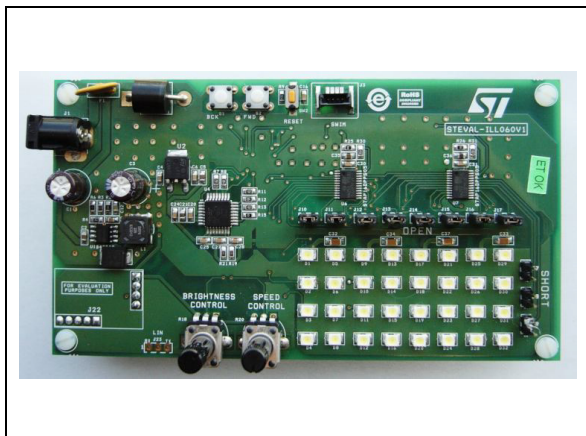

High brightness LED array driver with diagnostics for automotive applications based on the STAP16DPPS05 and STM8A

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

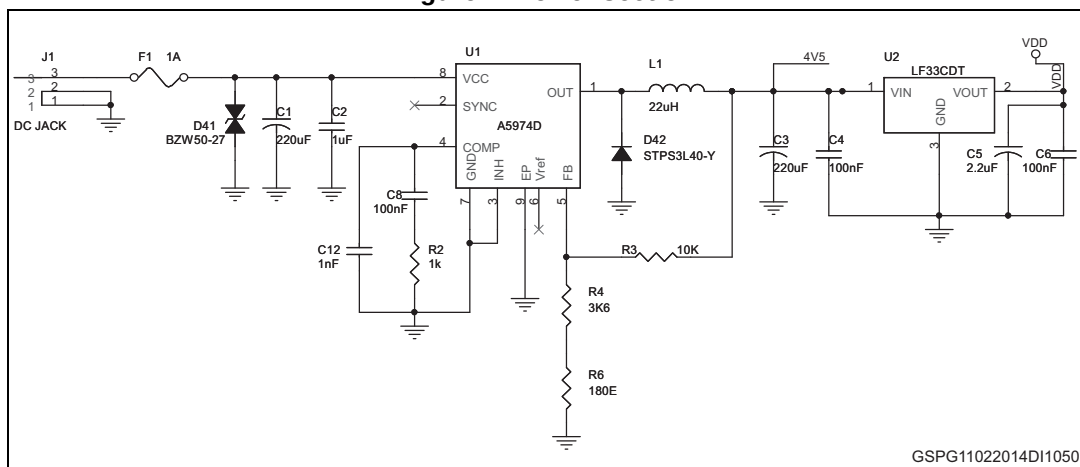


