LOW-EMI MODE OUTPUT DRIVE

This Product Update to the Z86C02/E02/L02, Z86C04/E04/L04, and Z86C08/E08/L08 Product Specifications provides a cautionary note about low-EMI mode.

Additional Information

The following documents provide additional information:

- Product Specifications:
    - Z86C02/E02/L02
    - Z86C04/C08
    - Z86E04/E08
    - Z86L04/L08

Low-EMI Emission

The Z8® MCU can be programmed to operate in a low-EMI emission mode by means of a mask ROM bit option for ROM devices and an EPROM bit option for EPROM devices. Use of this feature results in:

- All pre-driver slew rates reduced to 10ns, typical

- Internal SCLK/TCLK operation limited to a maximum of 4 MHz/250ns cycle time

Application Precautions

1. The emulator does not support 32-kHz operation.

2. For the Z86C02/C04/L02/L04 devices, the WDT only runs in STOP mode if the permanent WDT option is selected and if the on-board RC oscillator is selected as the clock source for the WDT.

3. For the Z86C08/E08/L08/E04/E02, the WDT only runs in STOP mode if the permanent WDT option is selected.

4. The registers FEh (GPR) and FFh (SPL) are reset to 00h after Stop-Mode Recovery or any reset.

The output of the Z86C02/C04/L02/L04 devices, when configured in low-EMI mode, remain in standard drive, while the Z86E02/E04/C08/E08/L08 devices enter low-EMI drive with an output resistance of 200Ω (typical).

- User Manual:
    - Z8 User Manual

- Emulator Specifications:
    - Z86CCP01ZEM Emulator

- Internet:
    - Z8 MCU products

- Output drivers exhibiting resistances of 200Ω (typical)

> **Note:** Not available on Z86C02/L02/C04/L04.

- Oscillator divide-by-two circuitry eliminated.

The low-EMI mode is mask-programmable to be selected by the customer at the time the ROM code is submitted.

5. The emulator does not support the system clock driving the WDT mask option.

6. The user must wait two NOPs before the analog comparator outputs are valid after enabling ANALOG mode.

7. The user must disable interrupts, enable the analog comparator, then clear IRQ3 to IRQ0 when switching from DIGITAL to ANALOG mode.

NOTES

Information Integrity

The information contained within this document has been verified according to the general principles of electrical and mechanical engineering. Any applicable source code illustrated in the document was either written by an authorized ZiLOG employee or licensed consultant. Permission to use these codes in any form besides the intended application, must be approved through a license agreement between both parties. ZiLOG will not be responsible for any code(s) used beyond the intended application. Contact your local ZiLOG Sales Office to obtain necessary license agreements.

Document Disclaimer