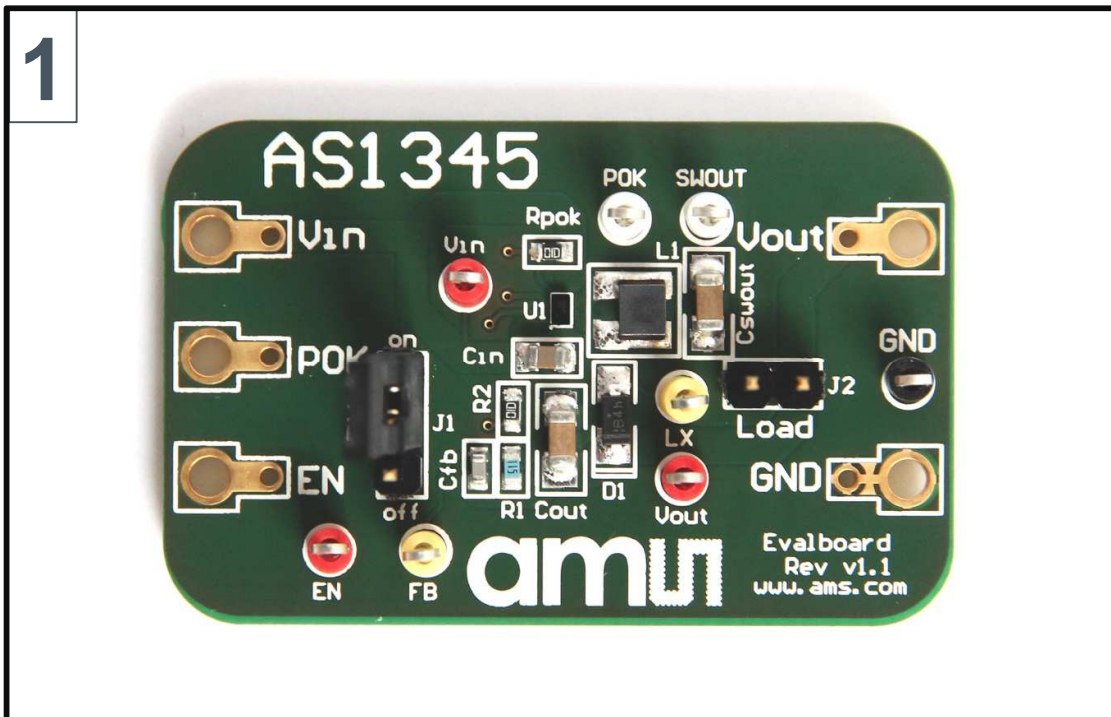
With a 500mA current limit the AS1345x is capable of providing 20mA @ 18V output.

2 Available Products

Devices	Peak Coil Current	Output
AS1345A	100mA	Adjustable

3 Kit Content

Figure 1: Kit Content



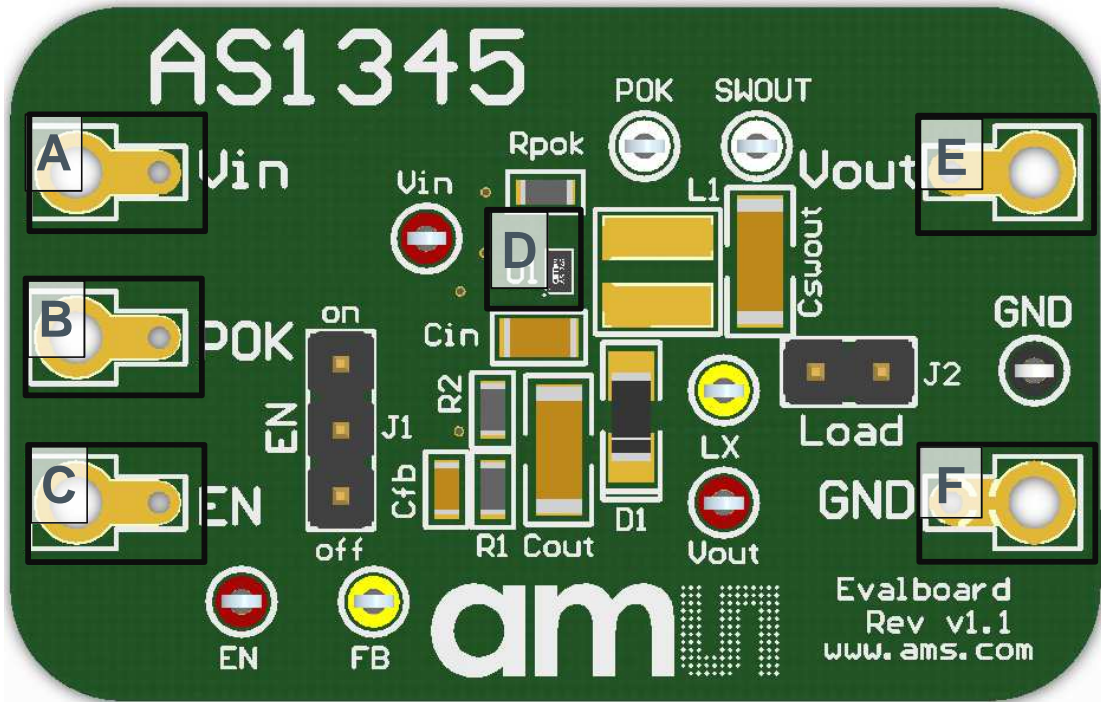
Label	Item	Comment
1	Evaluation Board	AS1345x 8-bump WL-CSP package

