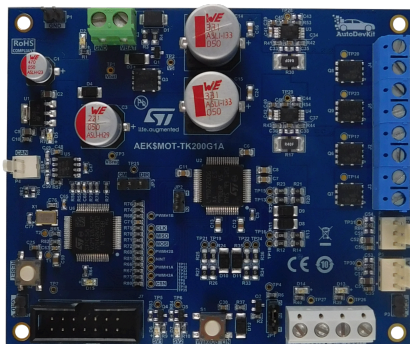


Power liftgate controller board based on L99DZ200G multioutput driver and SPC582B60E1 Chorus 1M microcontroller



Features

- Hosts the automotive-grade [L99DZ200G](#) multioutput drivers and the [SPC582B60E1](#) Chorus 1M automotive microcontroller
- Controls up to three DC motors via the [L99DZ200G](#) H-bridge gate drivers
- Supports two additional high-side outputs to drive bulbs, relays, and LEDs
- Supports CAN bus interface for remote control
- Open-load and overcurrent detection
- Thermal warning and thermal shutdown protection
- Size 100 x 83 mm
- Included in the [AutoDevKit](#) ecosystem

Description

The [AEK-MOT-TK200G1](#) is designed as a zone controller for the power liftgate application. The two main devices hosted are the [L99DZ200G](#) automotive-grade multioutput driver and the [SPC582B60E1](#) Chorus 1M automotive-grade microcontroller.

The [L99DZ200G](#) device enables the board with two H-bridge gate drivers that control an external MOS tuned for the power liftgate application actuations. Up to three DC motors can be driven: two simultaneously (SPINDLE) and one by itself (CINCH).

The [AEK-MOT-TK200G1](#) supports the current sensing for both H-bridges to impact on the Hall sensor positioning and to detect obstacles encountered while opening/closing the liftgate.

The [AEK-MOT-TK200G1](#) firmware is preloaded. You can control the board through an external domain controller via a CAN bus.

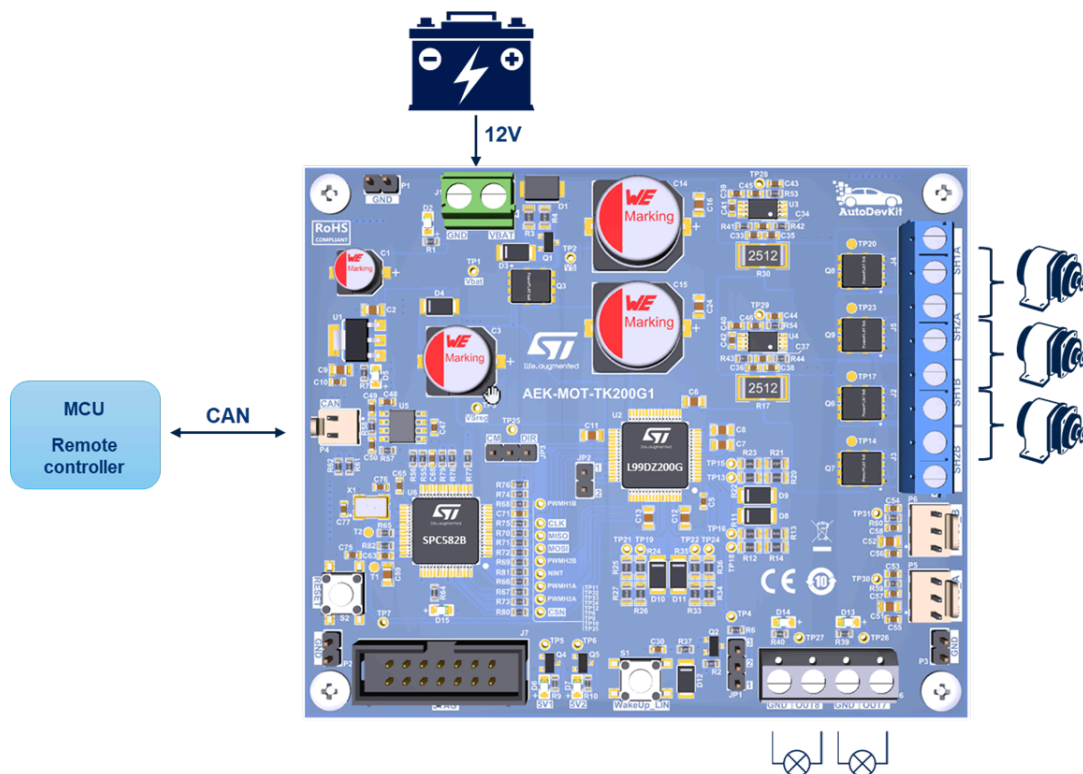
The [AutoDevKit](#) software library ([STSW-AUTODEVKIT](#)) includes a CAN bus-driving example based on the [SPC58EC](#) Chorus 4M.

