Eval Kit Manual

# AS1111A

## Standard Board

### AS1111A-WL_EK_ST

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# 1 Introduction

This document describes the AS1111A Evaluation Kit.

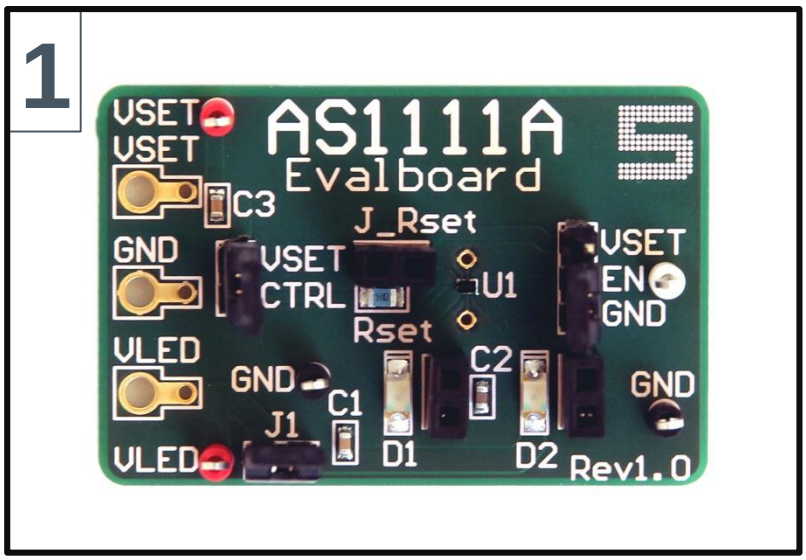
The AS1111A is a LED driver designed to match current source bias for any color LED, including white and blue. The devices can drive up to 2 high-current LEDs, and the LED current is programmable using an external resistor (RSET).

The AS1111A LED currents are 460 x ISET (per LED, type) at an LED cathode voltage (VSAT) of 150mV and 650 x ISET (type) at a VSAT of 1V, where ISET is the current through RSET connected to pin CTRL.

The AS1111A incorporate a chip-enable feature via pin EN. When the devices is disabled, the supply current drops down to less than 1µA. The AS1111A are available in a 6-pin WL-CSP package with 0.4mm pitch.

# 2 Kit Content

**Figure 1: Kit Content**



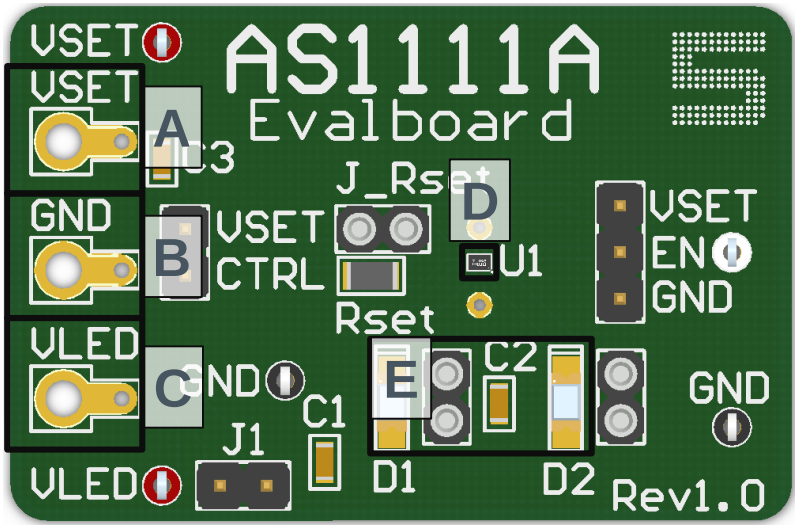

| Label | Item | Comment |
|---|---|---|
| 1 | Evaluation Board | AS1111A (6-pin WL-CSP package with 0.4mm pitch) |

