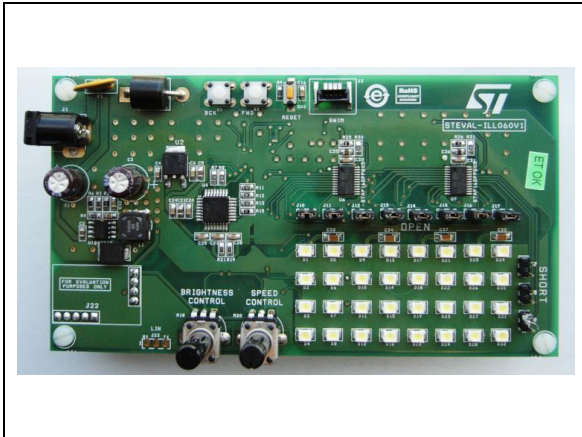


High brightness LED array driver with diagnostics for automotive applications based on the STAP16DPPS05 and STM8A

Data brief



Description

The STEVAL-ILL060V1 is a high brightness LED array driver evaluation board with diagnostics based on STMicroelectronics' automotive-grade low voltage, 16-bit constant current LED sink driver STAP16DPPS05.

The LED driver is configured and controlled through an 8-bit automotive-grade STM8A microcontroller via an SPI interface. An A5974D DC-DC converter, also automotive-grade, provides the voltages and power needed for overall operation of the board.

Features

- 6 - 24 VDC power supply with reverse voltage protection, short-circuit protection and input surge protection and standard DC jack input
- Backward/forward transition switch to change modes
- SWIM connector for MCU programming and debugging
- Connector for LIN development and evaluation
- Potentiometer to change brightness and speed of patterns
- 32 white LEDs (PLCC 4)
- 8 jumpers to simulate open-circuit error
- 4 jumpers, to simulate short-circuit error
- USB-UART bridge to interface board with GUI
- Demonstrates pre-configured patterns (with adjustable brightness/speed) such as rolling text, wave effect, dot sequence, etc. in stand-alone mode
- Demonstrates basic mode or frame programming mode with GUI SW
- RoHS compliant