4 Getting Started

Connect your supply to VIN & GND. Be shure that the jumpers are set like you can see in the Hardware Description below.

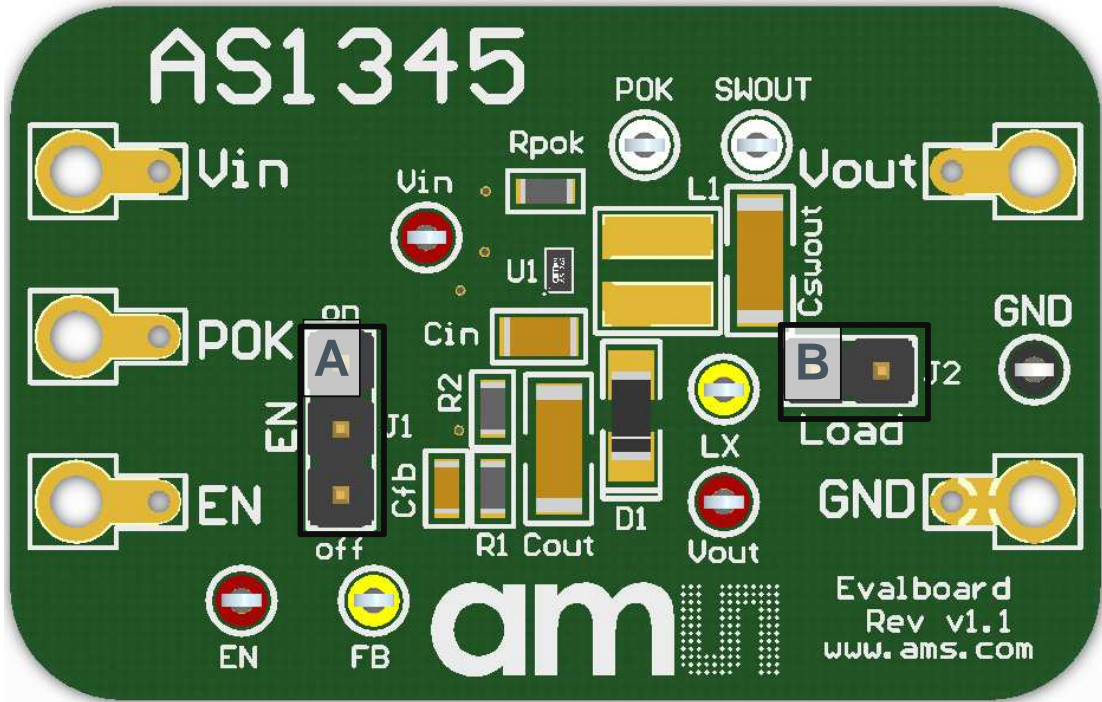
5 Hardware Description

Figure 2: Evaluation Board Overview



Label	Name	Designator	Description	Info
A	VDD	VIN	Voltage	Supply Voltage
B	POK	POK	Power- Ok	Measurement pin
C	ENABLE	EN	ENABLE	Enable pin
D	AS1345x	U1	DCDC stepup	500mA current limit
E	VOUT	VOUT	Voltage	Output voltage
F	GND	GND	Ground	