# 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.

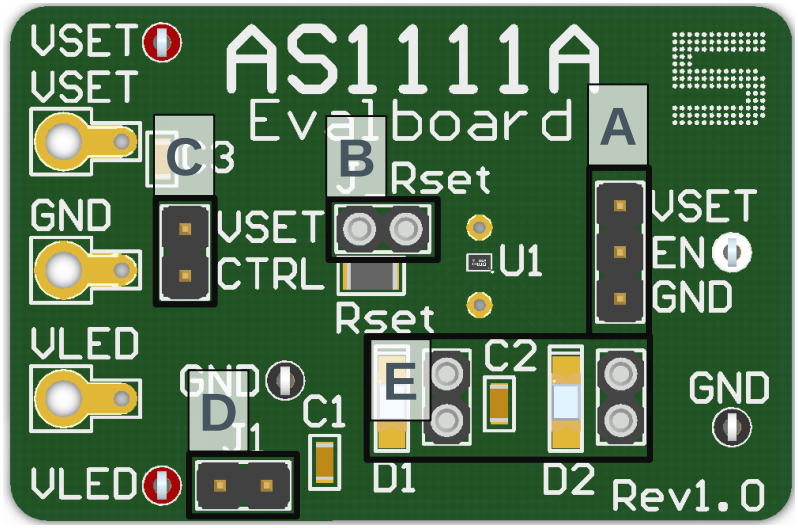
# 4 Hardware Description

**Figure 2: Evaluation Board Overview**



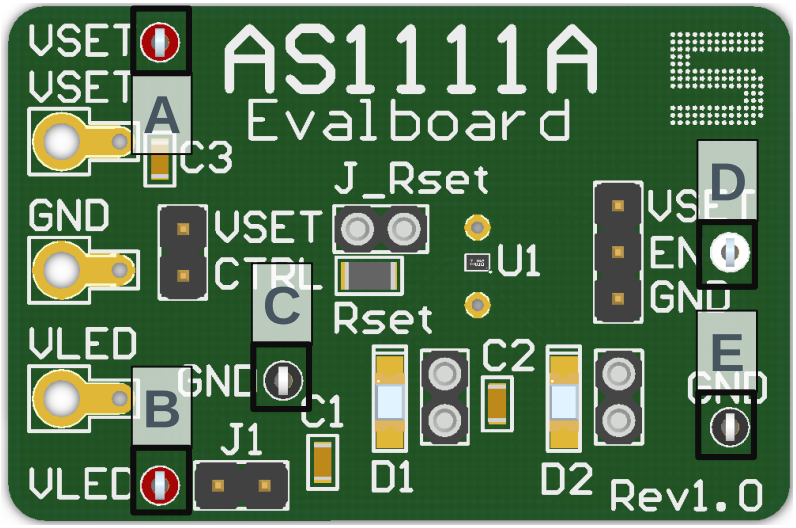

| Label | Name | Designator | Description | Info |
|---|---|---|---|---|
| A | VSET | VSET | Voltage | Voltage to set the LED Current |
| B | GND | GND | Ground | |
| C | VLED | VLED | LED Supply | Supply Voltage for the LED´s |
| D | AS1111A | U1 | LED – driver | |
| E | LED´s | D1, D2 | | |

**Figure 3: Jumper and device locations**



| Label | Name | Designator | Description | Info |
|---|---|---|---|---|
| A | J_EN | J_EN | Enable or Disable the LED – driver |  GND - disabled<br>  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 |
| D | J1 | J1 | Jumper | Connect / Disconnect LED´s |
| E | LED´s | J_D1, J_D2 | Female Header | Connect different kind of LED´s |