1 Schematic diagrams

Figure 1. Power section

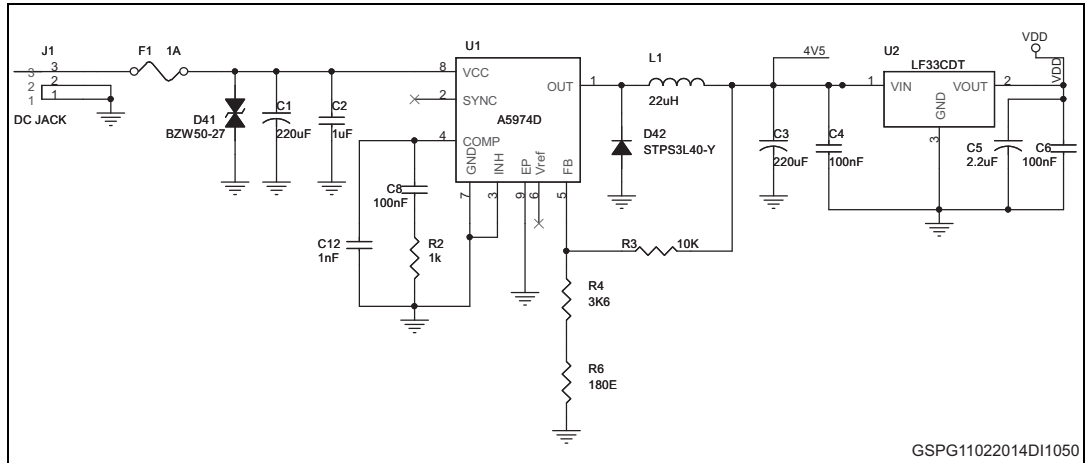


Figure 2. Microcontroller

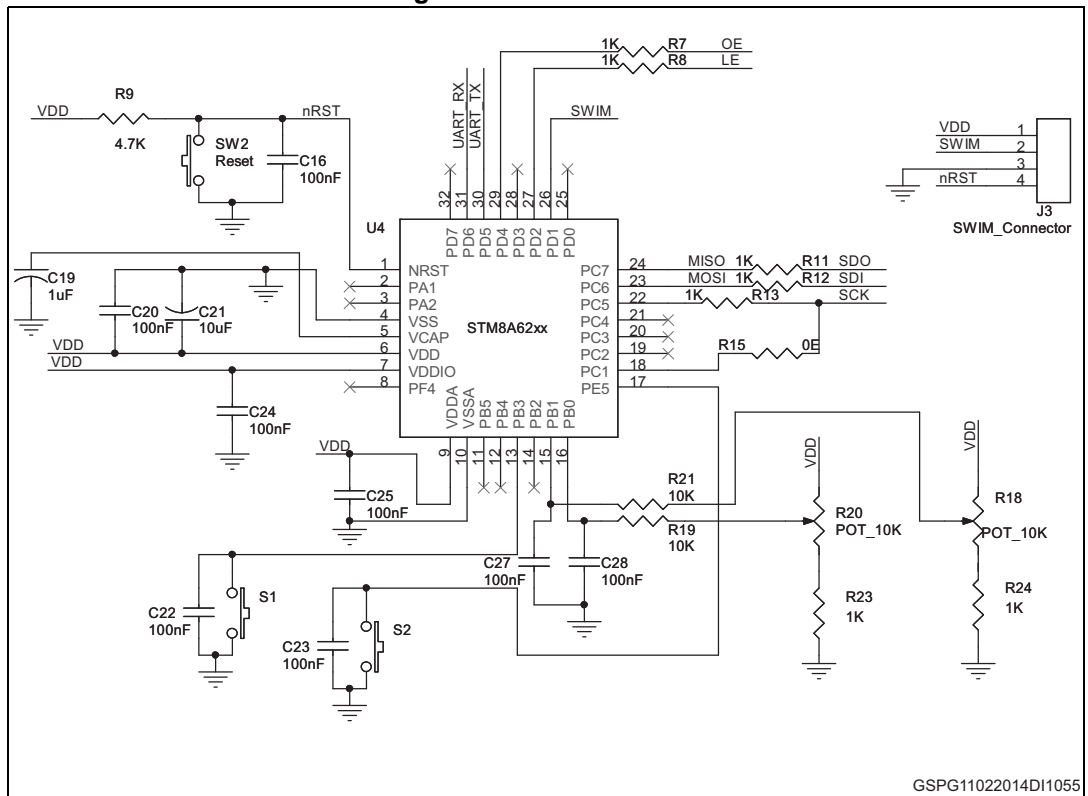


Figure 3. Jumpers to simulate open circuit error detection

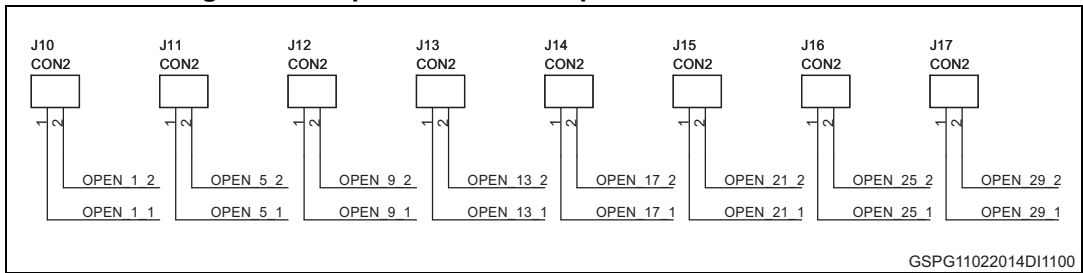


Figure 4. Jumpers to simulate short-circuit error detection

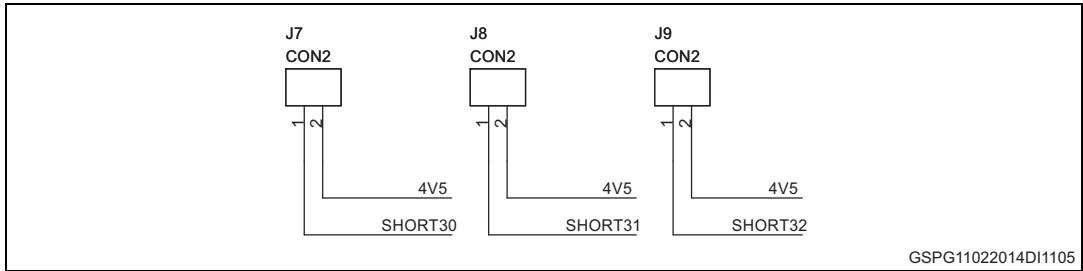


Figure 5. Connector

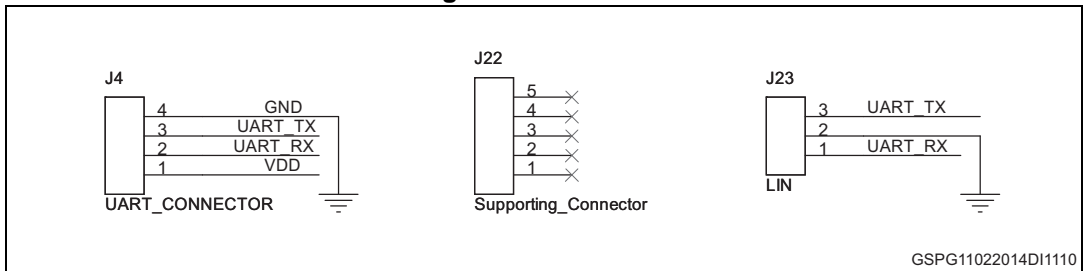


Figure 6. LED driver STAP16DPPS05

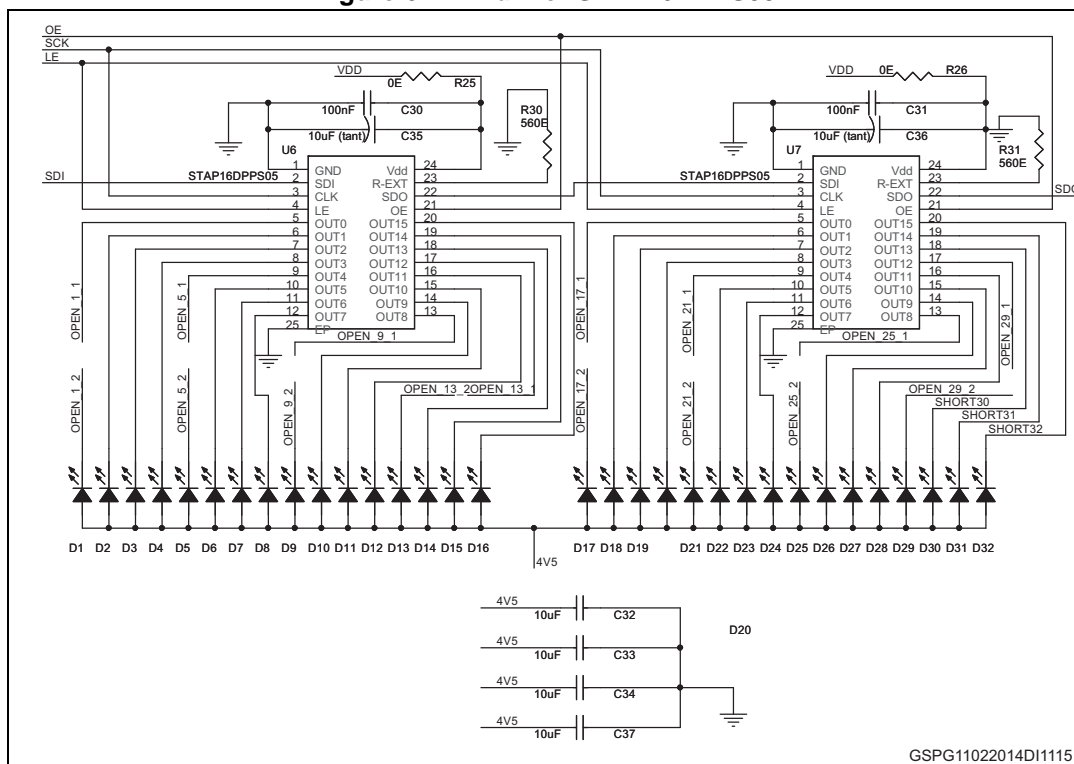


Figure 7. STM32 section

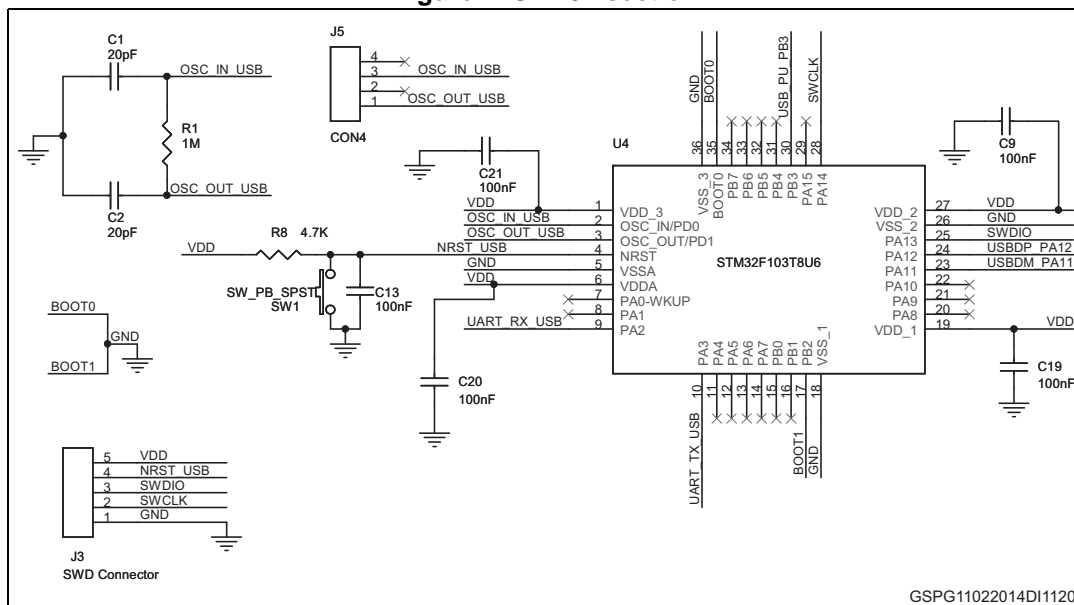


Figure 8. USB section

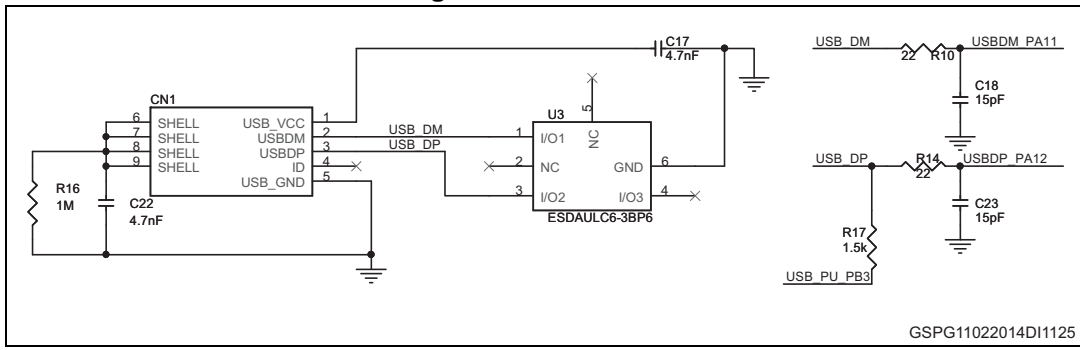
