



Z86C02/E02/L02, Z86C04/E04/L04, Z86C08/E08/L08

PRODUCT UPDATE TO CLARIFY THE OUTPUT DRIVE IN LOW-EMI MODE

UP000801-0101

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.

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).

Additional Information

The following documents provide additional information:

- Product Specifications:
 - [Z86C02/E02/L02](#)
 - [Z86C04/C08](#)
 - [Z86E04/E08](#)
 - [Z86L04/L08](#)

- User Manual:
 - [Z8 User Manual](#)
- Emulator Specifications:
 - [Z86CCP01ZEM Emulator](#)
- Internet:
 - [Z8 MCU products](#)

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

- 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.

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.
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

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