

Product Overview

A5191HRT: Industrial HART-protocol modem

For complete documentation, see the data sheet.

A5191HRT is a single-chip, CMOS modem for use in highway addressable remote transducer (HART) field instruments and masters. The modem and a few external passive components provide all of the functions needed to satisfy HART physical layer requirements including modulation, demodulation, receive filtering, carrier detect, and transmit-signal shaping. The A5191HRT is pin-compatible with the SYM20C15. See the Pin Description and Functional Description sections for details on pin compatibility with the SYM20C15. The A5191HRT uses phase continuous frequency shift keying (FSK) at 1200 bits per second. To conserve power, the receive circuits are disabled during transmit operations and vice versa. This provides the half-duplex operation used in HART communications.

Features

- Low power
- Bell 202 shift frequencies of 1200 Hz and 2200 Hz
- Single-chip, half-duplex 1200 bits per second FSK modem
- Transmit-signal wave shaping
- Receive band-pass filter
- Meets HART physical layer requirements
- CMOS compatible

Benefits

- Optimal for intrinsically safe applications

Applications

- Highway Addressable Remote Transducer (HART) field instruments and masters

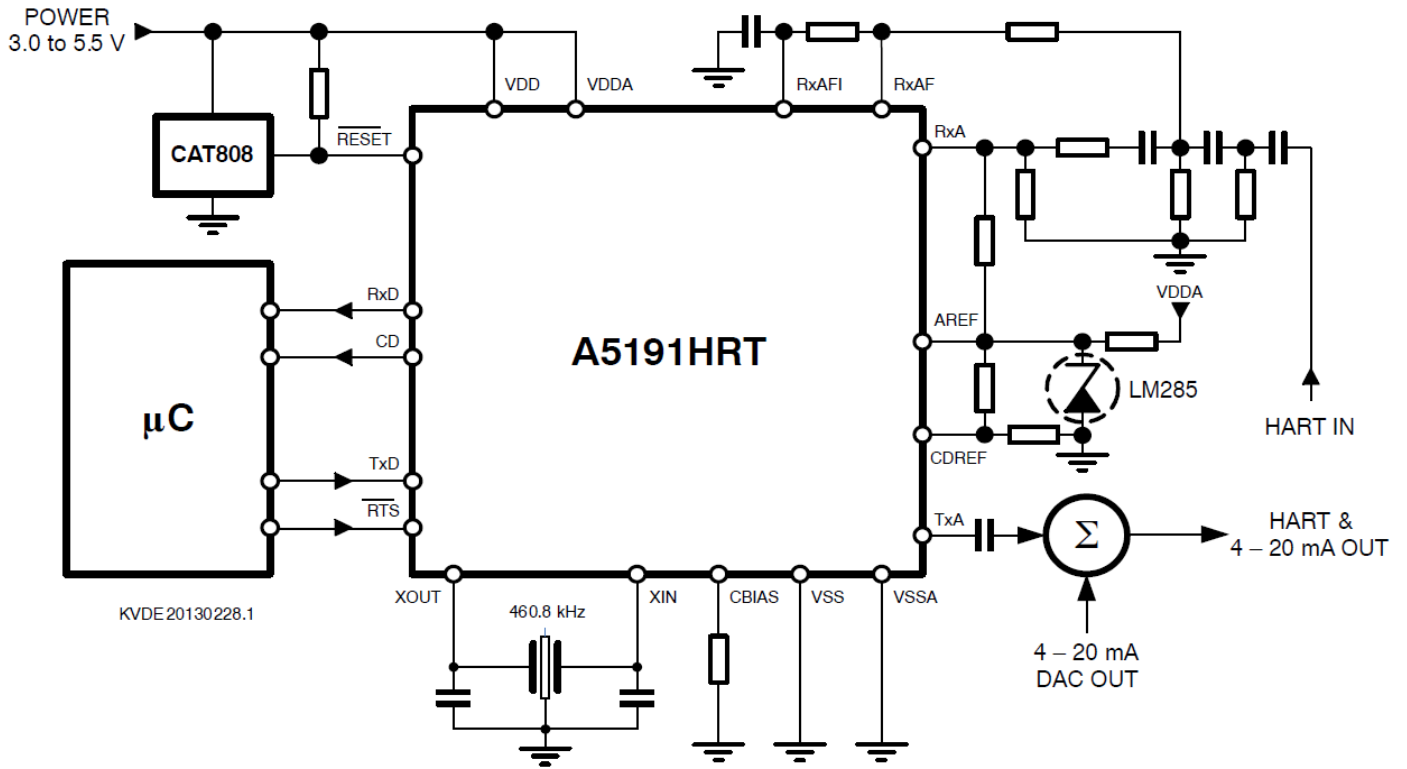
End Products

- Instrumentation terminals and measurement devices

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Data Transmission Standard | Data Rate | Number of Drivers | Number of Receivers | V _{CC} Min (V) | V _{CC} Max (V) | t _{PLH} Max (μs) | I _O Max (μA) | I _{IH} Max (mA) | Package Type |
|-----------------|-------------------|--|--------|----------------------------|-----------|-------------------|---------------------|-------------------------|-------------------------|---------------------------|-------------------------|--------------------------|--------------|
| A5191HRTLXG-XTD | 4.8247 | Pb-free Halide free non AEC-Q and PPAP | Active | HART | 1200 baud | 1 | 1 | 3 | 5.5 | 0.02 | 670 | 0.0005 | LQFP-32 |
| A5191HRTLXG-XTP | 4.6325 | Pb-free Halide free non AEC-Q and PPAP | Active | HART | 1200 baud | 1 | 1 | 3 | 5.5 | 0.02 | 670 | 0.0005 | LQFP-32 |
| A5191HRTNG-XTP | 2.34 | Pb-free Halide free non AEC-Q and PPAP | Active | HART | 1200 baud | 1 | 1 | 3 | 5.5 | 0.02 | 670 | 0.0005 | QFN-32 |
| A5191HRTPG-XTD | 4.6325 | Pb-free Halide free non AEC-Q and PPAP | Active | HART | 1200 baud | 1 | 1 | 3 | 5.5 | 0.02 | 670 | 0.0005 | PLCC-28 |
| A5191HRTPG-XTP | 4.6325 | Pb-free Halide free non AEC-Q and PPAP | Active | HART | 1200 baud | 1 | 1 | 3 | 5.5 | 0.02 | 670 | 0.0005 | PLCC-28 |

Application Diagram



For more information please contact your local sales support at www.onsemi.com.

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