Product summary	
Power liftgate controller board based on L99DZ200G multi output driver and SPC582B Chorus 1M microcontroller	AEK-MOT-TK200G1
Automotive front door device with LIN and HS-CAN providing dual H-bridge driving	L99DZ200GTR
32-bit Power Architecture MCU for Automotive - Chorus family	SPC582B60E1MH00Y
AutoDevKit library plugin for SPC5-STUDIO	STSW-AUTODEVKIT
Code generator, quick resource configurator and Eclipse development environment for SPC5 MCUs	SPC5-Studio

Product summary	
Application	Automotive Motor Control

1 Block diagram

Figure 1. AEK-MOT-TK200G1 block diagram



2

Schematic diagrams

Figure 2. AEK-MOT-TK200G1 circuit schematic (1 of 5)

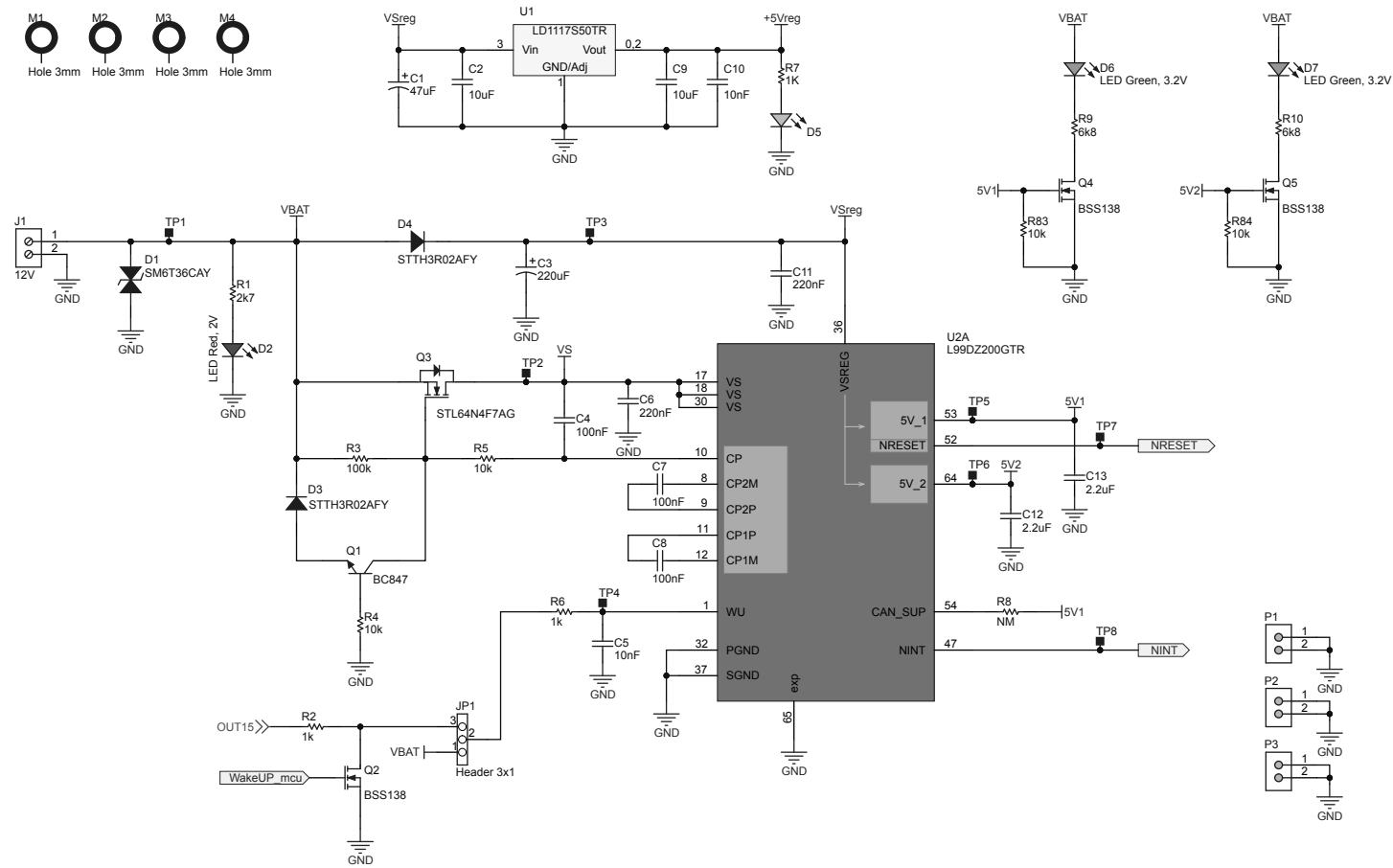


Figure 3. AEK-MOT-TK200G1 circuit schematic (2 of 5)

