



Eval Kit Manual

AS1111C

Standard Board

AS1111C-DF_EK_ST

Content Guide

1 Introduction 3

2 Kit Content 3

3 Getting Started 3

4 Hardware Description..... 4

5 Schematics, Layers and BOM 6

5.1 Schematic of AS1111C Evaluation Board 6

5.2 Layers 7

5.3 Bill of Materials..... 8

6 Ordering & Contact Information 9

7 Copyrights & Disclaimer..... 10

8 Revision Information 10

1 Introduction

This document describes the AS1111C Evaluation Kit.

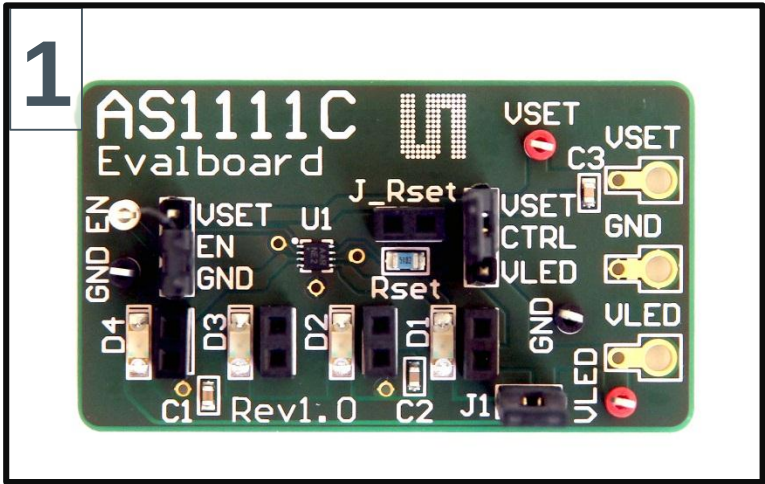
The AS1111C is a LED driver designed to match current source bias for any color LED, including white and blue. The device can drive up to 4 high-current LEDs, and the LED current is programmable using an external resistor (RSET).

The AS1111C LED currents are $230 \times I_{SET}$ (per LED, type) at an LED cathode voltage (VSAT) of 150mV and $325 \times I_{SET}$ (type) at a VSAT of 1V, where I_{SET} is the current through RSET connected to pin CTRL.

The AS1111C incorporate a chip-enable feature via pin EN. When the devices are disabled, the supply current drops down to less than 1µA. The AS1111C is available in a 8lead MLPD package with 0.5mm pitch.

2 Kit Content

Figure 1: Kit Content



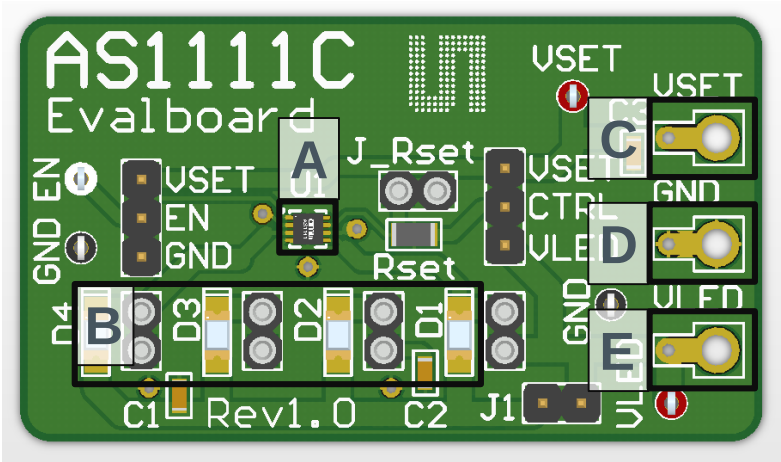
Label	Item	Comment
1	Evaluation Board	AS1111C (8lead MLPD 2x2mm package with 0.5mm pitch)

3 Getting Started

Connect your supply to GND, VSET and VLED. Be shure that the jumpers are set like you can see in the Hardware Description below.