**Figure 4: Measurement Points**

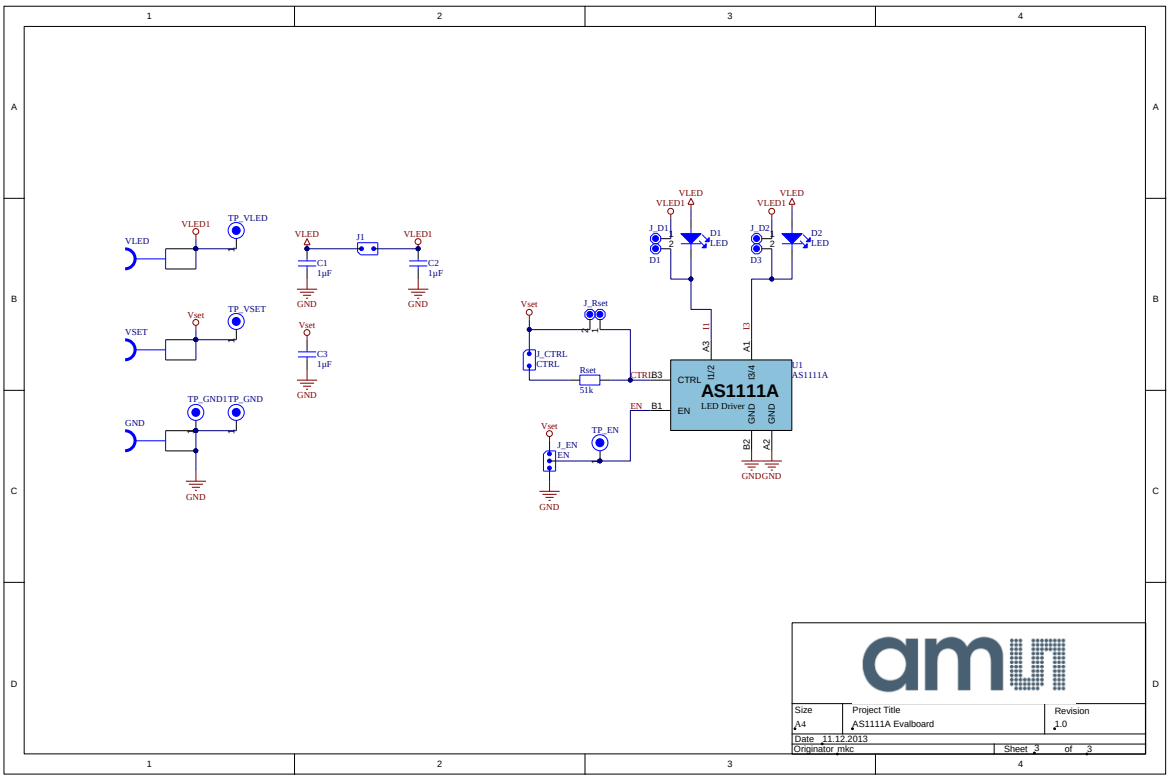



| Label | Name | Designator | Description | Info |
|---|---|---|---|---|
| A | VSET | VSET | Voltage to set the LED current | Measurement Point |
| B | LED Voltage | VLED | Supply Voltage for the LED´s | Measurement Point |
| C | GND | GND | Ground | Measurement Point |
| D | Enable | EN | $V_{EN} \geq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

# 5 Schematics, Layers and BOM

## 5.1 Schematic of AS1111A Evaluation Board

**Figure 5: Schematic**



## 5.2 Layers

**Figure 6: Top Layer**

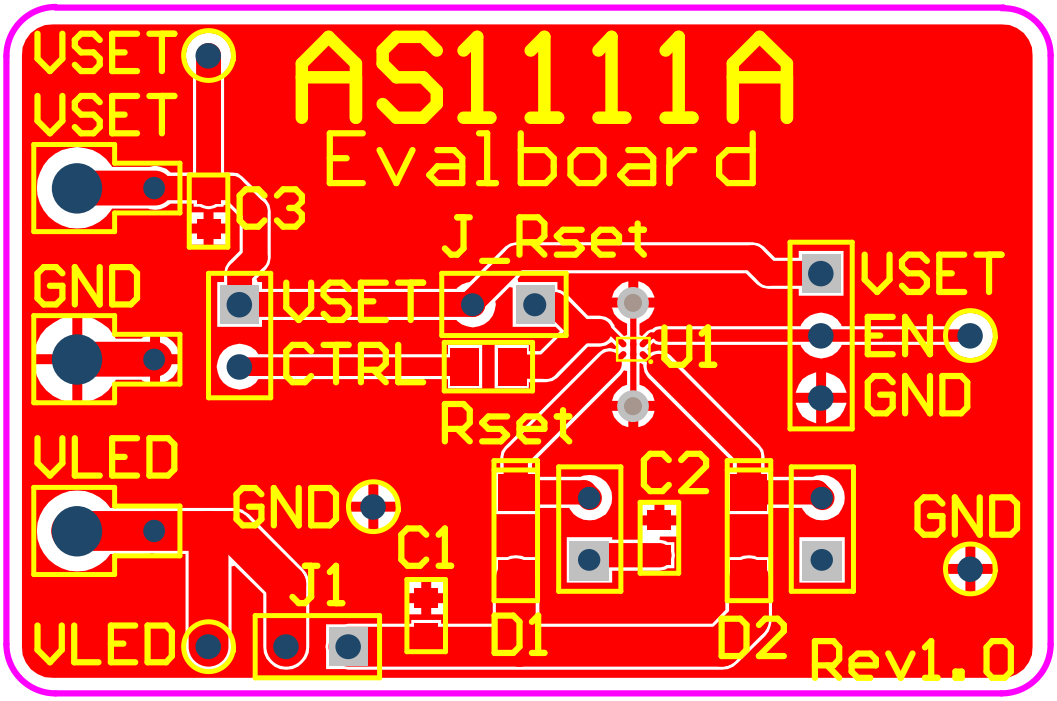
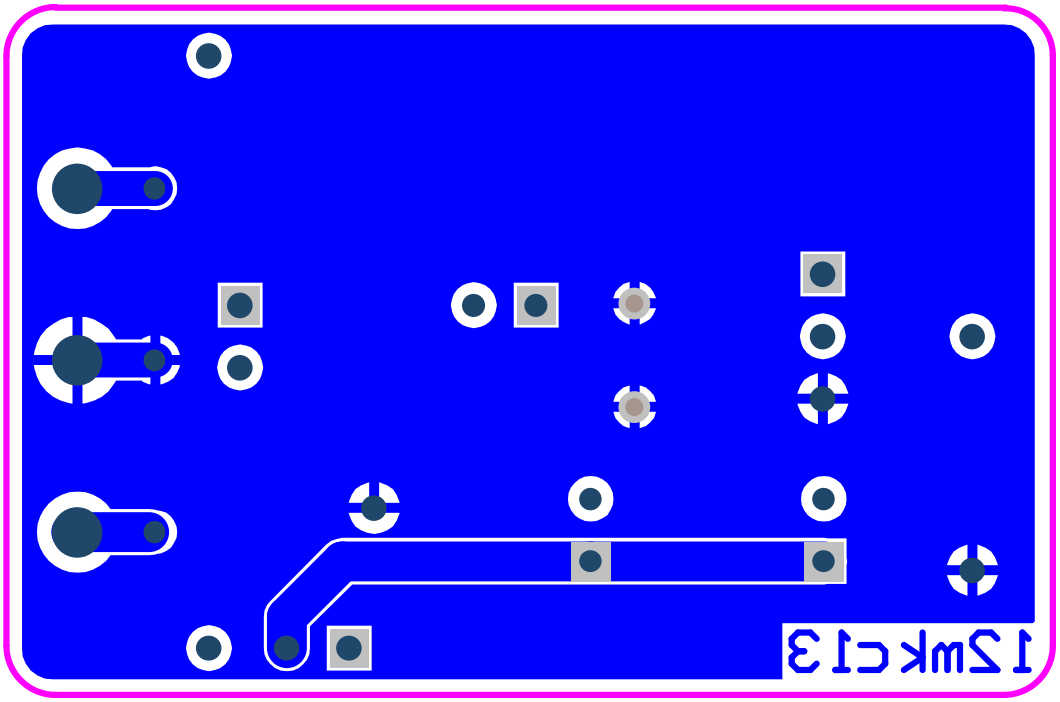