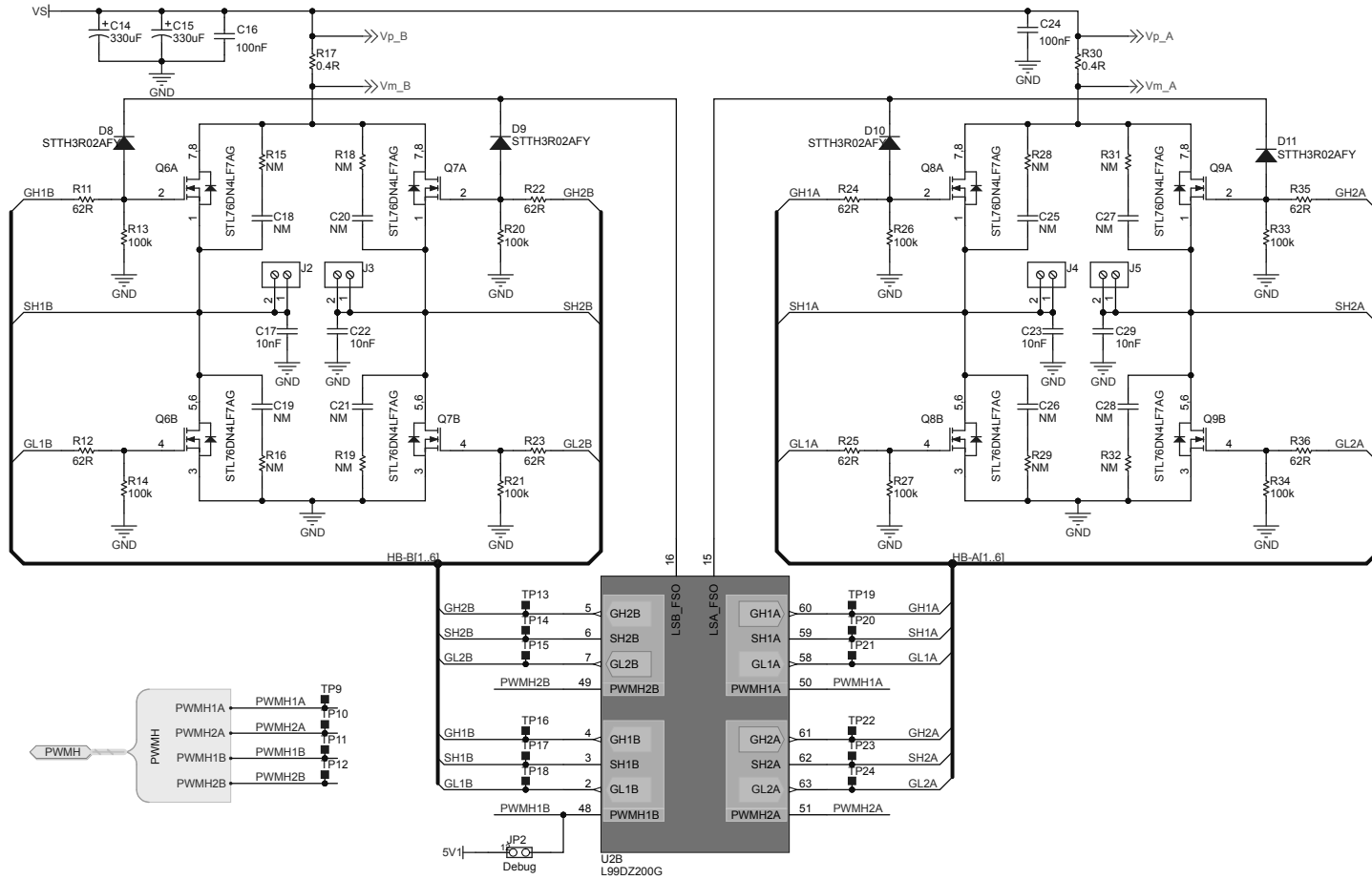


Figure 4. AEK-MOT-TK200G1 circuit schematic (3 of 5)