Figure 2. Microcontroller

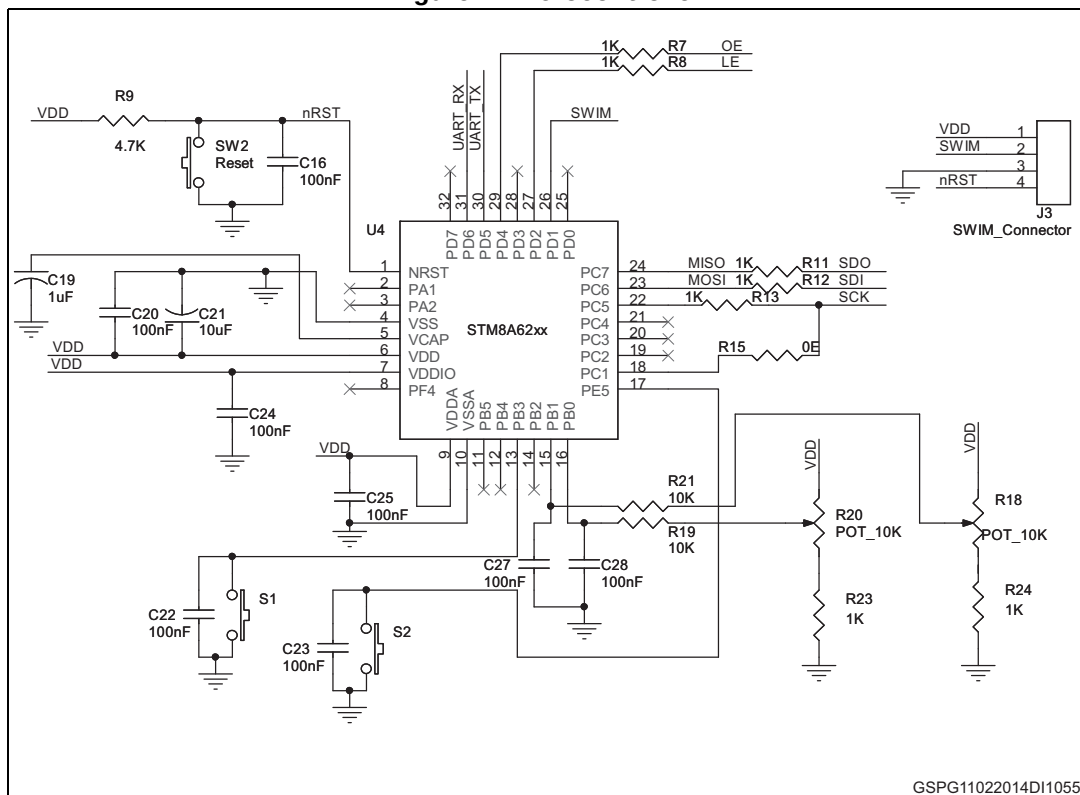


Figure 3. Jumpers to simulate open circuit error detection

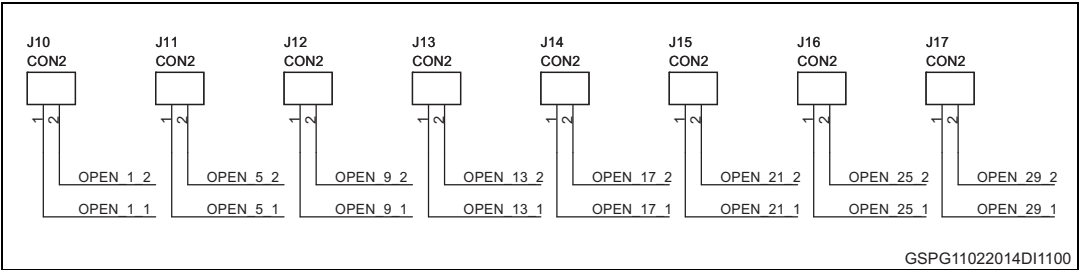


Figure 4. Jumpers to simulate short-circuit error detection

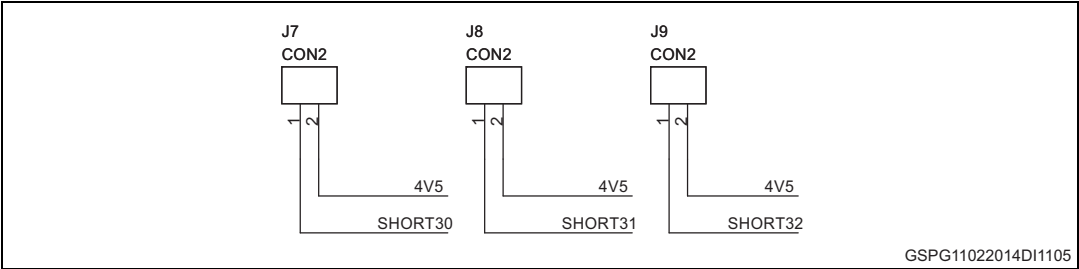


