

# **HY17P60B Series BIE Application Precautions**

# TOPIC

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# Preface

- ◆ This application note describes the precautions for HY17P60B product when using BIE function, and puts forward suggestions.

# Product Model

- ◆ This application note applies to the following product models No.
  - HY17P60B Series Products
    - Model No: HY17P60B-D000
    - HY17P60B-L064
    - HY17P60B-NS32

# Precautions

## ◆ Hardware Part

- When using 8.5V external VPP voltage for BIE burning, the peripheral circuit may cause voltage drop, resulting in BIE burning failure, therefore, it is recommended to use 8.6V~8.7V operation.
- Make sure the COM0 pin is kept low level during the BIE burning. Two methods are provided:
  - Connect a pull-down resistor between COM0 and VSS. The recommended resistance value is 0~1M ohm, which does not affect the LCD display shall prevail.
  - Short another unused pin to COM0. Before the BIE burning, turn off the LCD display and set the pin to output low level; after leaving the BIE function, turn off the output mode and then turn on the LCD display to avoid The LCD display is abnormal.

# Precautions

## ◆ Software Part

- No matter the internal boost or external voltage mode is used for BIE burning, the functions in "**HY17P60BWR3.lib**" or "**17P60BWR3.obj**" provided by HYCON must be used for BIE burning
- After the burning is completed, it needs to delay 300ms, and the user can reset the LCD related registers before it can be used in the normal mode. (The external voltage mode requires the external voltage to be removed before the burning is completed, and then delay300ms)
- GIE interrupt must be turned off before operating BIE read and write function

# Suggestions-1

◆ The BIE burning library provided by HYCON must be used for BIE operation:

- The Demo Code contains four files

 BIE\_LVD\_ASM

 BIE\_EXTVPP\_ASM

 BIE\_LVD\_C

 BIE\_EXTVPP\_C

- For internal boost, refer to the example program “**BIE\_LVD\_ASM**” or “**BIE\_LVD\_C**”.
- For external VPP voltage, refer to the example program “**BIE\_EXTVPP\_ASM**” or “**BIE\_EXTVPP\_C**”.

# Suggestions-2

- ◆ When using internal boost mode for BIE burning, be sure to use the “**LV17P60BWR3**” function provided by HYCON for BIE burning. Example:

C Language	ASM Language
Address=0000,Data=0xAA11	Address=0000,Data=0xAA11
result= <b>LV17P60BWR3</b> (0,0,0xAA,0x11);	CLRF BIEARH CLRF BIEARL MVL 0AAH MVF BIEDRH,F,A MVL 11H MVF BIEDRL,F,A call <b>LV17P60BWR3BIE</b> nopf <b>LV17P60BWR3BIE</b> BTSZ WREG,0,A
Return 0= pass, 1= VDD<2.75V, 2= VPP<8.5V	WREG= 0 pass, =1 fail



# Suggestions-2

- ◆ When using external VPP for BIE burning, be sure to use the “**EXT17P60BWR3**” function provided by HYCON to burn BIE. Example:

C Language	ASM Language
Address=1C00,Data=0xAA11	Address=1C00,Data=0xAA11
result= <b>EXT</b> 17P60BWR3(0x1C,0,0xAA,0x11);	MVL 0x1C MVF BIEARH,F,A CLRF BIEARL MVL 0AAH MVF BIEDRH,F,A MVL 11H MVF BIEDRL,F,A call <b>EXT</b> 17P60BWR3BIE nopf <b>EXT</b> 17P60BWR3BIE BTSZ WREG,0,A
Return 0= pass, 1= VDD<2.75V, 2= VPP<8.5V	WREG= 0 pass, =1 fail

**Thank you**

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