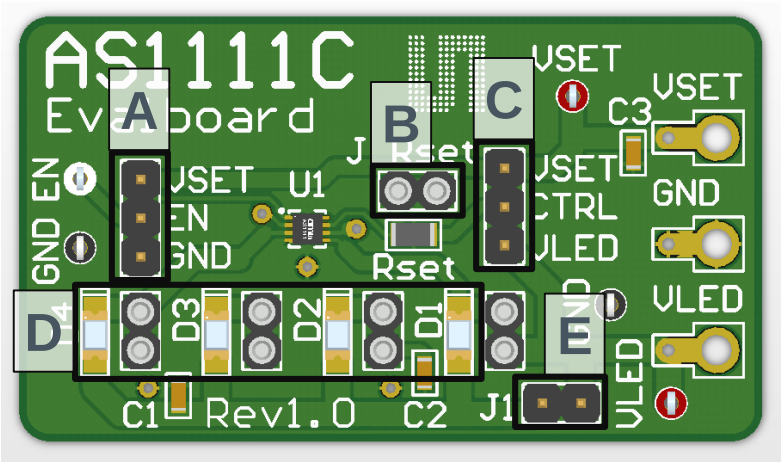
4 Hardware Description

Figure 2: Evaluation Board Overview



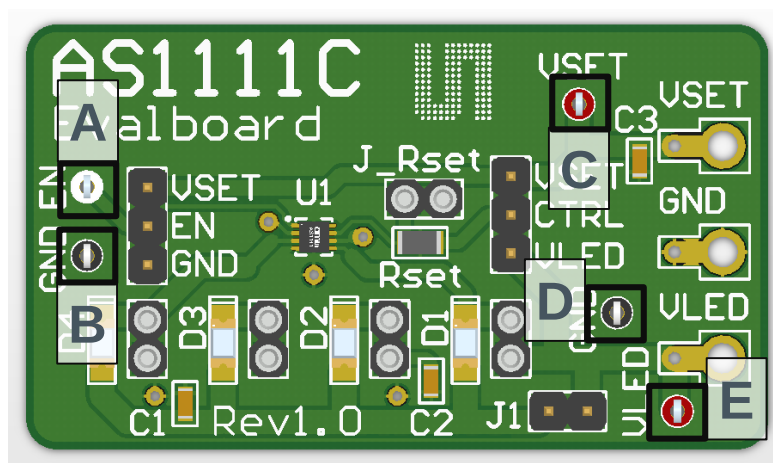
Label	Name	Designator	Description	Info
A	AS1111C	U1	LED – driver	
B	LED's	D1, D2, D3, D4		
C	VSET	VSET	Voltage	Voltage to set the LED Current
D	GND	GND	Ground	
E	VLED	VLED	LED Supply	Supply Voltage for the LED's

Figure 3: Jumper and device locations



Label	Name	Designator	Description	Info
A	J_EN	J_EN	Enable or Disable the LED – driver	 GND - disabled  VSET - enabled
B	RSET	J_Rset		Connect different kind of RSET or you can make a parallel connection. Depending on Jumper J_CTRL.
C	J_CTRL	J_CTRL	Connect / Disconnect the soldered (51k) REST resistor. Connect VLED to CTRL	 CTRL to Vset  CTRL to VLED
D	LED's	J_D1, J_D2; J_D3, J_D4	Female Header	Connect different kind of LED's
E	J1	J1	Jumper	Connect / Disconnect LED's