Figure 3: Jumper and device locations





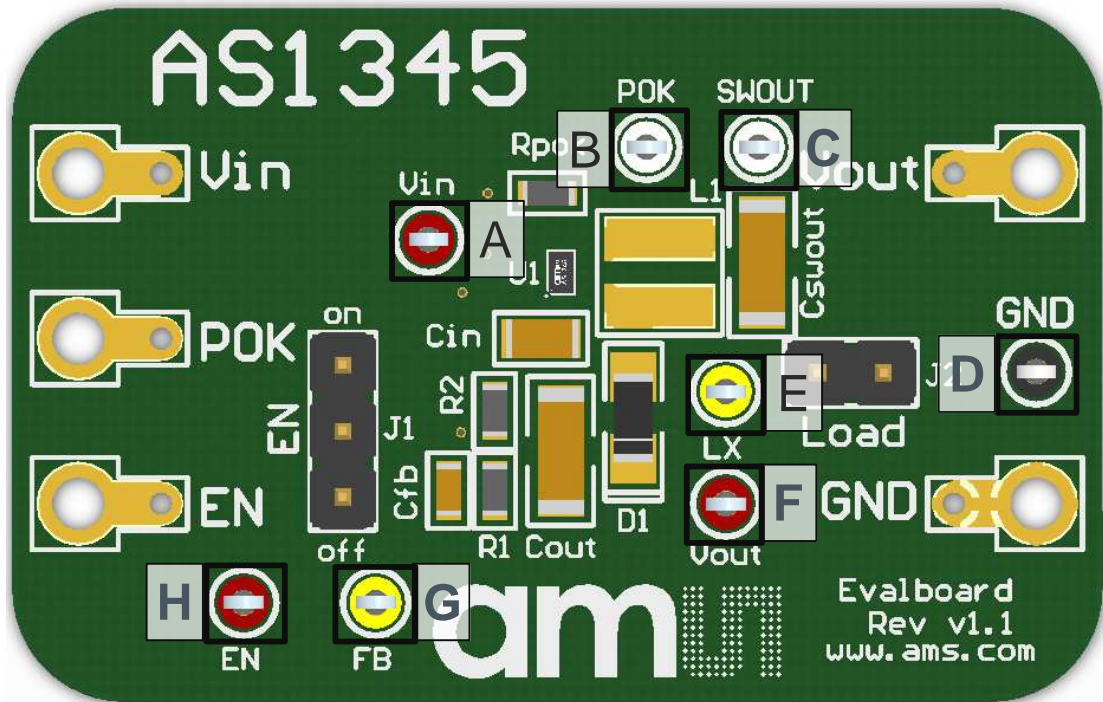
Label	Name	Designator	Description	Info
A	J1	EN	Enable or Disable the DCDC stepup converter	 GND - disabled  VDD - enabled
B	J2	Load	Load – force pin	Load- force pin

