



SENSOR IC

A<sup>2</sup>SI

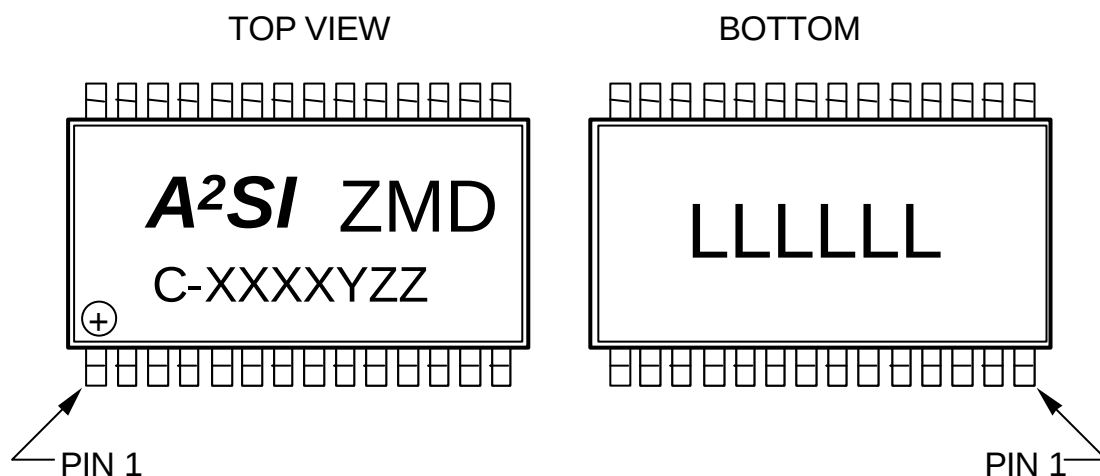
Release Notes, IC Revision C

## Technical Upgrades in A<sup>2</sup>SI Revision C

| Effected part of the A <sup>2</sup> SI                            | Description of modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UART<br><i>Telegram Checker</i>                                   | The telegram reception under worst case capacitive and worst case inductive network conditions was improved in response to suggestions of the technical committee of the AS-International Association.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| UART<br><i>Master Mode</i>                                        | <p>The digital MAN-code communication channel does now support a more cost effective two-wire data transfer between the A<sup>2</sup>SI and the master control logic. It is not necessary to rely on the additional 'Receive_Strobe' signal, which is supplied at the parameter port P2 in Master Mode to verify the correctness of the MAN output signal at the LED port.</p> <p>The MAN signal is now distinctively disturbed if an erroneous telegram was detected at the AS-i input. This allows to spare at least one opto coupler in between the A<sup>2</sup>SI and the master control.</p>                                                                                                                                                                                                                                                                                         |
| Main State Machine<br>Slave Mode<br><i>Communication Watchdog</i> | <p>If running, the communication watchdog will now become turned off as soon as the volatile slave address register is changed to zero (0x0). This occurs after the reception of a Delete_Address call or at a reset of the A<sup>2</sup>SI.</p> <p>In all previous revisions, a running communication watchdog could only be turned off by a reset of the A<sup>2</sup>SI (reception of Reset_Slave call or external reset).</p> <p>In case the watchdog was running and a master did not submit a Reset_Slave call prior to an address assignment, the write access to the non-volatile E<sup>2</sup>PROM memory could have been interrupted. Because a data corruption is likely in such an event, the A<sup>2</sup>SI resumed to the fail save state of slave address zero (0x0) and did not respond to the newly assigned address until the address assignment call was repeated.</p> |
| Oscillator                                                        | The loop gain of the oscillator was increased to support a broader variety of 8MHz crystals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Effected part of the A <sup>2</sup> SI                            | Description of modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Infrared input channel<br><i>Slave Mode</i>                       | It appeared the infrared input channel (IRD) was sensitive against coupled noise in some application circuits. In order to make the photo current input more robust for a broad variety of designs, the analog receiver circuit had been changed. This resulted in a much better performance in terms of noise sensitivity but required a slightly lower signal sensitivity as well. See the updated Data Sheet for more information.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

The replacement of A<sup>2</sup>SI Revision B with Revision C neither has any impact to required external components nor requires a change of the external circuitry. The CAP-Pin of an IC of Revision C shall be connected to a series of one capacitor and one resistor, in the same manner like on Revision B. Suggested values are C=4.7nF, R=430...680 Ohms. See the Data Sheet and the Application Notes for more detailed information.

## Package Marking



**Figure 1: Package Marking**

|                 |                   |                |                                                            |
|-----------------|-------------------|----------------|------------------------------------------------------------|
| Top Marking:    | A <sup>2</sup> SI | Product name   | Manufacturer                                               |
|                 | ZMD               |                |                                                            |
|                 | C-                |                | <b>Revision code marking of A<sup>2</sup>SI Revision C</b> |
|                 | XXXX              |                | Date code (year and week)                                  |
|                 | Y                 |                | Assembly location                                          |
|                 | ZZ                |                | Traceability                                               |
| Bottom Marking: | LLLLLL            | ZMD Lot Number |                                                            |

The yellow dot indicating pre-programmed Master function is printed at the pin 1 marking ⊕.

**Note:** IC Revision A did not have a revision code marking. ICs without a Revision Code are equivalent to Revision A. Revision B shows "B-".

## Ordering Information

| Ordering Code | Description                           | Operating Temperature Range | Package Type | Device Marking                 | Shipping Form                   |
|---------------|---------------------------------------|-----------------------------|--------------|--------------------------------|---------------------------------|
| A2SI-ST       | Standard version of A <sup>2</sup> SI | -25°C to 85°C               | 28-pin SSOP  | A <sup>2</sup> SI              | Tubes (47 parts/tube)           |
| A2SI-SR       | Standard version of A <sup>2</sup> SI | -25°C to 85°C               | 28-pin SSOP  | A <sup>2</sup> SI              | Tape-and-Reel (1500 parts/reel) |
| A2SI-MT       | Pre-programmed master function        | -25°C to 85°C               | 28-pin SSOP  | A <sup>2</sup> SI + yellow dot | Tubes (47 parts/tube)           |
| A2SI-MR       | Pre-programmed master function        | -25°C to 85°C               | 28-pin SSOP  | A <sup>2</sup> SI + yellow dot | Tape-and-Reel (1500 parts/reel) |

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