

AMIS-30660 High-Speed CAN Transceiver

Key Features

- Fully compatible with the "ISO 11898" standard
- Certified "Authentication on CAN Transceiver Conformance (d1.1)"
- High speed (up to 1 Mbaud)
- Suitable for 12V and 24V applications
- Low Electromagnetic Emission (EME) common-mode-choke is no longer required
- Differential receiver with wide common-mode range for high Electro Magnetic Susceptibility (EMS) (+/- 35V)
- No disturbance of the bus lines with an unpowered node
- Transmit Data (TXD) dominant time-out function
- Thermal protection
- Bus pins protected against transients in an automotive environment
- Power down mode in which the transmitter is disabled
- Input levels compatible with 3.3 V devices
- Short-circuit proof to supply voltage & ground



Product Description

The AMIS-30660 CAN transceiver is the interface between a Controller Area Network (CAN) protocol controller and the physical bus and may be used in both 12V and 24V systems. The transceiver provides differential transmit capability to the bus and differential receive capability to the CAN controller. Due to the wide common mode voltage range of the receiver inputs, the AMIS-30660 is able to reach outstanding levels of electromagnetic susceptibility. Similarly, extremely low electromagnetic emission is achieved by the excellent matching of the output signals.

The transceiver is primarily intended for high-speed automotive applications using baud rates up to 1 Mbaud. It provides differential transmit capability to the bus and differential receiver capability to the

CAN protocol controller.

A current-limiting circuit protects the transmitter output stage from damage caused by accidental short-circuit to either positive or negative supply voltage.

A thermal protection circuit protects the IC from damage by switching off the transmitter if the junction temperature exceeds 160 °C. All other IC functions continue to operate. The thermal protection circuit is particularly needed when a bus line short-circuits. The pins CANH and CANL are protected from automotive electrical transients. Control pin S allows two operating modes to be selected: high-speed mode or silent mode. In the silent mode, the transmitter is disabled. All other IC functions continue to operate.

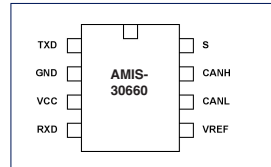
Important Characteristics

Symbol	Parameter	Conditions	Min	Max	Unit
V_{CANH}	DC voltage at pin CANH	$0 < VCC < 5.25 \text{ V}$; no time limit	-45	+45	V
V_{CANL}	DC voltage at pin CANL	$0 < VCC < 5.25 \text{ V}$; no time limit	-45	+45	V
$V_i(\text{dif})(\text{bus_dom})$	Differential bus input voltage	Dominant $42.5 \Omega < RLT < 60 \Omega$	1.5	3	V
$T_{pd}(\text{rec-dom})$ & $T_{pd}(\text{dom-rec})$	Propagation delay TxD to RxD	See Datasheet	70	245	ns
CM-range	Input common-mode range for comparator	Guaranteed differential receiver threshold and leakage current	-35	+35	V
$V_{CM-peak}$	Common-mode peak	See Datasheet	-500	500	mV
$V_{CM-step}$	Common-mode step	See Datasheet	-150	150	mV

Note : The parameters VCM-peak and VCM-step guarantee low electromagnetic emission.

Ordering Codes

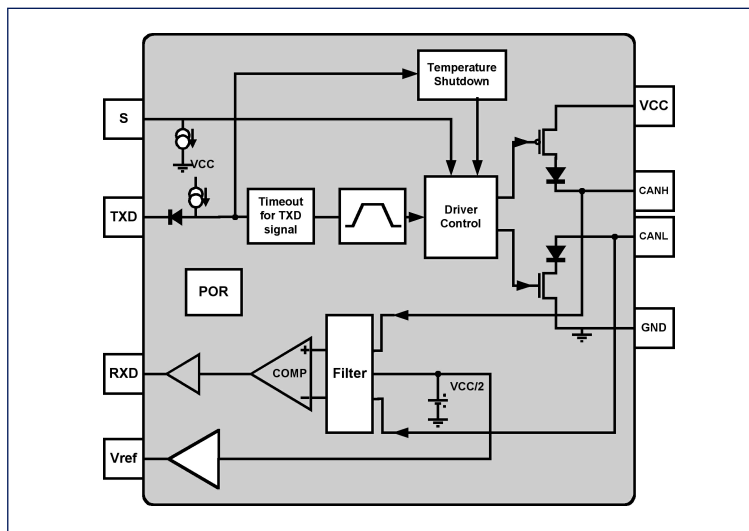
Part N° **AMIS-30660**
 Package **SO-8**
 Temp. Range **-40°C...125°C**



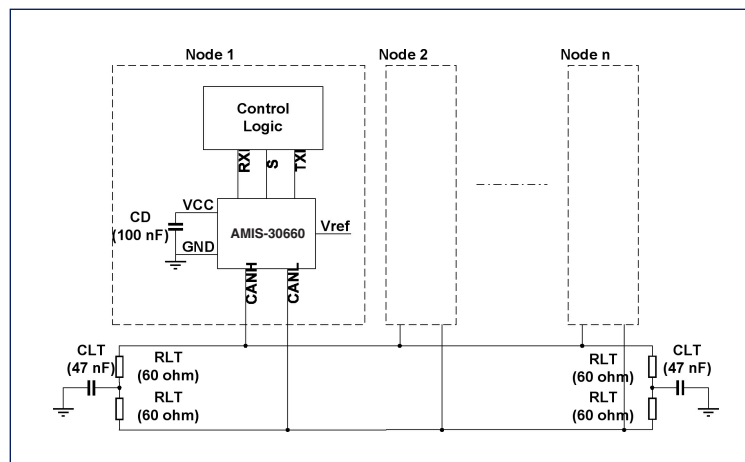
Pin description

Nr	Name	Type	Description
1	TXD		Transmit data input; low input => dominant driver; internal pull-up current
2	GND		Ground
3	VCC		Supply voltage
4	RXD		Receive data output; dominant transmitter => low output
5	Vref		Reference voltage output
6	CANL		LOW-level CAN bus line (low in dom. mode)
7	CANH		HIGH-level CAN bus line (high in dom. mode)
8	S		Select input for high-speed mode or silent mode (high in silent mode); internal pull-down current

Block Diagram



Typical Application



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