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Reset of the TDA8007B using delay pin

Rev. 1.0 — 9 June 2011   **Application note**

Document information

Info	Content
Keywords	TDA8007B, Software reset, Delay pin
Abstract	This addendum describes how to do a complete reset of the TDA8007B chip without a power on/off.
	The reset can be executed by a microcontroller using pin Delay (#48).

Revision history

Rev	Date	Description
1.0	20110609	First version

Contact information

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1. Introduction

The TDA8007B doesn't have an external dedicated reset pin. Therefore the chip cannot be completely reset unless with a hard Power ON/Power OFF.

This functionality can be achieved using another specificity of the TDA8007B: the delay pin.

This application note is an addendum to the TDA8007B generic application note AN01054.

2. Presentation

2.1 General use

The delay pin is used by TDA8007B to maintain the chip in reset state for a chosen delay when the power supply is applied to the IC.
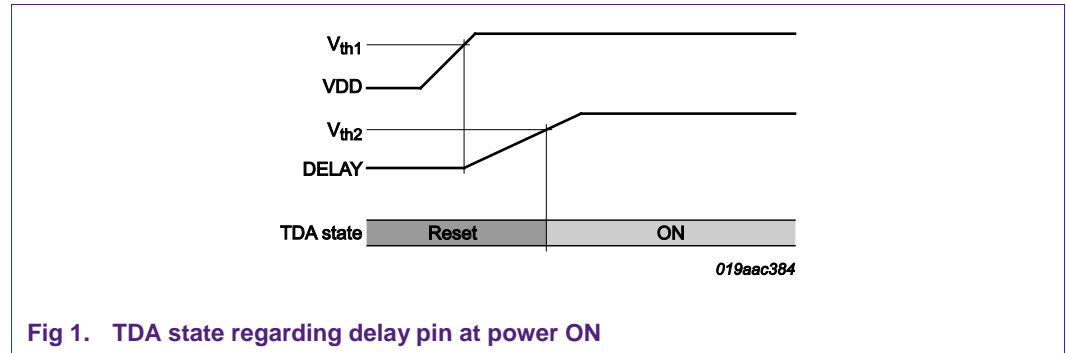

Fig 1. TDA state regarding delay pin at power ON

2.2 Internal structure

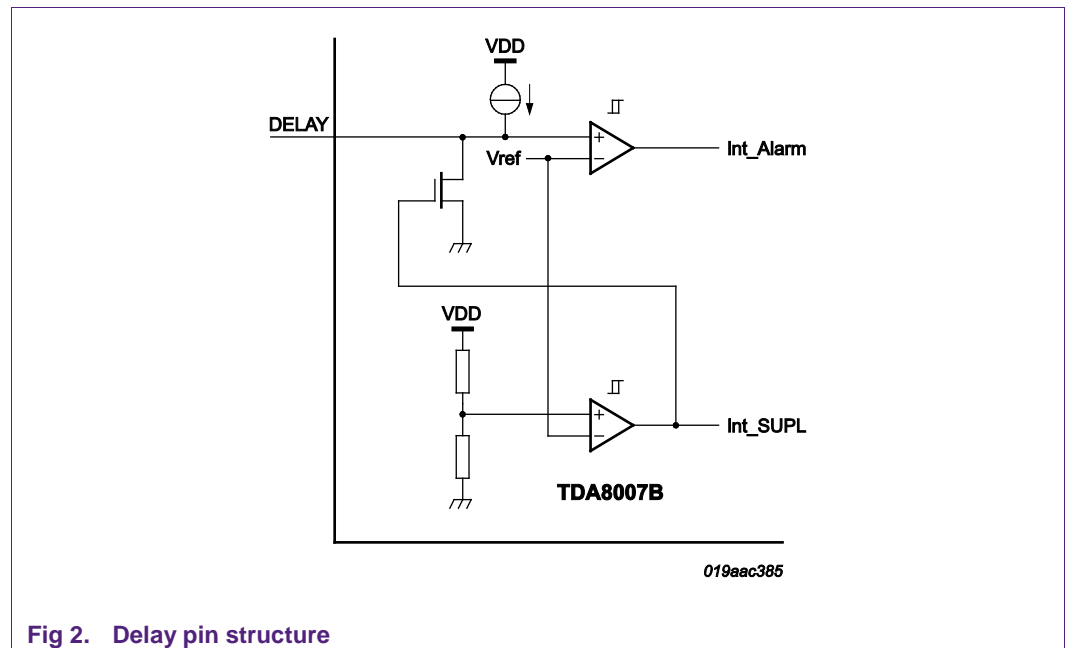Fig. 2 shows the simplified internal structure of this pin

Fig 2. Delay pin structure

Int_Alarm is an internal signal which resets the TDA: proper card deactivation followed by a complete digital reset.

Int_SUPL is the internal signal which will set the SUPL bit (HSR #4), what generates an interrupt.

As seen in this structure, a reset using pin Delay will have exactly the same action as a power OFF, except for the interrupt generation.

3. Software reset implementation

Regarding the pin structure, the delay pin can be used externally as a reset pin.

