Eval Kit Manual

AS1382

Standard Board

AS1382x-WL-xx_EK_ST

Table of Contents

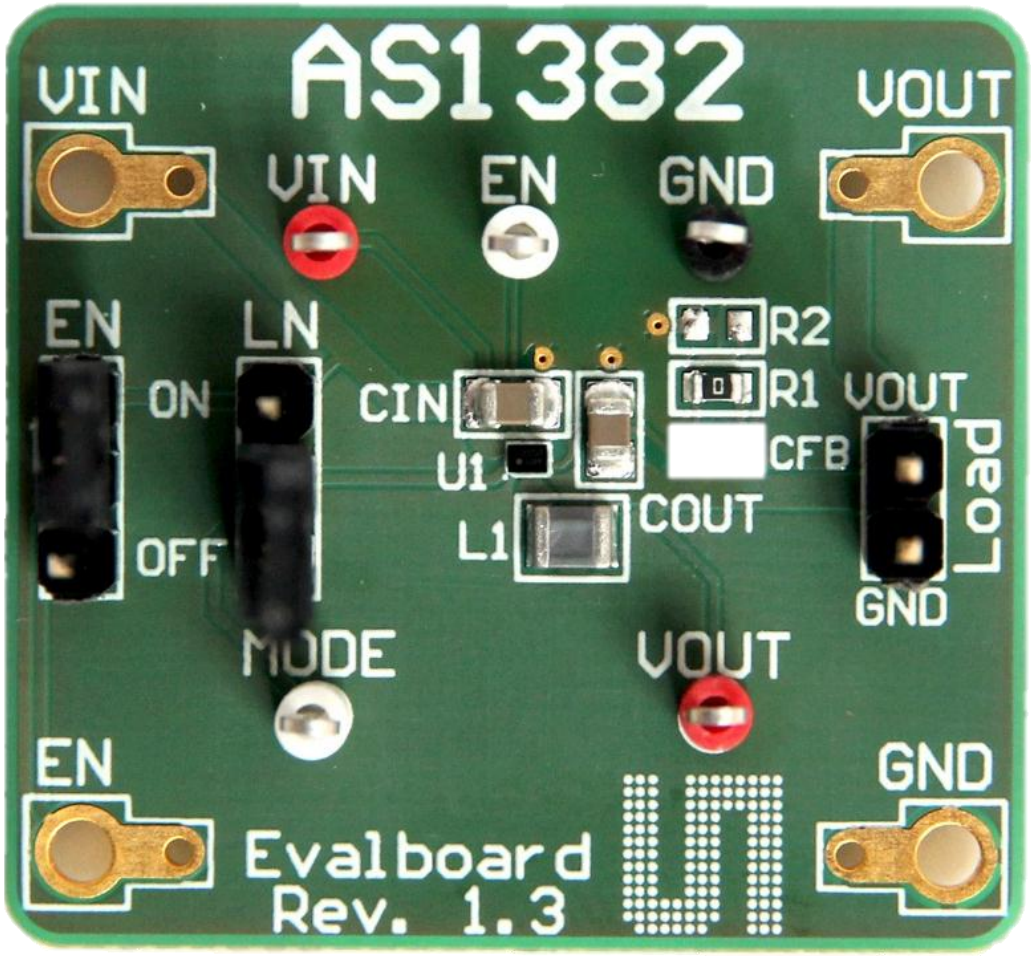
1 Introduction

This document describes the AS1382 Evaluation Kit.

The AS1382 is a high-efficiency, constant-frequency synchronous buck converter available as adjustable- and fixed voltage-version.

1.1 Kit Content

Figure 1: Kit Content



Item	Comment
AS1382 Evaluation Board	High-efficiency, constant-frequency synchronous buck converter

2 Getting Started

Drive the AS1382 synchronous buck 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 AS1382 Evaluation Board is given in chapter 3, **Hardware Description.**

3 Hardware Description

The Evaluation Board has to be supplied via the pins VIN and GND in the range of 2.7V up to 5.5V.