Figure 4: Measurement Points

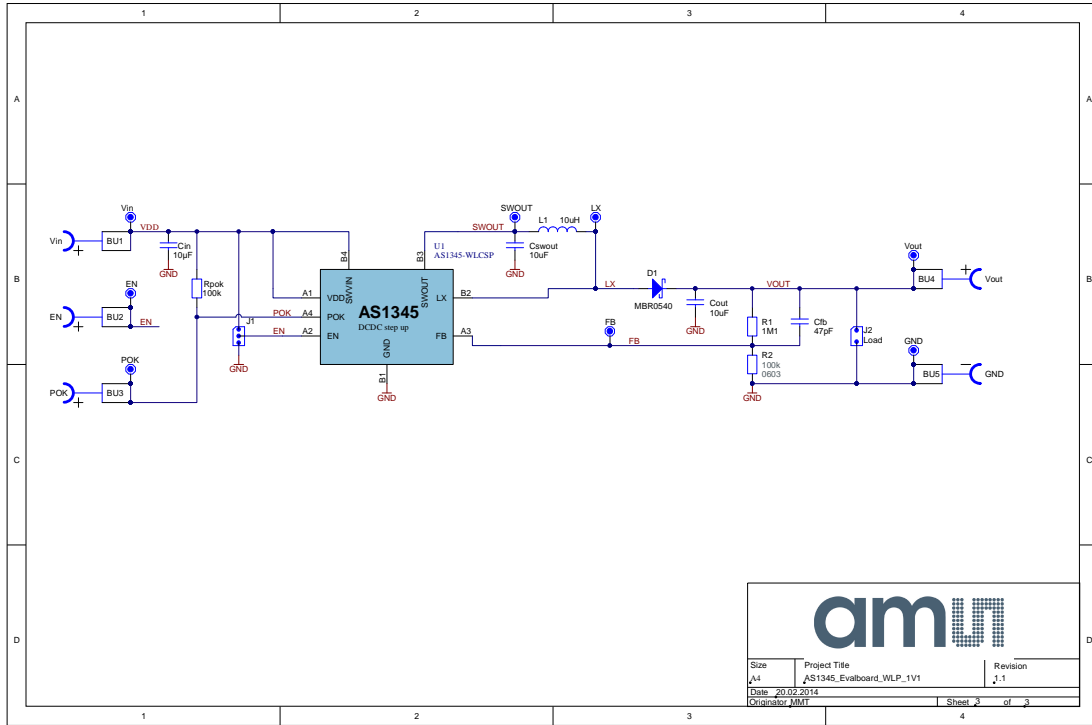


Label	Name	Designator	Description	Info
A	VDD	VIN	Voltage supply	Measurement Point
B	Power- OK	POK	0 = VOUT < 90% of VOUTNOM 1 = VOUT > 90% of VOUTNOM	Measurement Point
C	SWOUT	SWOUT	Output pin of the internal P-channel MOSFET	Measurement Point
D	GND	GND	Ground	Measurement Point
E	LX	LX	The drain of the internal N-channel MOSFET	Measurement Point
F	VOUT	VOUT	Output voltage	Measurement Point
G	Feedback	FB	feedback pin of resistor divider	Measurement Point
H	Enable	EN	· on: The AS1345x is enabled · off: The AS1345x is disabled	Measurement Point

6 Schematics, Layers and BOM

6.1 Schematic of AS1345x Evaluation Board

Figure 5: Schematic



6.2 Layers

Figure 6: Top Layer

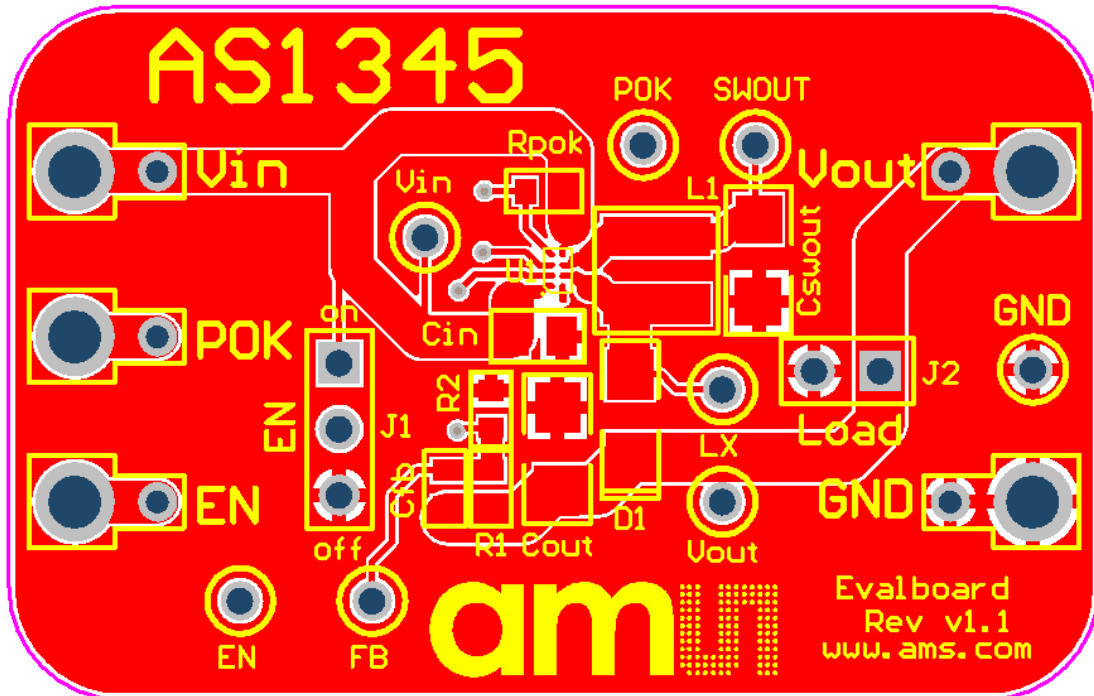
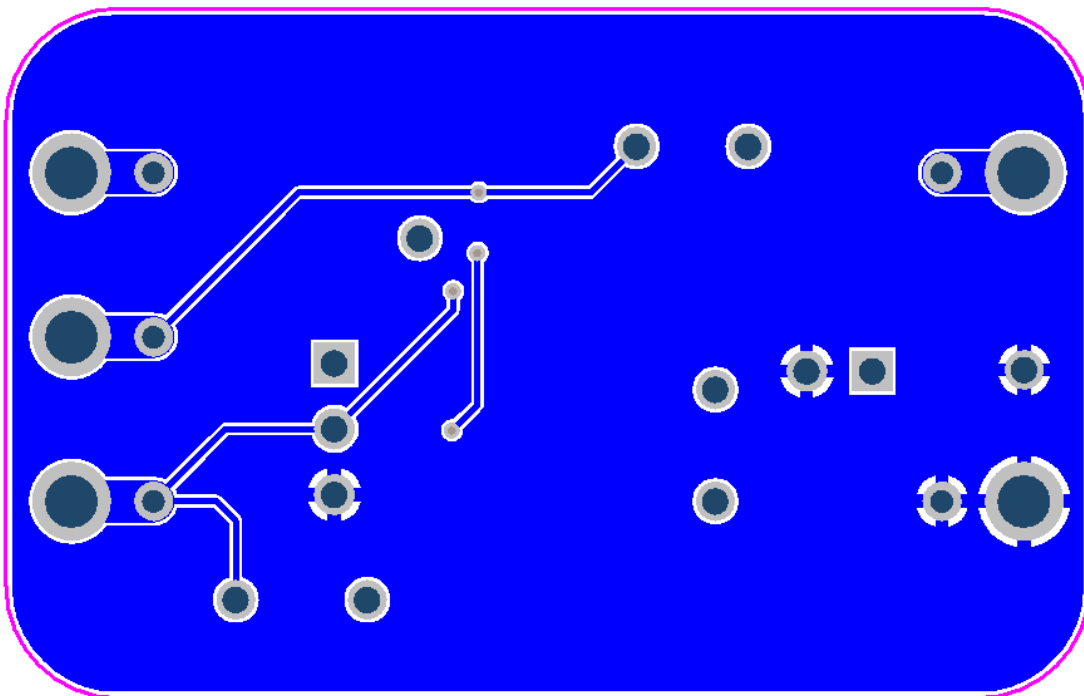


