

Functional Safety Information
TCAN1167-Q1
Functional Safety Report



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1 Purpose of the Functional Safety Report

The purpose of the Functional Safety Report is to summarize the results from analysis and documentation involved in the development of this project and to determine the results are sufficient to claim compliance to the identified functional safety standard(s). This high level overview is intended to be used by customers as a part of their safety case with respect to the TCAN1167-Q1.

2 Summary of Assessment

The TCAN1167-Q1 was developed using Texas Instruments Incorporated Quality Managed product development process and qualified according to AEC Q100 Grade 1. This assessment of the functional safety documentation for these products indicate they meet the minimum requirements for enabling additional system level analysis.

These products did not follow any functional safety development process and do not claim compliance to any functional safety standard.

The work products developed may be helpful for the customer to integrate these products into the functional safety systems. TI recommends the customer integrate this product through "evaluation of hardware elements" as described in ISO 26262-8 Clause 13 or similar method.

The TCAN1167-Q1 passes the assessment.

3 Product Description

The TCAN1167-Q1 is a high-speed Controller Area Network (CAN) system basis chip (SBC) that meets the physical layer requirements of the ISO 11898-2:2016 high-speed CAN specification. The transceiver supports both classical CAN and CAN FD networks up to 8 megabits per second (Mbps).

The TCAN1167-Q1 supports a wide input supply range and integrates a 5-V LDO output. The 5-V LDO output (V_{CCOUT}) supplies the CAN transceiver voltage internally as well as additional current externally.

The TCAN1167-Q1 allows for system-level reductions in battery current consumption by selectively enabling the various power supplies that may be present on a system via the INH output pin. This allows an ultra-low-current sleep state where power is gated to all system components except for the TCAN1167-Q1, while monitoring the CAN bus. When a wake-up event is detected, the TCAN1167-Q1 initiates system start-up by driving INH high.

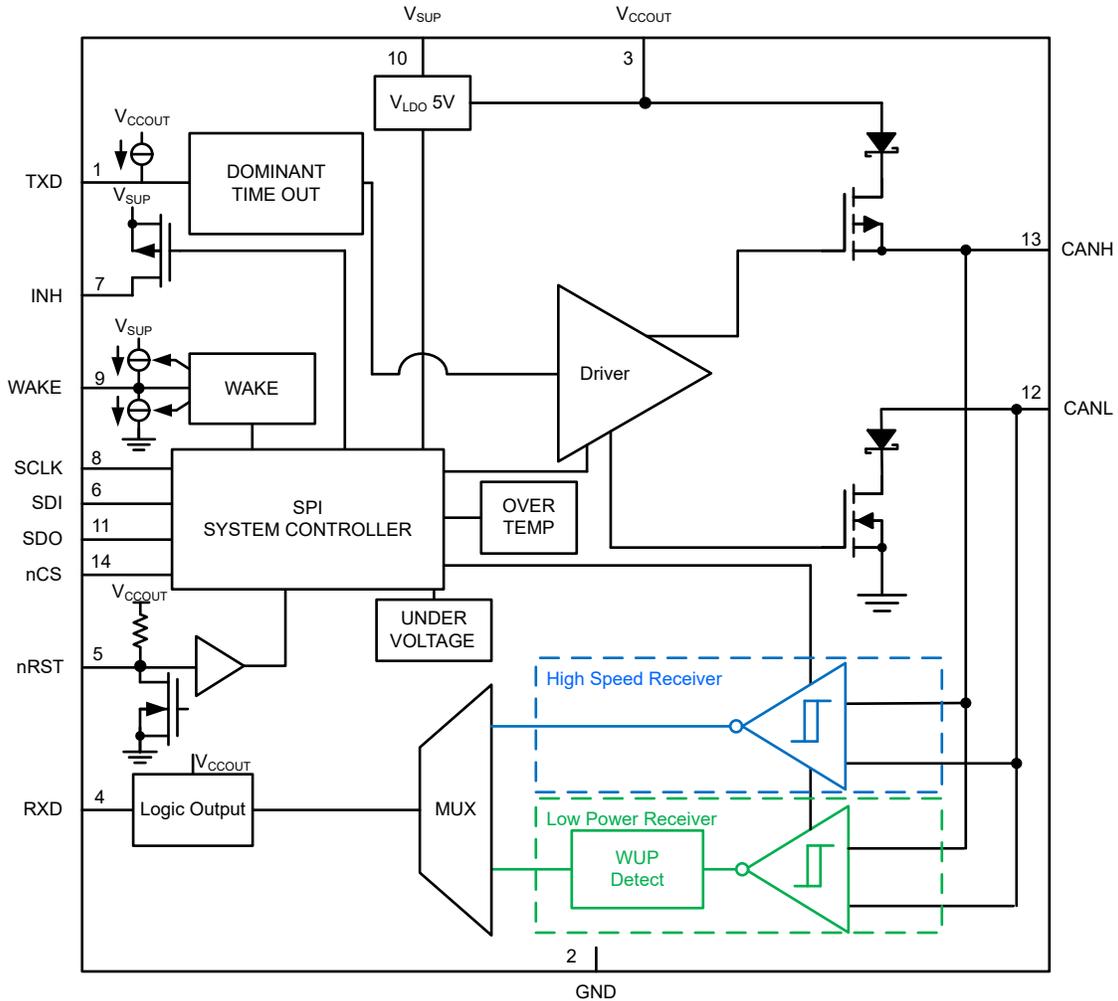


Figure 3-1. Functional Block Diagram (TCAN1167-Q1)

4 Fulfillment of Texas Instruments Functional Safety Quality-Managed Requirements

Texas Instruments carried out this assessment with respect to relevant requirements for the Functional Safety Quality-Managed Requirements.

Table 4-1. Details of Functional Safety Quality-Managed Documents

Lifecycle Phase	Document Name	Version Number	Assessment Results	Evidence
None	Functional Safety Manual	1	Pass	TI.com
	Functional Safety Analysis (Quantitative FMEDA)	1	Pass	Document Available on MySecure
	Functional Safety Analysis Report	1	Pass	TI.com

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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