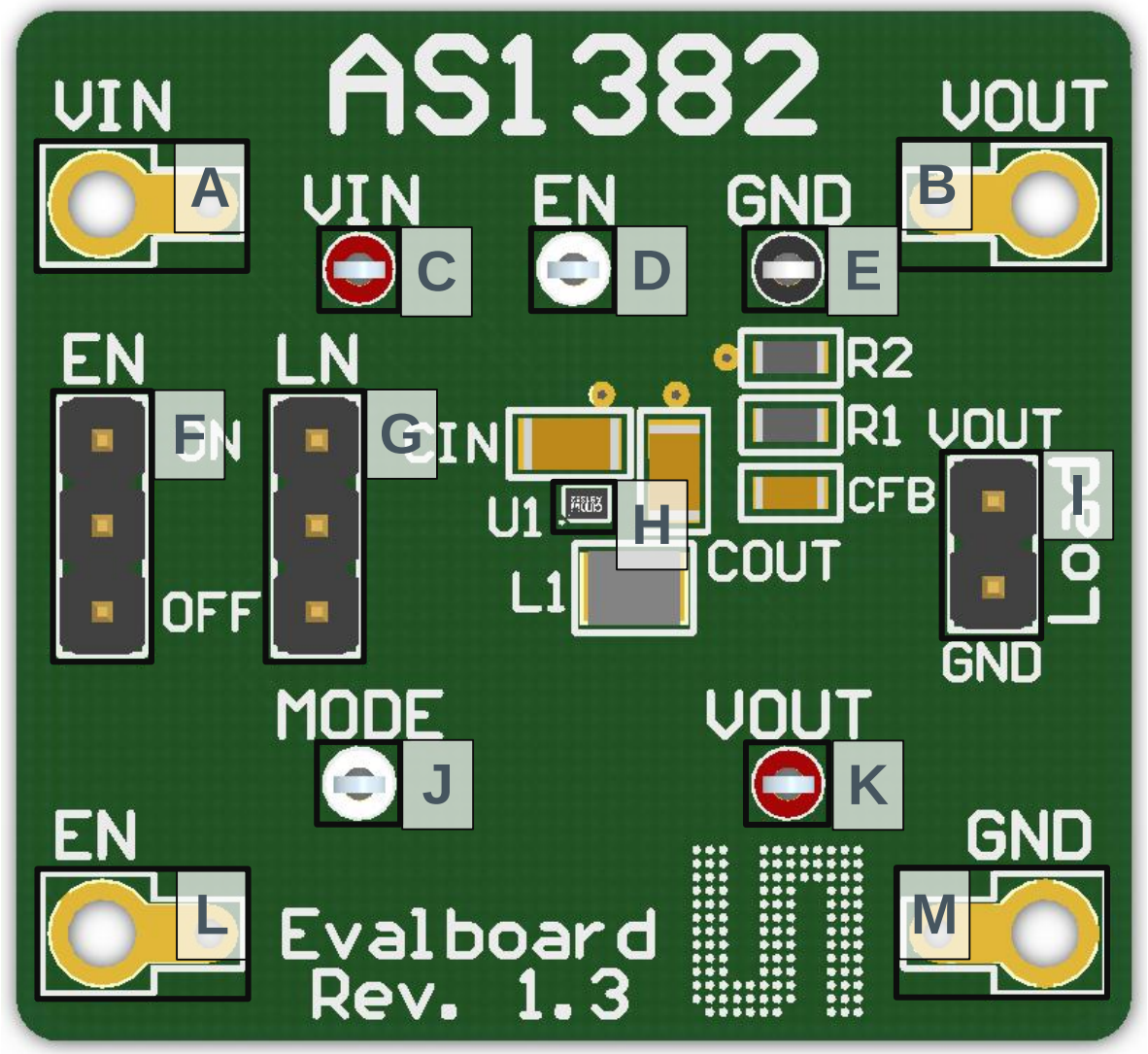
For enabling the device jumper “EN” (J1) must be set to “on”, section F in **Figure 2**.

Please use the “VOUT” (BU4) or “Load” (J2) connector for connecting a load to Vout.

AS1382 supports output voltages between 0.6125 and 3.35V and additionally the device is available with 2MHz, 3MHz, or 4MHz switching frequency.

