



SENSOR IC

A²SI

Release Notes, IC Revision C

Technical Upgrades in A²SI Revision C

Effected part of the A ² SI	Description of modification
UART <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 <i>Master Mode</i>	<p>The digital MAN-code communication channel does now support a more cost effective two-wire data transfer between the A²SI 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 A²SI and the master control.</p>
Main State Machine Slave Mode <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 A²SI.</p> <p>In all previous revisions, a running communication watchdog could only be turned off by a reset of the A²SI (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 E²PROM memory could have been interrupted. Because a data corruption is likely in such an event, the A²SI 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 ² SI	Description of modification
Infrared input channel <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 A²SI 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

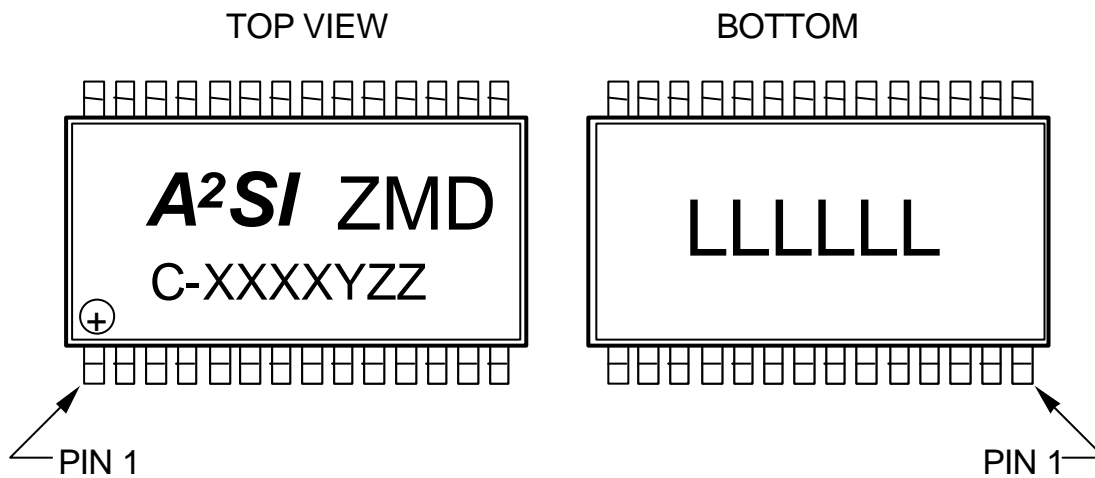


Figure 1: Package Marking

Top Marking:	A ² SI	Product name	
	ZMD	Manufacturer	
	C-	Revision code marking of A²SI Revision C	
	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 ² SI	-25°C to 85°C	28-pin SSOP	A ² SI	Tubes (47 parts/tube)
A2SI-SR	Standard version of A ² SI	-25°C to 85°C	28-pin SSOP	A ² SI	Tape-and-Reel (1500 parts/reel)
A2SI-MT	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A ² SI + yellow dot	Tubes (47 parts/tube)
A2SI-MR	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A ² SI + yellow dot	Tape-and-Reel (1500 parts/reel)

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