ANALOG PRODUCTS

MC33388 FACT SHEET

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COMMUNICATION
CAN PHYSICAL INTERFACE

33388 FAULT TOLERANT CAN INTERFACE

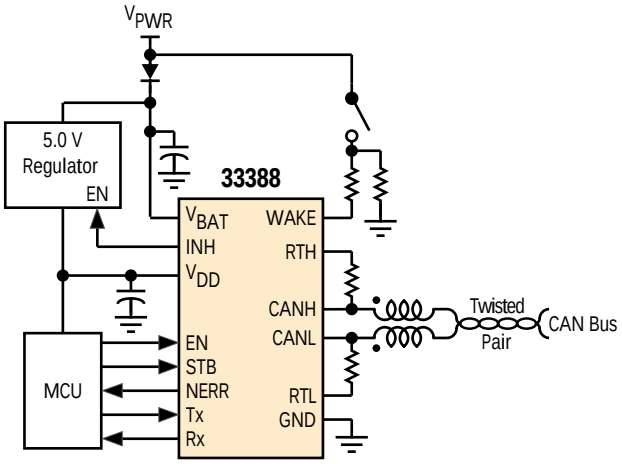
The 33388 is a low-speed, fault tolerant CAN physical interface device dedicated to electronic multiplexing applications. The CAN physical layer is compatible with CAN 2.0 A and B protocals. It operates in a differential mode, tolerating ground shifts up to 1.5 V in addition to having enhanced robustness against RFI disturbances. It consumes very little current in sleep and standby operational modes and supports communication speeds up to 125 kB/s.

APPLICATIONS

- Automotive Systems
- Farm Equipment
- Industrial Systems
- Marine and Aircraft Networks

The 33388 is fully protected for harsh automotive environment applications. The bus output driver is able to detect fault conditions and automatically switch to an appropriate default mode of operation. Under a fault condition, the bus is continuously monitored to determine when faults disappear and normal bus operation can be resumed.

Simplified Application Diagram



CUSTOMER BENEFITS

- Economical system solution requiring few external components
- Simple system with direct interfacing to a microprocessor
- Reduced PC board space resulting in enhanced application reliability
- Internal safety features with output status reporting

Performance	Typical Values
Bus Output	CAN
Data Rate	10 kB/s – 125 kB/s
Operating Voltage	6.0 – 27 V
Sleep/Stdby Current	15 µA
ESD	± 3000 V
Operating Temp	-40°C ≤ T_A ≤ 125°C

FEATURES

- Automatic switching to single wire mode in the event of bus failures with return to differential mode if bus failures disappear
- Supports one-wire transmission modes with ground offsets up to 1.5 V
- Internal bus driver slope control function to minimize RFI
- Bus line protected against automotive transients
- Supports unshielded twisted pair bus
- An unpowered node does not disturb the bus lines
- Wake-up capability triggered from bus message and wake-up input pin
- Wake-up pin with dual edge sensitivity
- Battery fail flag reported on NERR output
- Additional devices available for comparison in Analog Selector Guide SG1002/D

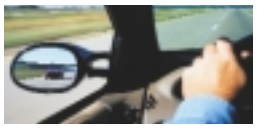
Protection	Detect	Limiting	Shut Down	Auto Retry	Status Reporting
Under Voltage	•				•
Over Temperature	•		•		
Bus Fail Detection:					
CANH wire interruption	•			•	•
CANL wire interruption	•			•	•
CANH short-to-battery	•	•		•	•
CANL short-to-battery	•	•		•	•
CANH short-to-ground	•	•		•	•
CANL short-to-ground	•	•		•	•
CANH/L shorted together	•	•		•	•
CANH short-to-V_{DD}	•			•	•

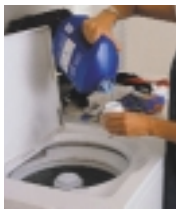
Ordering Information	Package	Ship Method	Motorola Part Number
	14 SOICN	Rail T/R	**33388D **33388DR2

Data Sheet Order Number MC33388/D

Contact Sales for Evaluation Kit Availability

**Prefix Index:
PC = Eng Samples; XC = In Qual; MC = Production





QUESTIONS

- Do you need a robust half-duplex bi-directional communication between two modules?
- What type of module communication protocol are you using?
- What is the maximum communication speed you require?

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