

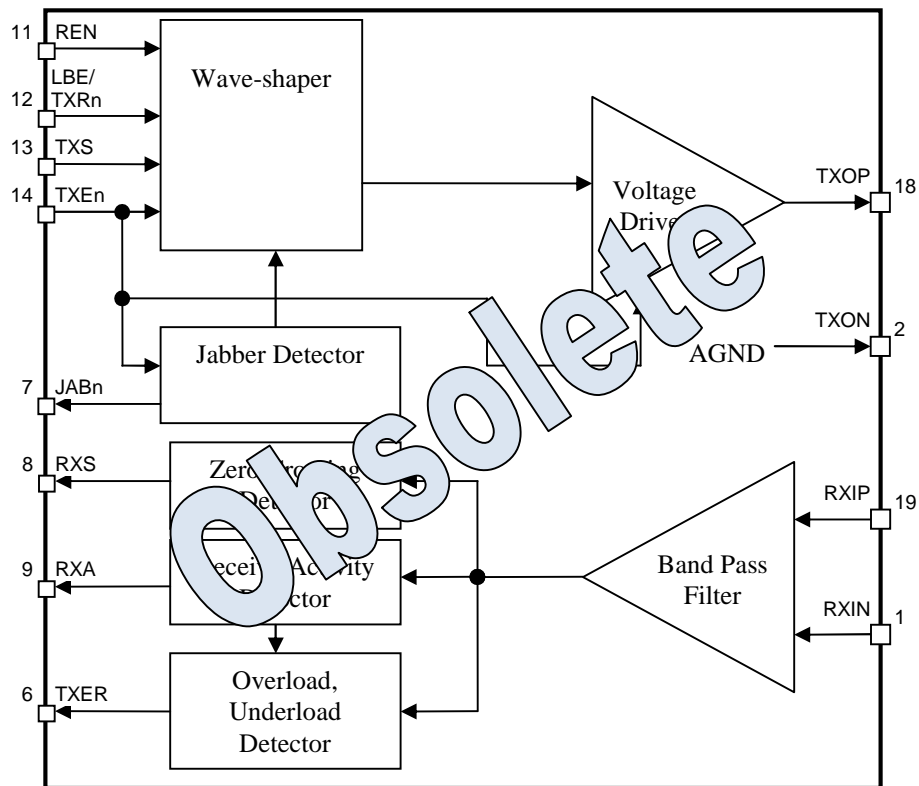
# ATC100-H1

## HOST DEVICE TRANSCEIVER

### Product Information

The ATC100-H1 is an analog plus digital integrated circuit that can be used in a Fieldbus Host to connect to the H1 Fieldbus. It includes all of the functions required for driving the bus with Transmit signal and converting the received analog signal into digital signal. It implements the Physical layer of a self-powered device for the Foundation Fieldbus H1. ATC100-H1, the digital controller UFC100-L1 and the transformer ATF100-H1 together provide all of the Fieldbus specific components for Host equipment.

### Overview



### Features

- Compliant to IEC 61158-2 Physical layer at 31.25 kbit/s
- RoHS compatible industry standard 20 pin SSOP package
- Operating voltage 5 V
- Wave shaper to control the rise and fall times
- Voltage driver for a transformer
- Band pass filter to remove the noise and low frequency distortion
- Receive activity detector to activate RXA for signal level above noise level
- Jabber detector to stop transmission after a delay
- Bus fault detection

## Applications

- H1 Host Interface,
- HSE Linking Device,
- H1 self powered field device.

## Functional Description

### Transmitter

The Transmitter section includes the Wave Shaper, Voltage Driver, Jabber Detector and loopback functions.

During active transmission, the signal at the transformer terminals is expected to be within an upper and lower limit. If the signal is not within these two limits, then, the TXER signal is set to high.

### Receiver

The Receiver accepts the analog signals from the transformer at the RXIN, RXIP inputs. It filters the high and low frequency signals that may be due to noise. The zero-crossing detector converts it into digital RXS signal. The RXA signal becomes active only if the filtered signal is above the noise threshold.

## Operating Conditions

Symbol	Parameter and condition	Min	Typical	Max	Units
V <sub>DD</sub>	Supply voltage	4.75		5.25	V
	DC input voltage	0		V <sub>DD</sub>	V
Topr	Operating Temperature	- 40		60	0 C
I <sub>DD</sub>	Operating Current consumption @ 5 V				mA
	No transmission		35	45	
	Active transmission		40	50	

## Ordering Information

ATC100-H1

Transceiver for Host device