Figure 5. Connector

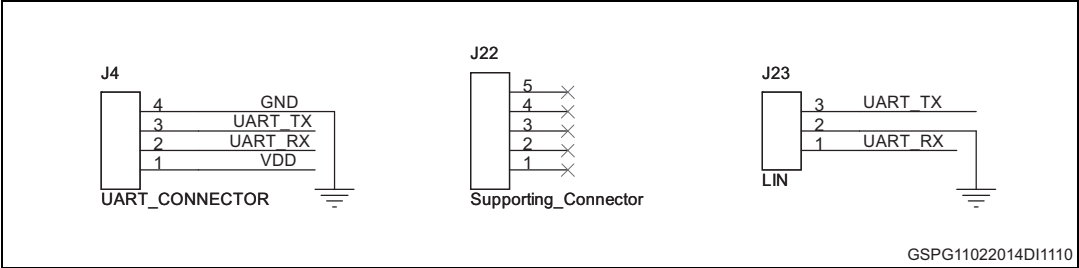


Figure 6. LED driver STAP16DPPS05

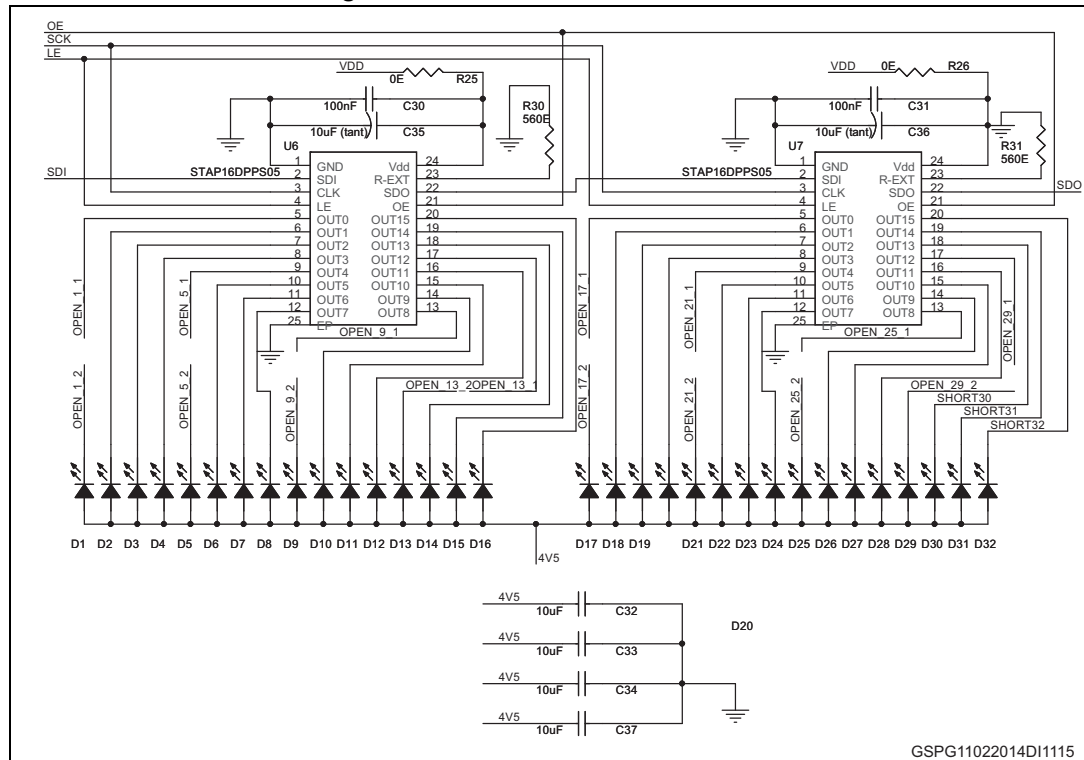


Figure 7. STM32 section

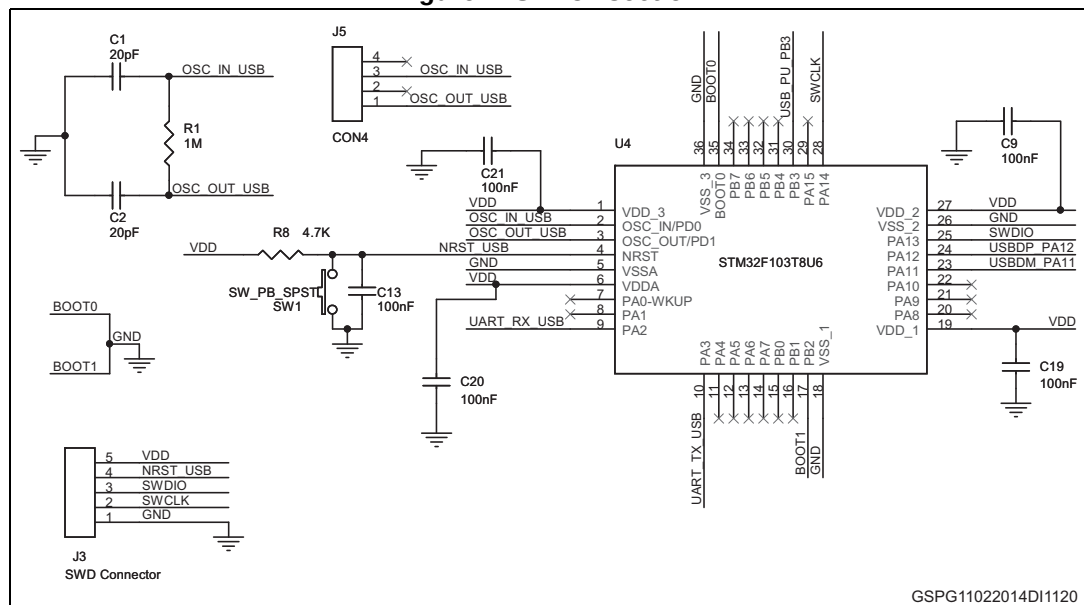


Figure 8. USB section

