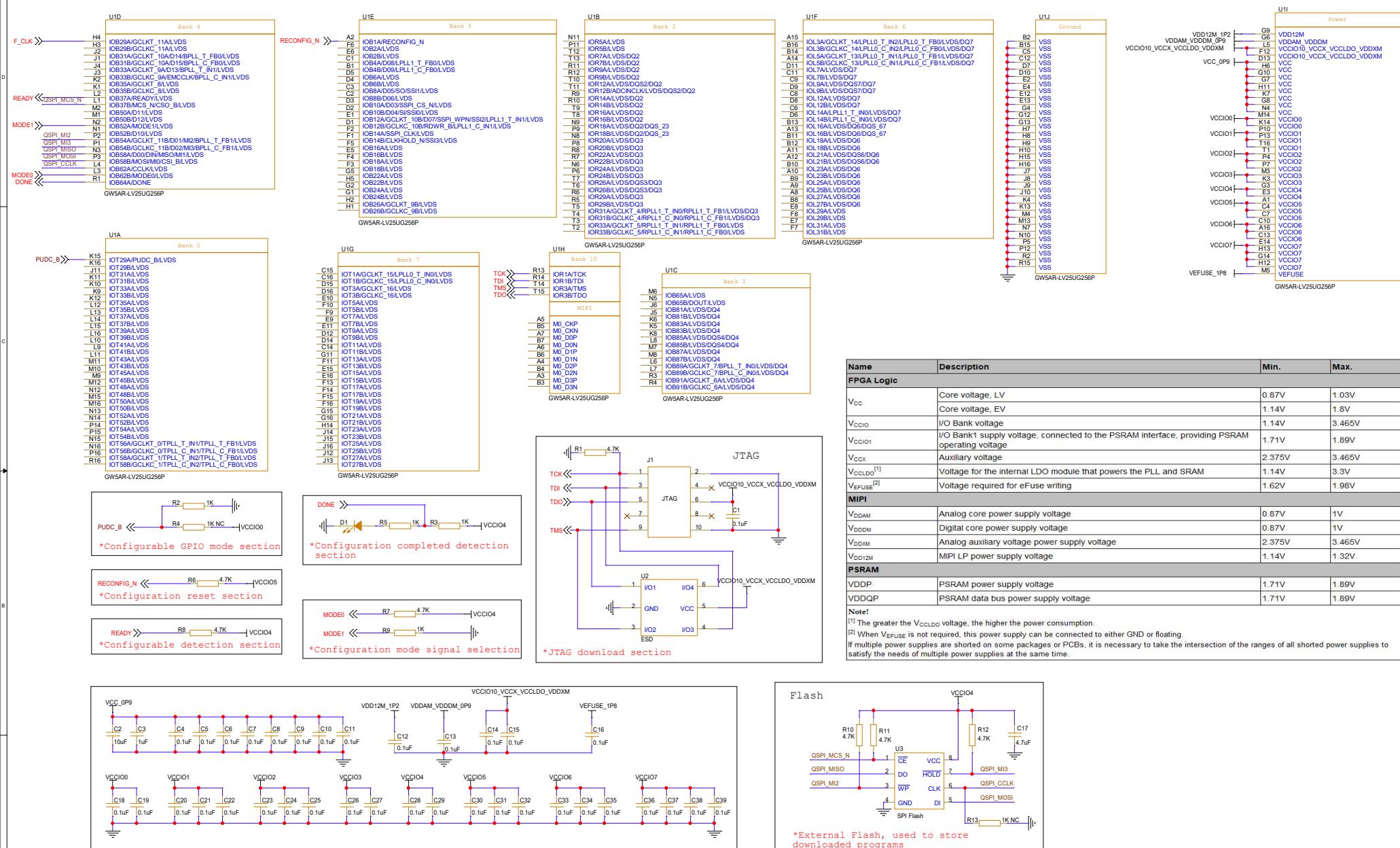
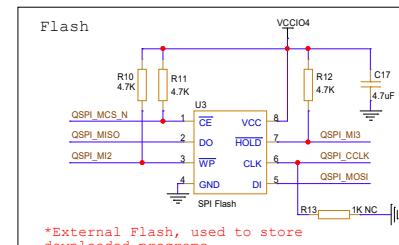
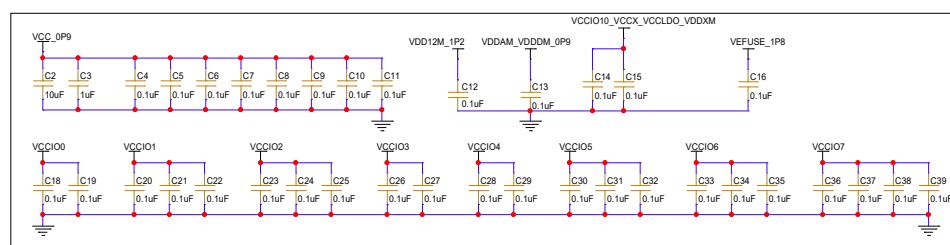


GW5AR-LV25UG256P



| Name | Description | Min. | Max. |
|---|--|--------|--------|
| FPGA Logic | | | |
| V _{CC} | Core voltage, LV | 0.87V | 1.03V |
| V _{CCIO} | Core voltage, EV | 1.14V | 1.8V |
| V _{CCIO1} | I/O Bank 1 supply voltage, connected to the PSRAM interface, providing PSRAM operating voltage | 1.71V | 1.89V |
| V _{CCX} | Auxiliary voltage | 2.375V | 3.465V |
| V _{CCLOD0} ^[1] | Voltage for the internal LDO module that powers the PLL and SRAM | 1.14V | 3.3V |
| V _{EFuse} ^[2] | Voltage required for eFuse writing | 1.62V | 1.98V |
| MPI | | | |
| V _{DDAM} | Analog core power supply voltage | 0.87V | 1V |
| V _{DDDM} | Digital core power supply voltage | 0.87V | 1V |
| V _{DDIM} | Analog auxiliary voltage power supply voltage | 2.375V | 3.465V |
| V _{DD12M} | MPI LP power supply voltage | 1.14V | 1.32V |
| PSRAM | | | |
| V _{DDP} | PSRAM power supply voltage | 1.71V | 1.89V |
| V _{DDQP} | PSRAM data bus power supply voltage | 1.71V | 1.89V |
| Note! | | | |
| [1] The greater the V _{CCLOD0} voltage, the higher the power consumption. | | | |
| [2] When V _{EFuse} is not required, this power supply can be connected to either GND or floating. | | | |
| If multiple power supplies are shorted on some packages or PCBs, it is necessary to take the intersection of the ranges of all shorted power supplies to satisfy the needs of multiple power supplies at the same time. | | | |



Notes:

1. F_CLK signal is an external input clock signal.
- It is recommended that F_CLK signal be provided through an active oscillator crystal.
2. External Flash memory is used to store downloaded programs.
- For details about SPI Flash model selection, see "Chapter 4.5 SPI Flash Selection" in UG714, Arora V 25K FPGA Products Programming and Configuration Guide.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.
4. VCC core voltage requires a large current, so it is recommended to supply power separately.
5. The MODE pin is the GowinCONFIG configuration mode selection signal.

For details about how to select the Mode signal, see "Chapter 3.1 Configuration Modes" in UG714, Arora V 25K FPGA Products Programming and Configuration Guide.

| Title: GOWIN Minimum System Diagram | | |
|-------------------------------------|-----------------------------------|---------|
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| Date: Friday, March 14, 2023 | Sheet: 1 | d: 1 |