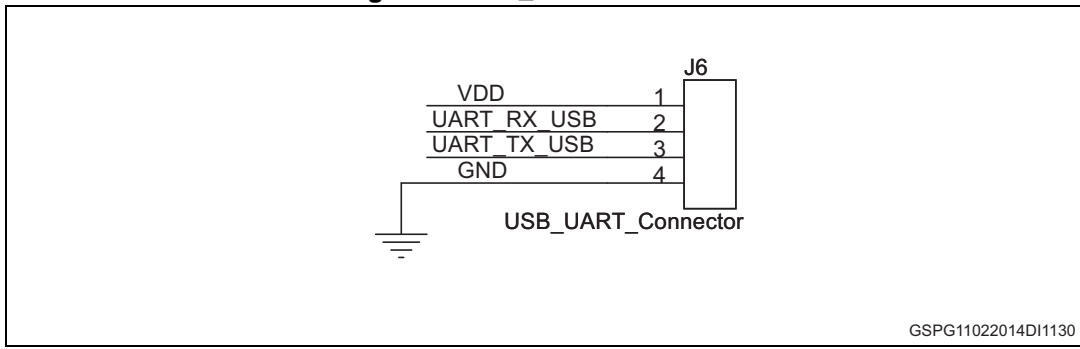


Figure 9. USB_UART connector



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-May-2014	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2014 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [LED Lighting Development Tools](#) category:

Click to view products by [STMicroelectronics](#) manufacturer:

Other Similar products are found below :

[MIC2870YFT EV](#) [ADP8860DBCP-EVALZ](#) [LM3404MREVAL](#) [ADM8843EB-EVALZ](#) [TDGL014](#) [ISL97682IRTZEVALZ](#) [LM3508TLEV](#)
[EA6358NH](#) [MAX16826EVKIT](#) [MAX16839EVKIT+](#) [TPS92315EVM-516](#) [MAX6956EVKIT+](#) [OM13321,598](#) [DC986A](#) [DC909A](#) [DC824A](#)
[STEVAL-LLL006V1](#) [IS31LT3948-GRLS4-EB](#) [104PW03F](#) [PIM526](#) [PIM527](#) [MAX6946EVKIT+](#) [MAX20070EVKIT#](#) [MAX21610EVKIT#](#)
[MAX6951EVKIT](#) [MAX20090BEVKIT#](#) [MAX20092EVSYS#](#) [PIM498](#) [AP8800EV1](#) [ZXLD1370/1EV4](#) [MAX6964EVKIT](#) [TLC59116EVM-](#)
[390](#) [1216.1013](#) [TPS61176EVM-566](#) [TPS61197EVM](#) [TPS92001EVM-628](#) [1270](#) [1271.2004](#) [1272.1030](#) [1273.1010](#) [1278.1010](#) [1279.1002](#)
[1279.1001](#) [1282.1000](#) [1293.1900](#) [1293.1800](#) [1293.1700](#) [1293.1500](#) [1293.1100](#) [1282.1400](#)