Technical Upgrades in A²SI Revision C

Effected part of the A²SI	Description of modification
UART *Telegram Checker*	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 *Master Mode*	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. 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.
Main State Machine Slave Mode *Communication Watchdog*	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. 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). 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.
Oscillator	The loop gain of the oscillator was increased to support a broader variety of 8MHz crystals.
Effected part of the A²SI	Description of modification
Infrared input channel *Slave Mode*	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

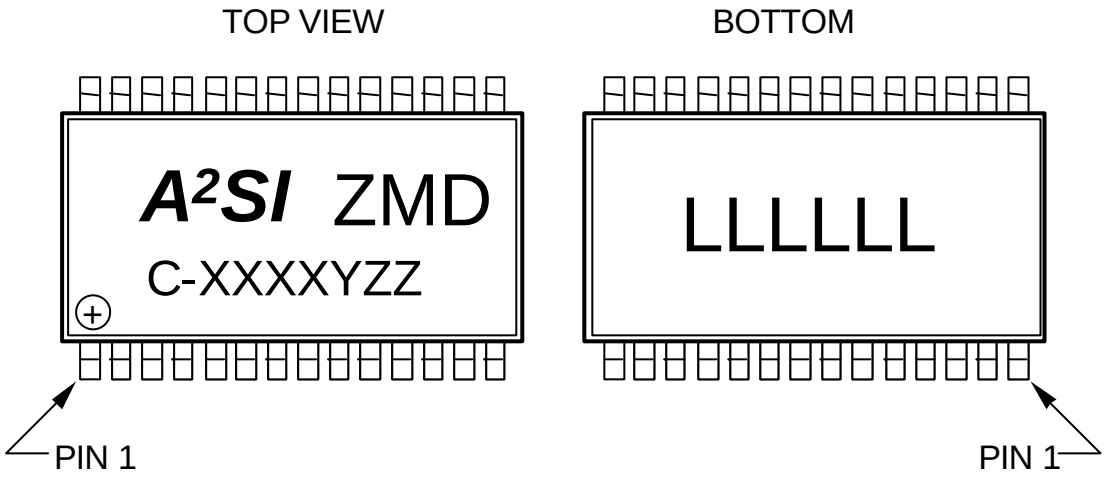

Figure 1: Package Marking

Top Marking:	A²SI	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 A²SI	-25°C to 85°C	28-pin SSOP	A²SI	Tubes (47 parts/tube)
A2SI-SR	Standard version of A²SI	-25°C to 85°C	28-pin SSOP	A²SI	Tape-and-Reel (1500 parts/reel)
A2SI-MT	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A²SI + yellow dot	Tubes (47 parts/tube)
A2SI-MR	Pre-programmed master function	-25°C to 85°C	28-pin SSOP	A²SI + yellow dot	Tape-and-Reel (1500 parts/reel)

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