Figure 4: Measurement Points

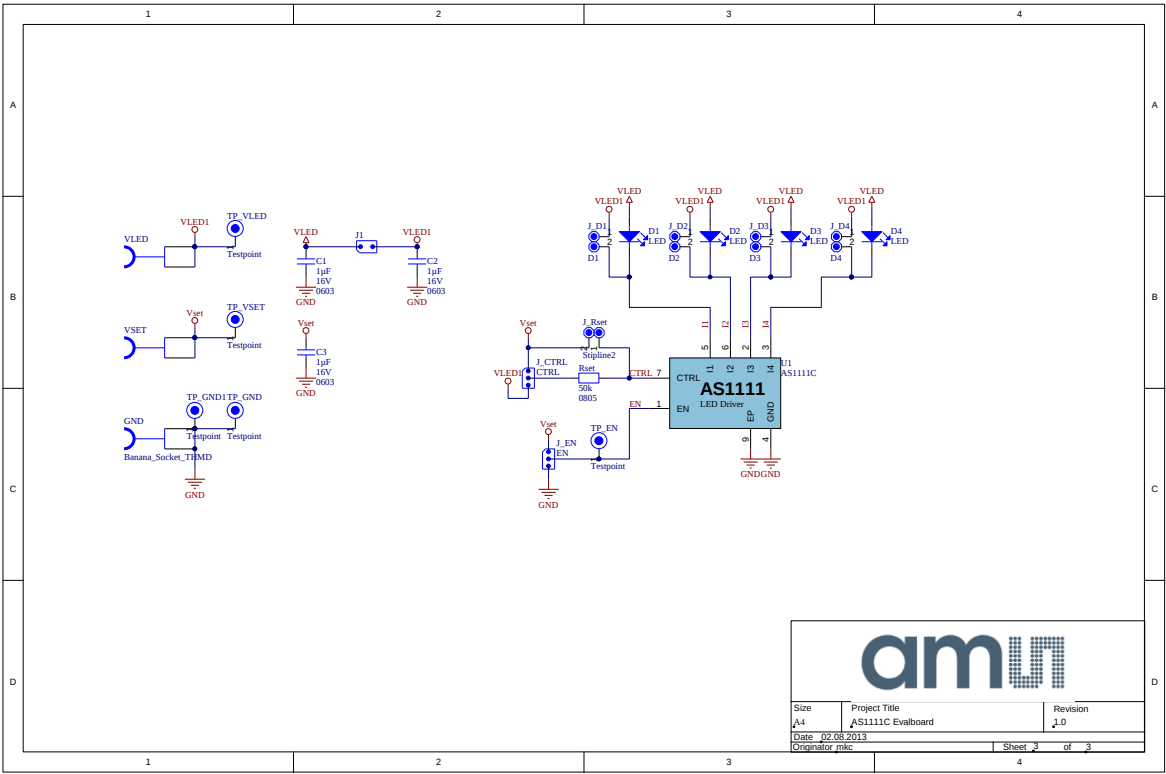


Label	Name	Designator	Description	Info
A	Enable	EN	$V_{EN} \geq 2.2V$: VOUT is enabled $V_{EN} \leq 0.5V$: VOUT is disabled	
B	GND	GND	Ground	Measurement Point
C	VSET	VSET	Voltage to set the LED current	Measurement Point
D	GND	GND	Ground	Measurement Point
E	LED Voltage	VLED	Supply Voltage for the LED's	Measurement Point

5 Schematics, Layers and BOM

5.1 Schematic of AS1111C Evaluation Board

Figure 5: Schematic



5.2 Layers

Figure 6: Top Layer

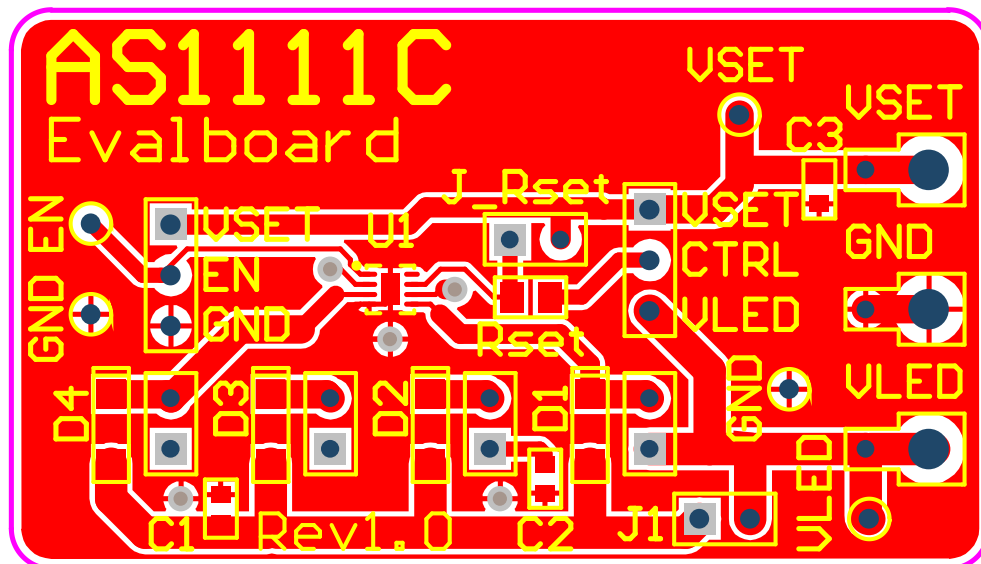
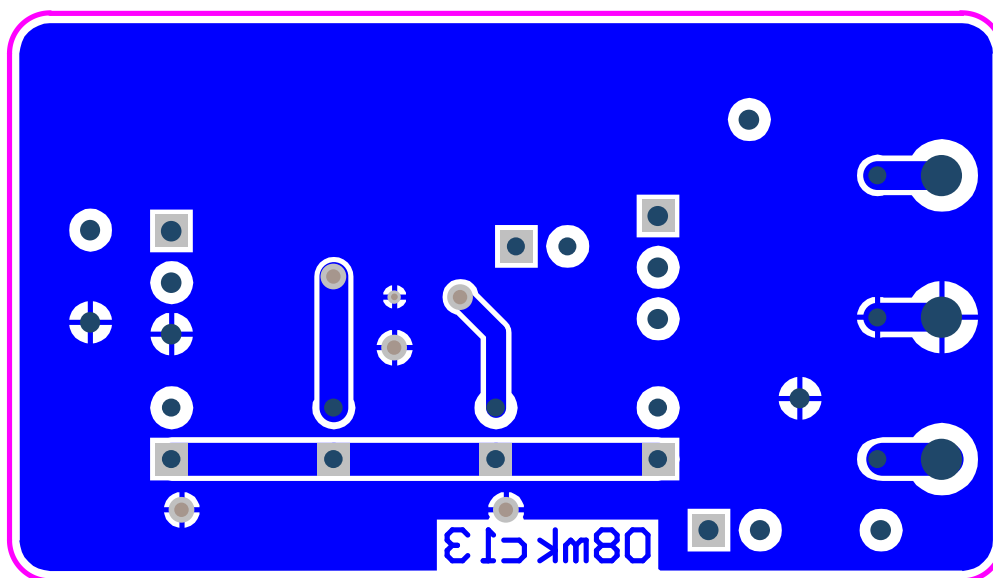