In general use, this pin must be left open (only connected to the Cdelay capacitor)

When reset is wanted, the microcontroller must drive this pin to GND.

Fig. 3 gives two schematic examples to use this pin as a reset pin

a. Bipolar transistor switch   b. NMOS transistor switch

Fig 3. Schematics examples
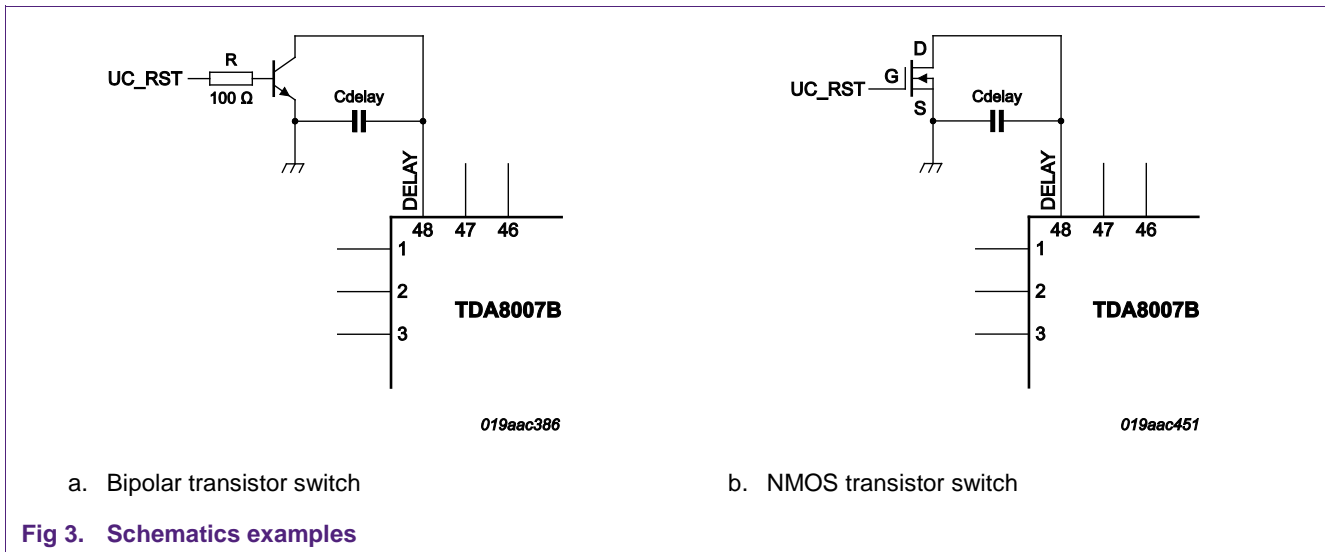
During general use, UC_RST command must be LOW to keep the switch open. When a reset is needed, drive UC_RST HIGH to have the switch closed. Then the delay pin is connected to the ground and a complete chip reset is performed.

When UC_RST is released (driven LOW), delay pin will increase in the same way as after a power ON.

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Fig. 4 shows the TDA8007B state with action on the power supply supervisor or the external reset management.
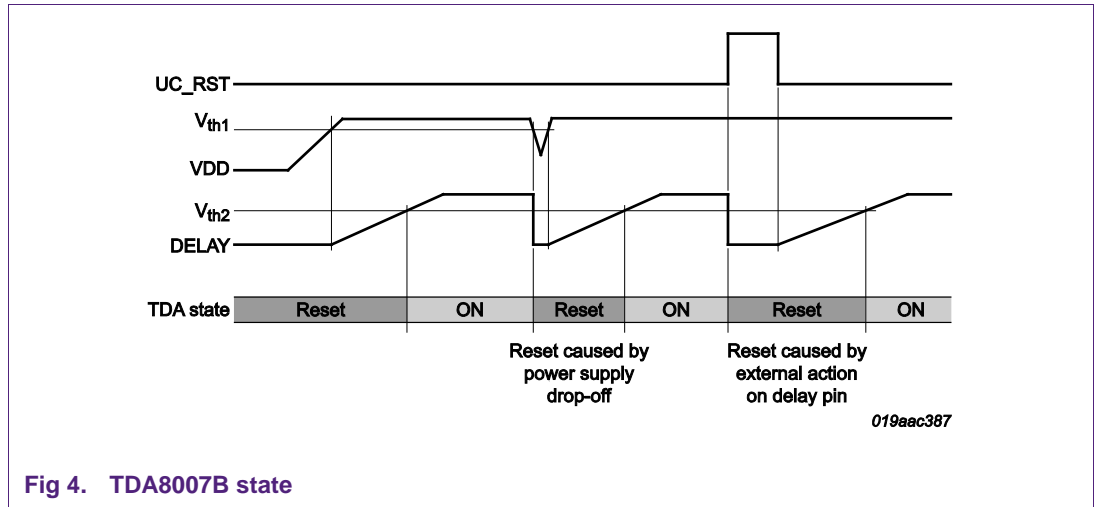

Fig 4. TDA8007B state

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