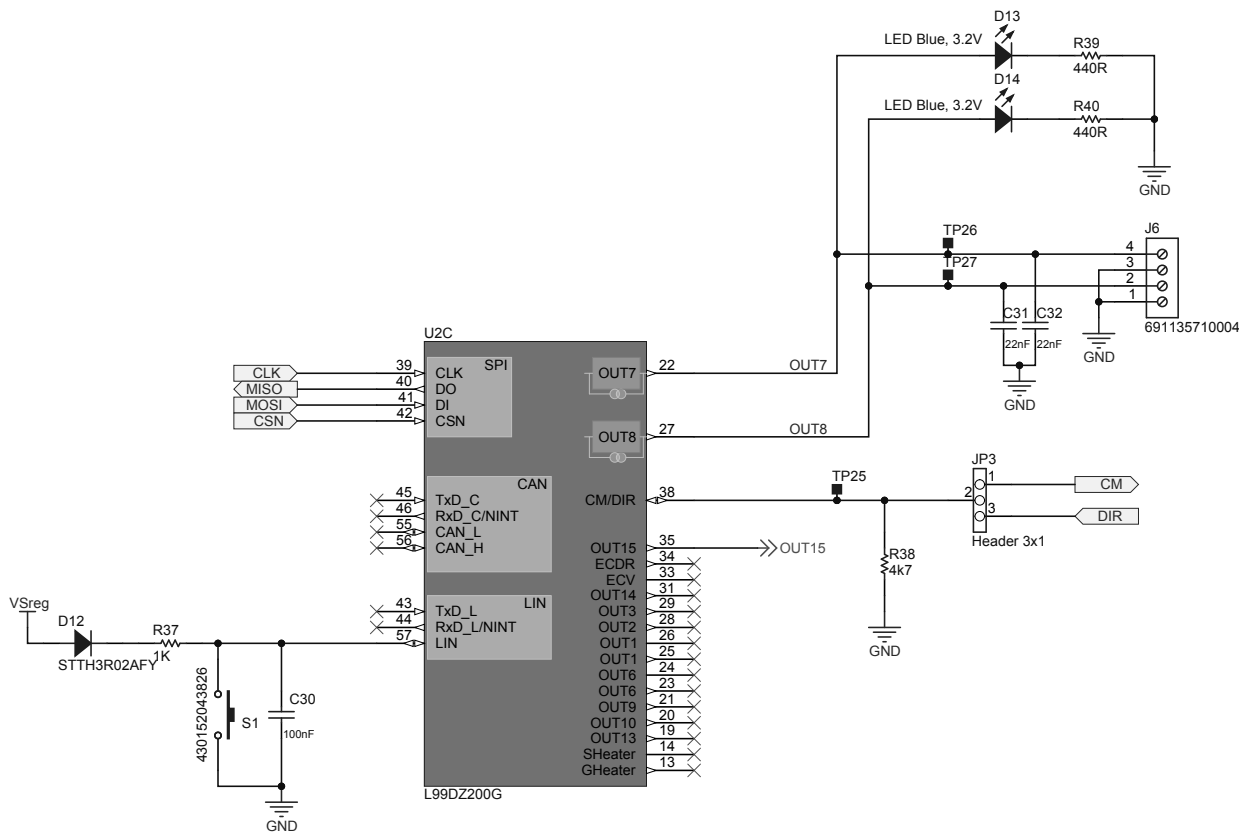


Figure 5. AEK-MOT-TK200G1 circuit schematic (4 of 5)