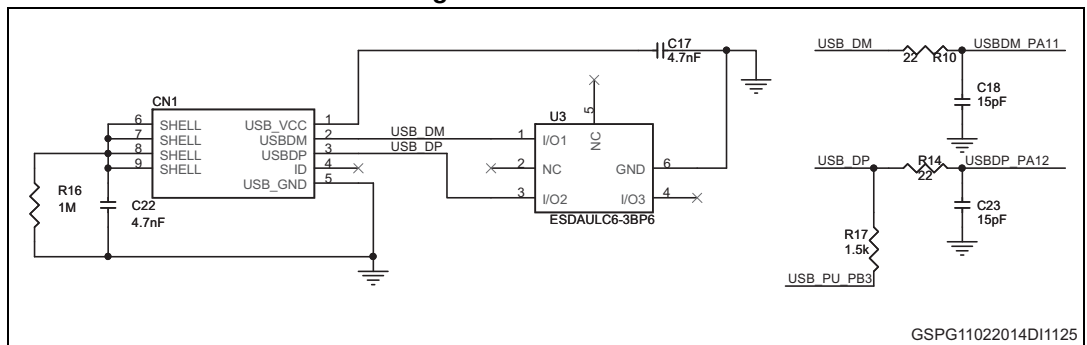
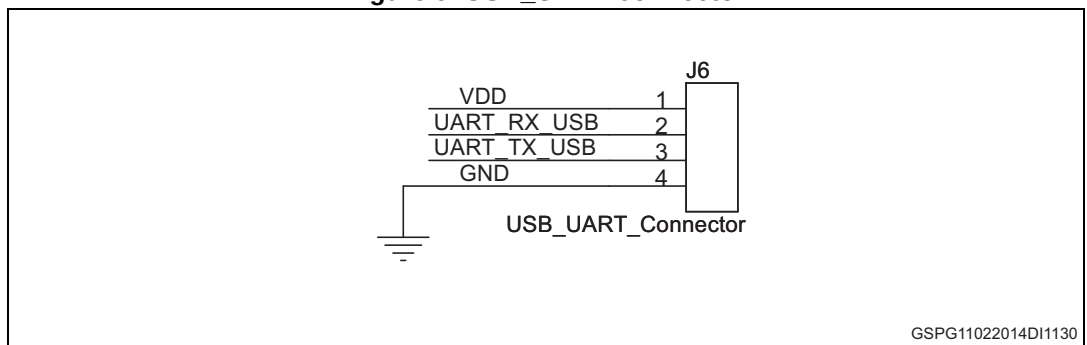


Figure 9. USB_UART connector



2 Revision history

Table 1. Document revision history

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

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