The offered variants of AS1382 Evaluation Kit are stated under chapter 4, **Ordering & Contact Information.**

Figure 2: Evaluation Board Overview



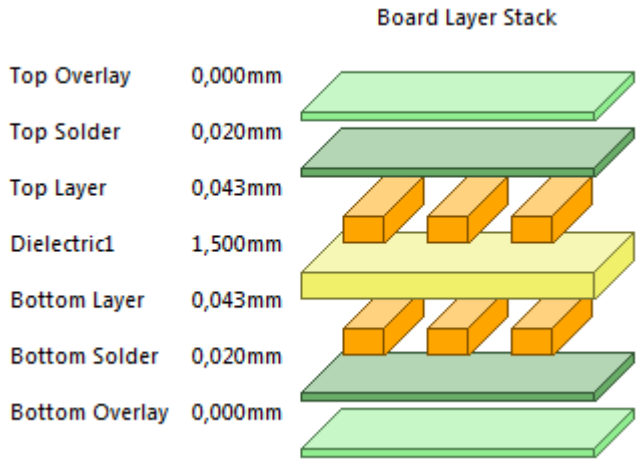
Label	Name	Designator	Description	Info
A	VIN	BU1	Supply voltage	Voltage range from 2.7V to 5.5V Connect to the pos. terminal of the supply
B	VOUT	BU4	Output Voltage	Designated for load connection
C	VIN	TP1	Supply voltage	measurement point
D	EN	TP2	Enable	measurement point
E	GND	TP6	Ground	measurement point
F	EN	J1	Enable	 ***ON***: AS1382 is enabled  ***OFF***: AS1382 is put into shutdown mode

Label	Name	Designator	Description	Info
				No Jumper: Connect a valid enable signal to Enable Input (BU2) EN pin should not be left floating
G	LN	J3	Mode selection	 ***ON***: The AS1382 operates in Low-Noise Mode (Low-Ripple)  ***OFF***: The AS1382 operates in High-Efficiency Mode
H	AS1382	U1	6-pin WL-CSP	High-efficiency, constant-frequency synchronous buck converter
I	Load	J2	Load connector	Designated for load connection
J	Mode	TP3	Mode	measurement point
K	VOUT	TP5	Output Voltage	measurement point
L	EN	BU2	Enable Input	A logic low on this pin puts the device in shutdown mode. “EN” Jumper (J1) 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

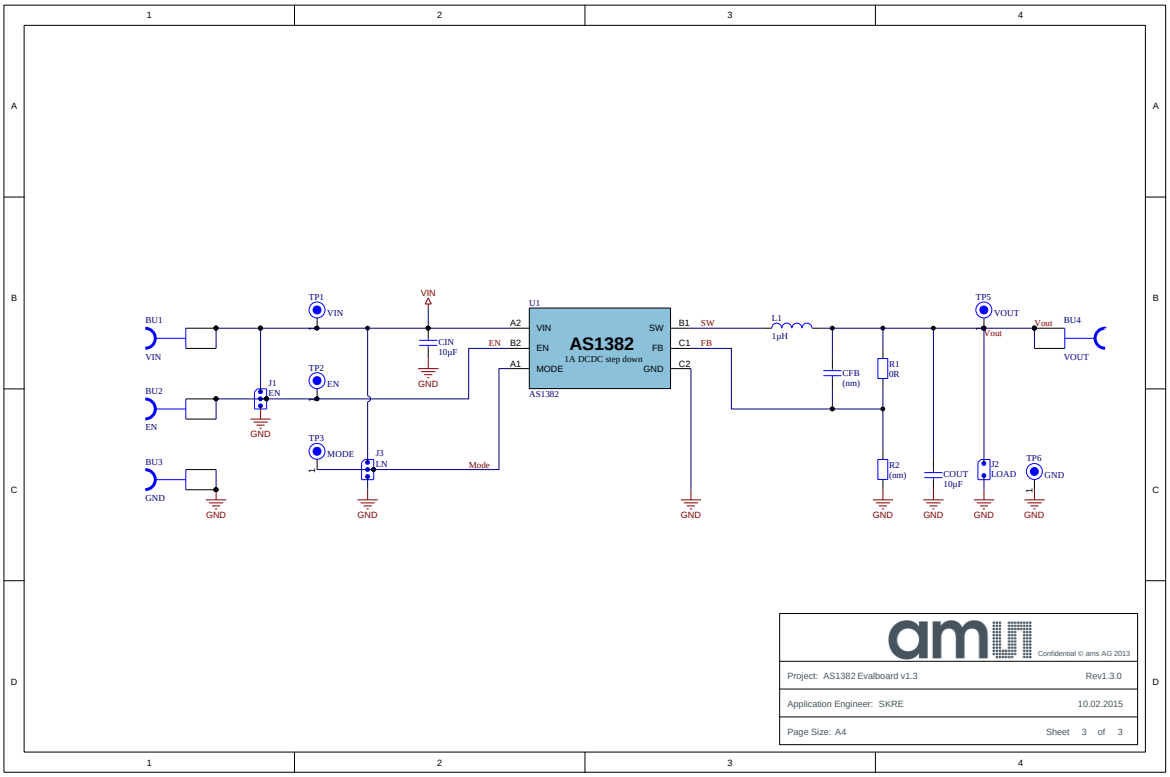
The AS1382 Evaluation Board is a 2-layer FR4 board.

