

# MC33897

## Single Wire CAN Transceiver

### Applications

- Automotive Networks
- Farm Equipment
- Industrial Networks
- Applications Requiring Module-to-Module Communication
- Marine and Aircraft Networks

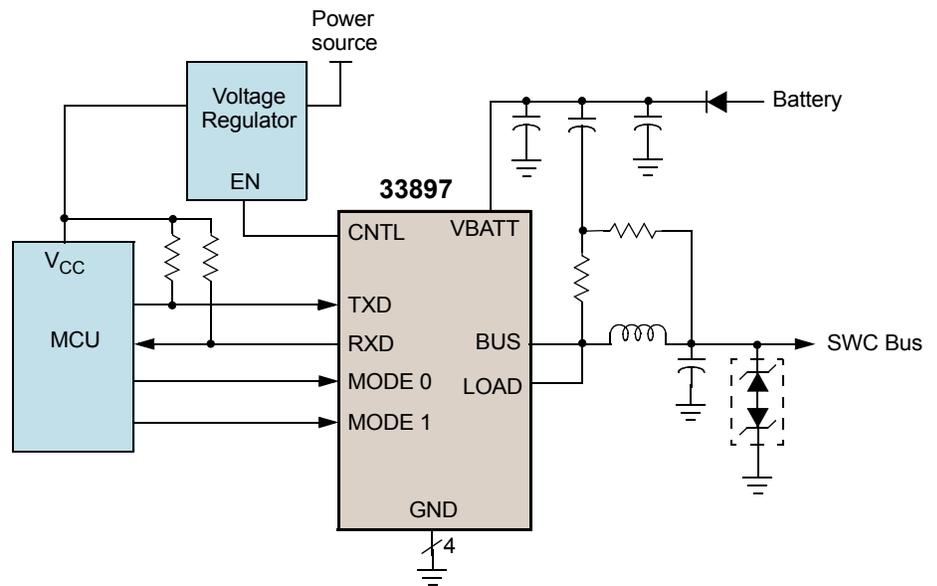
### Overview

The 33897 Series provides a physical layer for digital communications purposes using a Carrier Sense Multiple Access/Collision Resolution (CSMA/CR) data link operating over a single wire medium. This is more commonly referred to as Single Wire Controller Area Network (CAN).

The 33897 Series operates directly from a vehicle's 12 V battery system or a broad range of DC-power sources. It can operate at either low or high (33.33 kbps or 83.33 kbps) data rates. A high voltage wake-up feature allows the device to control the regulator used in support of the MCU and other logic. The device includes a control pin that can be used to put the module regulator into Sleep mode. The presence of a defined wake-up voltage level on the bus will reactivate the control line to turn the regulator and the system back on.

The device complies with the GMW3089v2.4 General Motors Corporation specification.

MC33897 Simplified Application Diagram



Performance	Typical Values
Bus Output	CAN
Data Rate	to 83.33 kbps
Operating Voltage	5.0 to 26.5 V
Sleep/Standby Current	75 $\mu$ A (MAX)
ESD	
HBM - Bus Pin	$\pm$ 4000 V
HBM - All other Pins	$\pm$ 2000 V
MM - All Pins	$\pm$ 100 V
Operating Temperature	$-40\text{ }^{\circ}\text{C} \leq T_A \leq 125\text{ }^{\circ}\text{C}$

**Features**

- Waveshaping for low electromagnetic interference (EMI)
- Detects and automatically handles loss of ground
- Worst-case Sleep mode current of only 75  $\mu$ A
- Current limit prevents damage due to bus shorts
- Built-in thermal shutdown on bus output
- Protected against vehicular electrical transients
- Under-voltage lockout prevents false data with low battery
- Pb-free packaging designated by suffix code EF
- Additional devices available in Analog Product Selector Guide - SG1002 and Automotive Product Selector Guide - SG187

**Customer Benefits**

- Industry standard communication protocol
- Small package outline
- Compatible with General Motors Specification, GMW3089v2.4
- 14 Pin Compatibility

**Questions**

- What type of module communications protocol are you using?
- Do you need a physical layer part for single wire CAN?
- Do you need a robust single wire industry standard bus for microprocessor communication?

**Ordering Information**

Device	Temperature Range	Package
MCZ33897TEF/R2	-40 to 125°C	14 SOICN
MC33897CTEF/R2		
MC33897 - Data sheet order number		
SG1002 - Analog Product Selector Guide		
SG 187 - Automotive Product Selector Guide		

**14 SOICN**



1.27 mm Pitch  
3.9 x 8.6 mm Body

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