



PCN / EOL Notification

Product Change Notification Number: NC101804

Notification Date*: May 28, 2010

Title: Automotive ATtiny87 ATtiny167 with LIN2.1 Slave Mode Break Field Detection Correction

Product Identification:

Existing Part Number	Replacement Part Number
ATTINY87-15MZ	ATTINY87- A 15MZ
ATTINY87-15SZ	ATTINY87- A 15SZ
ATTINY87-15XZ	ATTINY87- A 15XZ
ATTINY167-15MZ	ATTINY167- A 15MZ
ATTINY167-15SZ	ATTINY167- A 15SZ
ATTINY167-15MD	ATTINY167- A 15MD
ATTINY167-15XD	ATTINY167- A 15XD
ATTINY167-15XZ	ATTINY167- A 15XZ

Reason for Change:

- | | | |
|---|--|------------------------------------|
| ☒ Design | ☐ Processing | ☐ Logistics |
| ☐ Manufacturing Location | ☐ Quality/Reliability | ☐ Material |

Change Description:

Atmel release a new revision of ATtiny87 and ATtiny167 correcting a LIN2.1 certification failure in the SLAVE MODE BREAK field detection reported by a LIN certification agency. See a description of the problem and the conditions it occurs in the datasheet revision E page 278

This fix was operated via interconnection layers (Metal 1 to Metal3).

Identification Method to Distinguish Change:

An "A" designation has been added to the part number to distinguish changed product (immediately after the dash).

- | | | | |
|----------------------------|---|--|---|
| Qualification Data: | ☒ available | ☐ will be available in WW__ | ☐ not applicable |
| Samples: | ☐ available | ☒ will be available on 5/28/10 (1) | ☐ not applicable |

(1): ATTINY167 version only

Quantifiable Impact on Quality & Reliability:

None

Forecasted Availability Date:	August 31, 2010	(new CPN)
Last Time Buy Date:	November 30, 2010	(old CPN)
Last Ship Date:	May 31, 2011	(old CPN)

* All orders placed after the notification date are **non-cancellable** and **non-returnable (NCNR)**.

Atmel Contact: pcnadm@atmel.com

Atmel will deem this change accepted unless specific conditions of acceptance are provided in writing within 30 days from the date of this notice. All correspondence must be sent to the Atmel Contact e-mail address listed above.

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Certification failure in the SLAVE MODE BREAK field detection.

The problem occurs if 2 conditions occur simultaneously:

1. The DOMINANT part of the BREAK is $(N+0.5)*T_{bit}$ long with $N=13, 14, 15, \dots$
2. The RECESSIVE part of the BREAK (BREAK DELIMITER) is equal to $1*T_{bit}$. (see note below)

The BREAK_high is not detected, and the 2nd bit of the SYNC field is interpreted as the BREAK DELIMITER.

The error is detected as a framing error on the first bits of the PID or on subsequent Data or a Checksum error.

There is no error if BREAK_high is greater than $1*T_{bit} + 18\%$.

There is no problem in Master mode.

Note: LIN2.1 Protocol Specification paragraph 2.3.1.1 Break field says: "A break field is always generated by the master task(in the master node) and it shall be at least 13 nominal bit times of dominant value, followed by a break delimiter, as shown in Figure 2.5. The break delimiter shall be at least one nominal bit time long"

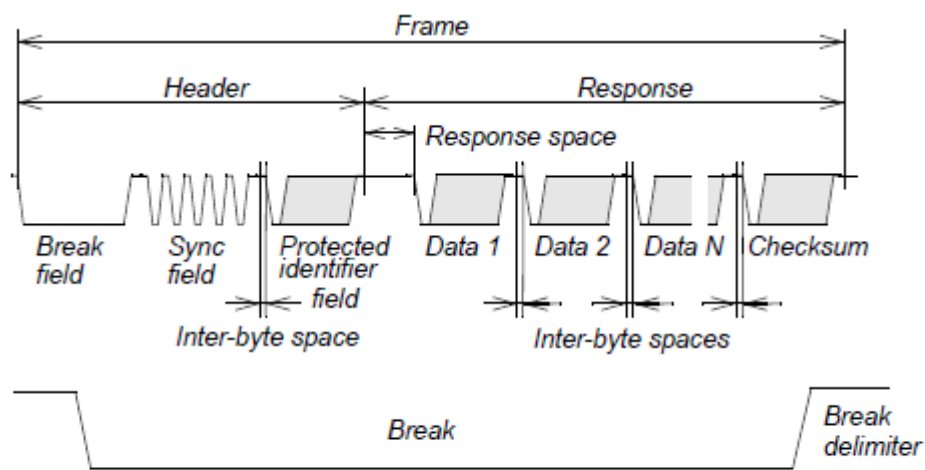


Figure 2.5: The break field

Workaround

LIN master implementations usually generate a break delimiter of $2*T_{bit}$ or more. LIN Slave applications connected to such a Master will not exhibit the problem.