Figure 3: AS1382 PCB Layer Stack up



4.1 Schematic of AS1382 Evaluation Board

Figure 4: Schematic



4.2 Layers of AS1382 Evaluation Board

Figure 5: Top Layer

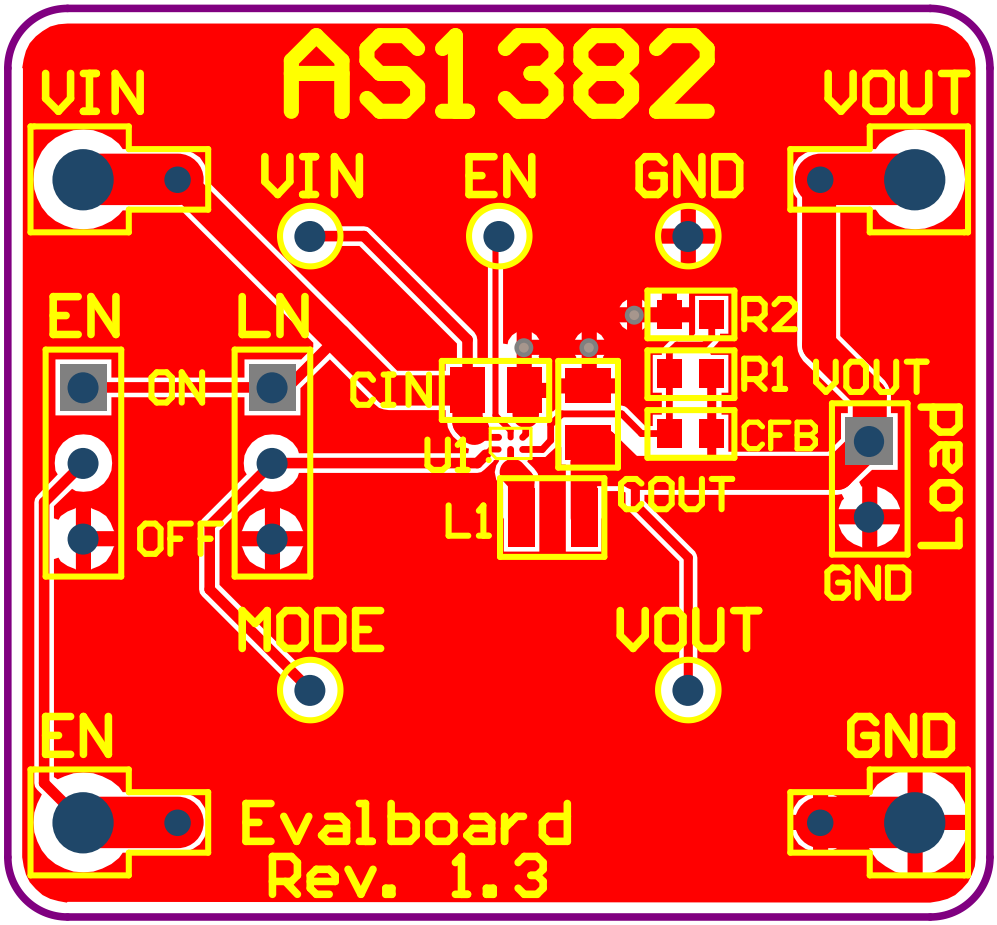
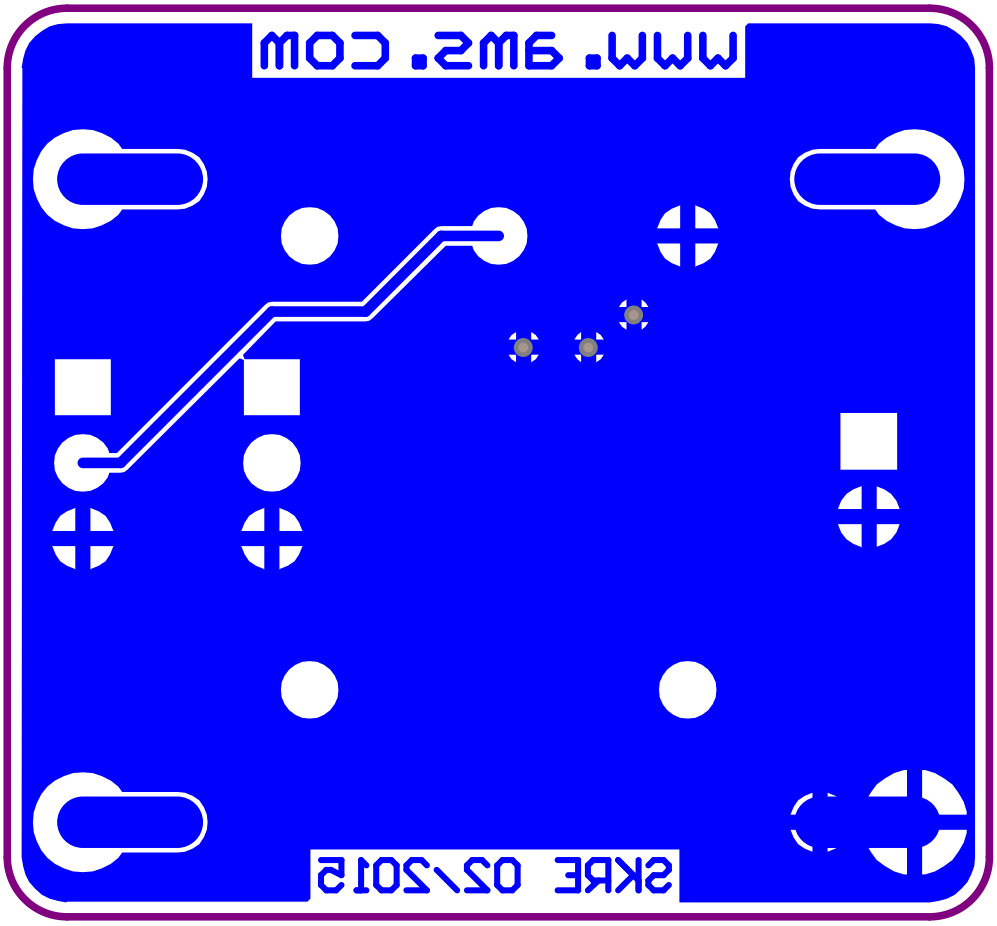
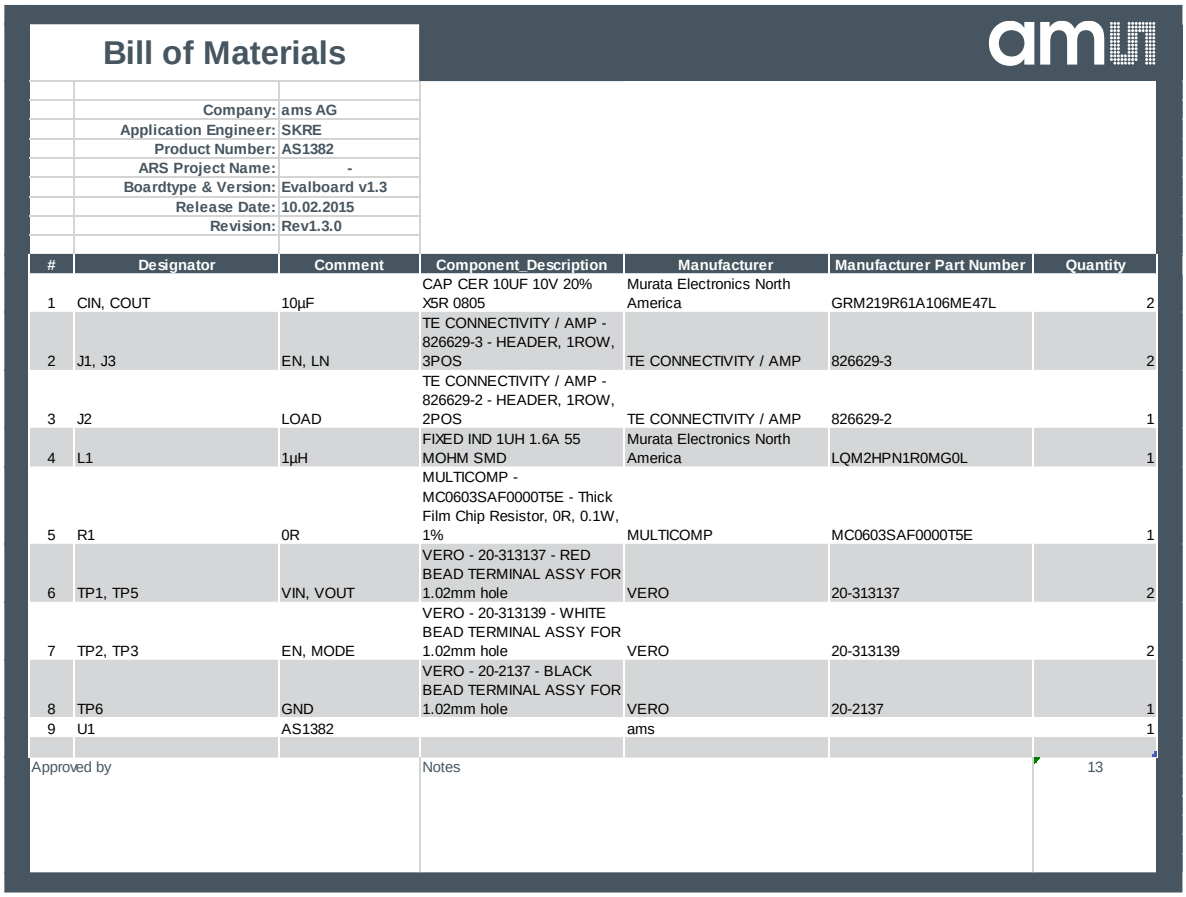


