



UP008904-1007

Product Update

Errata for Z8 Encore! XP[®] F1680 Series Devices

Z8 Encore! XP F1680 Series MCU for All Date Codes

The errata listed in [Table 1](#) is found in the Z8 Encore! XP F1680 Series devices with any package date code. When reviewing the following errata, it is recommended that you download the most recent version of the product specification, *Z8 Encore! XP F1680 Series Product Specification* (PS0250), from www.zilog.com.

Table 1. Errata to the Z8 Encore! XP F1680 Series Devices

No.	Summary	Detailed Description
1	Voltage Brownout Protection	<p data-bbox="513 380 1425 562">The VBO trip point specification for the Z8F1680 is 1.6 V to 1.8 V. Zilog does not guarantee functionality of the product outside the operating range of 1.8 V to 3.6 V. Because of this, there is a risk that the product might not function properly before reaching the VBO threshold. Bits 5–7 of trim bit address 0003H are now “Reserved” to preserve the 1.6 V to 1.8 V VBO trip point specification.</p> <p data-bbox="513 604 824 632">Suggested Workarounds</p> <ol style="list-style-type: none"> <li data-bbox="513 640 1425 982">1. Enable the “WDT Always On” Flash Option 0 bit 3 (VBO_AO) and the “Flash Write Protect” Flash Option 0 bit 0 (FWP) features. If the device stops functioning, then the WDT will automatically reset the device. The WDT normally requires the WDT instruction to start the WDT counting. If the device happens to reset in a non-operational region, then the WDT instruction might not get executed. Enabling the “WDT Always On” feature starts the WDT counting upon application of system power. Enabling the “Flash Write Protect” feature prevents the “WDT Always On”, the “Flash Write Protect” Flash option bits, and the Flash Program Memory from getting erased or reprogrammed accidentally when the device becomes nonfunctional. In summary, set VBO_AO=0 and FWP=0. <li data-bbox="513 1024 1425 1207">2. If the user application requires erasing/programming of the Flash Program Memory so that the “Flash Write Protect” feature cannot be used in the normal operating supply voltage range, then the “Flash write operation protect” Flash Option 1 bit 5 (FLASH_WR_PRO_EN) and the Low Voltage Detection (LVD) feature can be used in conjunction with the Flash Option 0 “WDT Always On” feature instead. <p data-bbox="513 1249 1425 1472">For example, the user selects the LVD threshold at 2.0 V. When the supply voltage drops below 2.0 V and into a non-operational region, this triggers the LVD to enable the “Flash Write Protect” Flash Option feature. The Flash Memory is now erase/program protected. If the device hangs up then the WDT will continue to reset the device. The supply voltage now rises above the 2.0 V. The LVD triggers the disable of the “Flash Write Protect” Flash Option feature. The WDT timeout and device resets and continues proper execution.</p> <p data-bbox="513 1514 1425 1696">Enabling these three features will protect the device, Flash Program Memory, and Flash Option bits from corruption when the device is in a non-operational supply voltage region. The LVD can be enabled in the Power Control Register by setting bit 4 (LVD/VBO) option to 0. The “Flash write operation protect” Flash Option 1 bit 5 (FLASH_WR_PRO_EN) is set to 1. In summary set LVD/VBO=0, VBO_AO=0, and FLASH_WR_PRO_EN=1.</p>
2	IRDA Infrared Encoder/Decoder not functional	<p data-bbox="513 1717 1425 1871">The IRDA Infrared Encoder/Decoder of the Z8F1680AC is currently not functional. After a power-on-reset event, the default condition of the IRDA Block is disabled. U0MDSTAT (Address = F44H) Bits 7–5 default to 000H on reset, and U0CTL1 (Address = F43H) Bit 0 defaults to 0 (disabled) on reset. Bit 0 of F43H is now “Reserved” and must be 0.</p>

Table 1. Errata to the Z8 Encore! XP F1680 Series Devices (Continued)

No.	Summary	Detailed Description
3	Flash Write Operation Protect	<p>Devices have Vth_pro too low to write protect the Flash at low voltage. Device Vth_pro is below the minimum specification limit of 2.4 V. Writing to Flash memory below 2.4 V will be unreliable and is not recommended.</p> <p>Suggested Workaround Write to the Flash memory at 2.7 V or above only.</p>
4	Analog Comparator Internal Reference	<p>The internal Vref for the Analog Comparator meets a variation of 0.88 V to 1.12 V instead of the current specification limits of 0.9 V to 1.1 V.</p> <p>Workaround None</p>



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