Figure 7: Bottom Layer



6.3 Bill of Materials

Figure 8: BOM

Bill of Materials			AS1345_Evalboard_WLP_1V1			
Company:		ams AG				
Originator:		MMT				
PCB Name:		AS1345_Evalboard_WLP_1V1				
PCB Version:		1.1				
Report Date:		20.02.2014				
#	Designator	Comment	Name Error:Component_	Manufacturer	Manufacturer Part Number	Quantity
1	C1b	47pF		MURATA	GRM1885C1H470JA01D	1
2	Cn	10µF		MURATA	GRM21BR71A106KE51L	1
3	Cout	10µF		MURATA	GRM31CR61E106KA12L	1
4	Csw out	10µF		MURATA	GRM31CR61E106KA12L	1
5	D1	MBR0540		FAIRCHILD	MBR0540 .	1
6	J1	EN		FISCHER ELEKTRONIK	SL11 124 36G	1
7	J2	Load		FISCHER ELEKTRONIK	SL11 124 36G	1
8	L1	10µH				1
9	R1	1M1		MULTICOMP	MC0.063W06031%1M10	1
10	R2	R_0603		MULTICOMP	MC 0.063W 0603 1% 100K	1
11	Rpok	100k		MULTICOMP	MC 0.063W 0603 1% 100K	1
12	TP1	Vin		VERO	20-313137	1
13	TP2	LX		VERO	20-313139	1
14	TP3	Vout		VERO	20-313137	1
15	TP4	EN		VERO	20-313137	1
16	TP5	SWOUT		VERO	20-313139	1
17	TP6	FB		VERO	20-313139	1
18	TP7	POK		VERO	20-313139	1
19	TP8	GND		VERO	20-2137	1
20	U1	AS1345-WLCSP		ams	AS1345x-BWLT-AD	1
Approved			Notes			20

7 Ordering & Contact Information

Ordering Code	Description
AS1345x-WL-AD_EK_ST	AS1345x Eval Kit Standard Board

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9 Revision Information

Changes from 1-01 (2011-Nov-15) to current revision 2-00 (2015-Feb-03)	Page
New corporate design-1 st draft	all

Note: Page numbers for the previous version may differ from page numbers in the current revision.