

# MC33199

## Automotive ISO 9141 Serial Link Driver

LIN, ISO-9141  
J-1850 Physical Interfaces

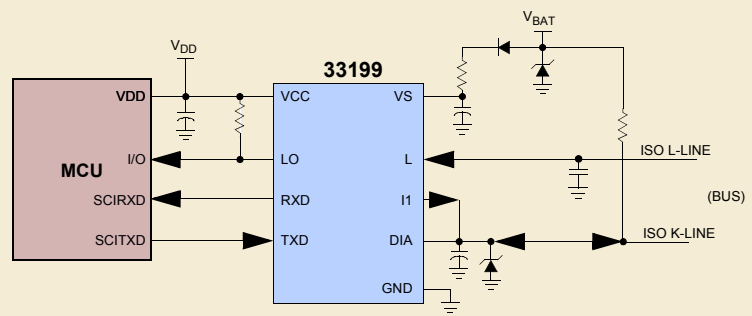
### DESCRIPTION

The MC33199 is a serial interface circuit used in diagnostic applications. It is the interface between the microcontroller and the special K and L lines of the ISO diagnostic port. The MC33199 has been designed to meet the «Diagnosis System ISO9141» specification.

The device has a bi-directional bus K line driver, fully protected against short circuits and over temperature. It also includes the L line receiver, used during the wake up sequence in the ISO transmission.

The MC33199 has a unique feature which allow transmission Baud rate up to 200kBaoud.

### 33199 SIMPLIFIED APPLICATION DIAGRAM



### APPLICATIONS

- Farm Equipment
- Industrial Equipment
- Robotic Systems
- Automotive Systems
- Applications where Module-to-Module Communication is Required
- Marine and Aircraft Networks

### PERFORMANCE

### TYPICAL VALUES

Bus Outputs	ISO-9141
Data Rate	to 200 kB/s
Operating Voltage	0.5 to 40 V
ESD (HBM)	± 2000 V
Operating Temperature	-40°C ≤ T <sub>A</sub> ≤ 125°C

## FEATURES

- Electrically Compatible with Specification “Diagnosis System ISO9141”
- Transmission speed up to 200kbaud
- Internal Voltage Reference Generator for Line Comparator Thresholds
- TXD, RXD and LO pins are 5V CMOS Compatible
- High Current Capability of DIA pin (K line)
- Short Circuit Protection for the K Line Input
- Over Temperature Shutdown with Hysteresis
- Large Operating Range of Driver Supply Voltage
- Large Operating Temperature Range
- ESD Protected Pins
- Devices available for comparison are in the Analog Product Selector Guide - SG1002 and Automotive Product Selector Guide - SG187

PROTECTION	DETECT	LIMITING	SHUT DOWN	STATUS REPORTING
Overcurrent/SC	●	●		
Overtemperature	●		●	●

## CUSTOMER BENEFITS

- Lower system cost with reduced part count with simple hookup
- Industry-standard communication protocol
- Faster design cycle time

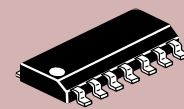
## QUESTIONS

- What type of module-to-module communication protocol are you using?
- Do you need a robust half-duplex bi-directional communication between two modules?
- Do you need a communication system that operates at rates up to 200 kB/s?

## ORDERING INFORMATION

Device	Temperature Range (T <sub>A</sub> )	Package
MC33199D/R2	-40°C to 125°C	14 SOIC
MCZ33199EF/R2		14 SOIC (Pb-free)
Data Sheet Order Number		MC33199

Contact Sales for Evaluation Kit Availability



14 SOIC  
1.27 mm Pitch  
8.65 mm x 3.9 mm Body