Figure 6: Bottom Layer



4.3 BOM

Figure 7: Bill of Material



Bill of Materials

Company:	ams AG
Application Engineer:	SKRE
Product Number:	AS1382
ARS Project Name:	-
Boardtype & Version:	Evalboard v1.3
Release Date:	10.02.2015
Revision:	Rev1.3.0

#	Designator	Comment	Component_Description	Manufacturer	Manufacturer Part Number	Quantity
1	CIN, COUT	10µF	CAP CER 10UF 10V 20% X5R 0805	Murata Electronics North America	GRM219R61A106ME47L	2
2	J1, J3	EN, LN	TE CONNECTIVITY / AMP - 826629-3 - HEADER, 1ROW, 3POS	TE CONNECTIVITY / AMP	826629-3	2
3	J2	LOAD	TE CONNECTIVITY / AMP - 826629-2 - HEADER, 1ROW, 2POS	TE CONNECTIVITY / AMP	826629-2	1
4	L1	1µH	FIXED IND 1UH 1.6A 55 MOHM SMD	Murata Electronics North America	LQM2HPN1R0MG0L	1
5	R1	0R	MULTICOMP - MC0603SAF0000T5E - Thick Film Chip Resistor, 0R, 0.1W, 1%	MULTICOMP	MC0603SAF0000T5E	1
6	TP1, TP5	VIN, VOUT	VERO - 20-313137 - RED BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-313137	2
7	TP2, TP3	EN, MODE	VERO - 20-313139 - WHITE BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-313139	2
8	TP6	GND	VERO - 20-2137 - BLACK BEAD TERMINAL ASSY FOR 1.02mm hole	VERO	20-2137	1
9	U1	AS1382		ams		1
Approved by			Notes			13

5 Ordering & Contact Information

Ordering Code	Description
AS1382x-WL-xx_EK_ST	AS1382 Eval Kit Standard Board
AS1382C-WL-18_EK_ST	AS1382 2MHz, 1.8V Evaluation Kit

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Headquarters
ams AG
Tobelbaderstrasse 30
8141 Unterpremstaetten
Austria, Europe

Tel: +43 (0) 3136 500 0
Website: www.ams.com

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7 Revision Information

Initial release 1-00