Figure 7: Bottom Layer



5.3 Bill of Materials

Figure 8: BOM

Bill of Materials				AS1111C Evalboard				
	Company:		ams AG					
	Originator:		mkc					
	PCB Name:		AS1111C Evalboard					
	PCB Version:		1.0					
	Report Date:		02.08.2013					
#	Designator	Comment	Component_Description	Manufacturer	Manufacturer Part Number	Quantity		
1	C1, C2, C3	1µF	CAP CER 1UF 16V 20% XSR 0603	Murata Electronics North America	GRM188R61C105MA93D	3		
2	D1, D2, D3, D4	LED	LED 3.2X1.6MM 630NM RED CLR SMD	Kingbright	APT3216SURCK	4		
3	J1		3M - 961102-6404-AR - CONNECTOR, HEADER, 2POS, 1ROW, 2.54MM	3M	961102-6404-AR	1		
4	J_CTRL, J_EN	CTRL, EN	3M - 961103-6404-AR - BOARD TO BOARD, HEADER, 3POS, 1ROW	3M	961103-6404-AR	2		
5	J_D1, J_D2, J_D3, J_D4, J_Rset	D1, D2, D3, D4, [NoValue]	SAMTEC - SSA-102-S-G - BUCHSE 2.54MM, LPT, 2KONT.	SAMTEC	SSA-102-S-G	5		
6	Rset	51k	MULTICOMP - MOD1W0805151K - WIDERSTAND, 51K, 0.1W, 1%, 0805	MULTICOMP	MOD1W0805151K	1		
7	TP_EN	Testpoint	VERO - 20-313139 - PRÜFPUNKT, PCB, WEISS, PK100	VERO	20-313139	1		
8	TP_GND, TP_GND1	Testpoint	VERO - 20-2137 - PRÜFPUNKT, PCB, SCHWARZ, PK100	VERO	20-2137	2		
9	TP_VLED, TP_VSET	Testpoint	VERO - 20-313137 - PRÜFPUNKT, PCB, ROT, PK100	VERO	20-313137	2		
10	U1	AS1111C				1		
Approved			Notes			22		

6 Ordering & Contact Information

Ordering Code	Description
AS1111C-DF_EK_ST	AS1111C Eval Kit Standard Board

Buy our products or get free samples online at:

www.ams.com/ICdirect

Technical Support is available at:

www.ams.com/Technical-Support

Provide feedback about this document at:

www.ams.com/Document-Feedback

For further information and requests, e-mail us at:

ams_sales@ams.com

For sales offices, distributors and representatives, please visit:

www.ams.com/contact

Headquarters

ams AG
Tobelbaderstrasse 30
8141 Unterpremstaetten
Austria, Europe

Tel: +43 (0) 3136 500 0

Website: www.ams.com

7 Copyrights & Disclaimer

Copyright ams AG, Tobelbader Strasse 30, 8141 Unterpremstaetten, Austria-Europe. Trademarks Registered. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

Demo Kits, Evaluation Kits and Reference Designs are provided to recipient on an “as is” basis for demonstration and evaluation purposes only and are not considered to be finished end-products intended and fit for general consumer use, commercial applications and applications with special requirements such as but not limited to medical equipment or automotive applications. Demo Kits, Evaluation Kits and Reference Designs have not been tested for compliance with electromagnetic compatibility (EMC) standards and directives, unless otherwise specified. Demo Kits, Evaluation Kits and Reference Designs shall be used by qualified personnel only.

ams AG reserves the right to change functionality and price of Demo Kits, Evaluation Kits and Reference Designs at any time and without notice.

Any express or implied warranties, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose are disclaimed. Any claims and demands and any direct, indirect, incidental, special, exemplary or consequential damages arising from the inadequacy of the provided Demo Kits, Evaluation Kits and Reference Designs or incurred losses of any kind (e.g. loss of use, data or profits or business interruption however caused) as a consequence of their use are excluded.

ams AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of ams AG rendering of technical or other services.

8 Revision Information

Initial version 1-00