**Figure 7: Bottom Layer**



## 5.3 Bill of Materials

**Figure 8: BOM**

# Bill of Materials

AS1111A Evalboard

| | |
|---|---|
| Company: | ams AG |
| Originator: | mkc |
| PCB Name: | AS1111A Evalboard |
| PCB Version: | 1.0 |
| Report Date: | 11.12.2013 |

| # | Designator | Comment | Component_Description | Manufacturer | Manufacturer Part Number | Quantity |
|---|---|---|---|---|---|---|
| 1 | C1, C2, C3 | 1µF | CAP CER 1UF 16V 20% X5R 0603 | Murata Electronics North America | GRM188R61C105MA12D | 3 |
| 2 | D1, D2 | LED | LED 3.2X1.6MM 630NM RED CLR SMD | Kingbright | APT3216SURCK | 2 |
| 3 | J1, J_CTRL | 2 PIN, CTRL | 3M - 961102-6404-AR - CONNECTOR, HEADER, 2POS, 1ROW, 2.54MM | 3M | 961102-6404-AR | 2 |
| 4 | J_D1, J_D2, J_Rset | D1, D3 | SAMTEC - SSA-102-S-G - BUCHSE, 2.54MM, LPT, 2KONT | SAMTEC | SSA-102-S-G | 3 |
| 5 | J_EN | EN | 3M - 961103-6404-AR - BOARD TO BOARD, HEADER, 3POS, 1ROW | 3M | 961103-6404-AR | 1 |
| 6 | Rset | 51k | MULTICOMP - MC01W0805151K - WIDERSTAND, 51K, 0.1W, 1%, 0805 | MULTICOMP | MC01W0805151K | 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 | AS1111A | | | AS1111A-WL_EK_ST | 1 |
| Approved | | | Notes | | | 18 |

# 6 Ordering & Contact Information

| Ordering Code | Description |
|---|---|
| AS1111A-WL_EK_ST | AS1111A Eval Kit Standard Board |

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# 8 Revision Information

Initial version 1-00

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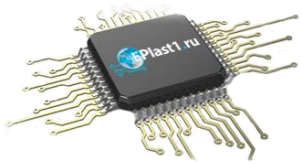
- Защита от снятия компонента с производства.

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