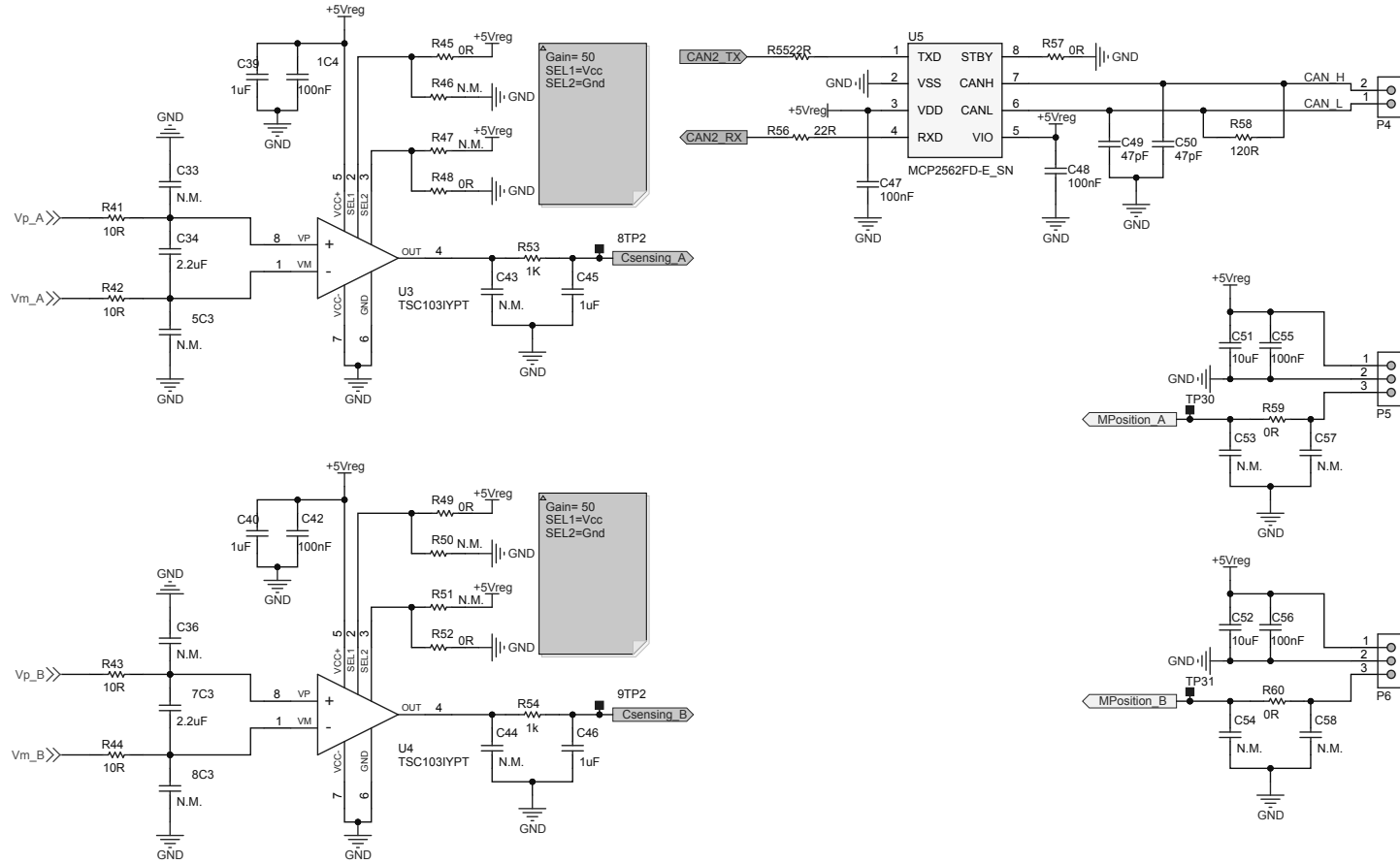
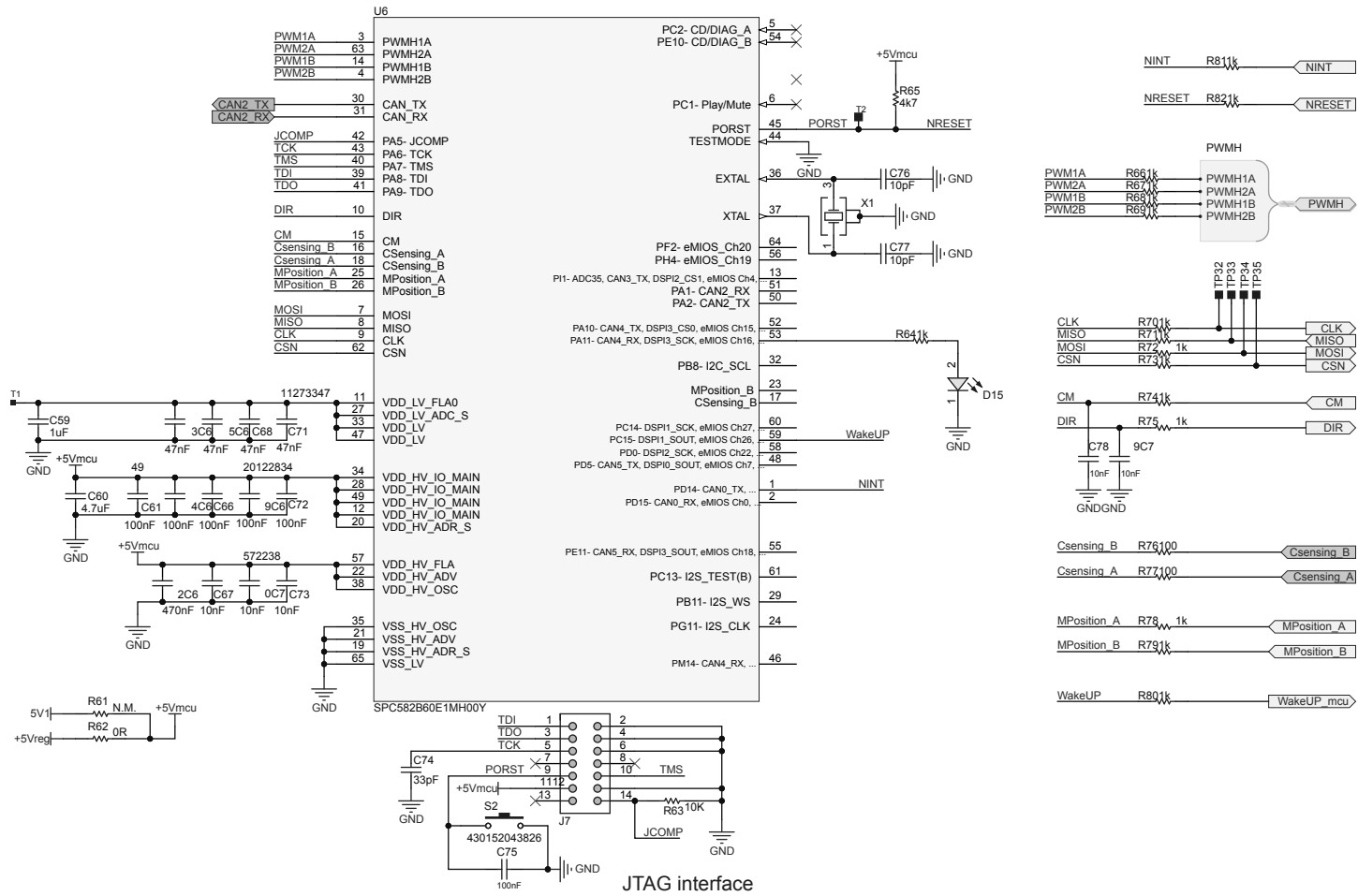


Figure 6. AEK-MOT-TK200G1 circuit schematic (5 of 5)



3 Board versions

Table 1. AEK-MOT-TK200G1 versions

PCB version	Schematic diagrams	Bill of materials
AEK\$MOT-TK200G1A ⁽¹⁾	AEK\$MOT-TK200G1A schematic diagrams	AEK\$MOT-TK200G1A bill of materials

1. This code identifies the AEK-MOT-TK200G1 evaluation board first version. It is printed on the board PCB.

Revision history

Table 2. Document revision history

Date	Revision	Changes
17-May-2022	1	Initial release.

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