

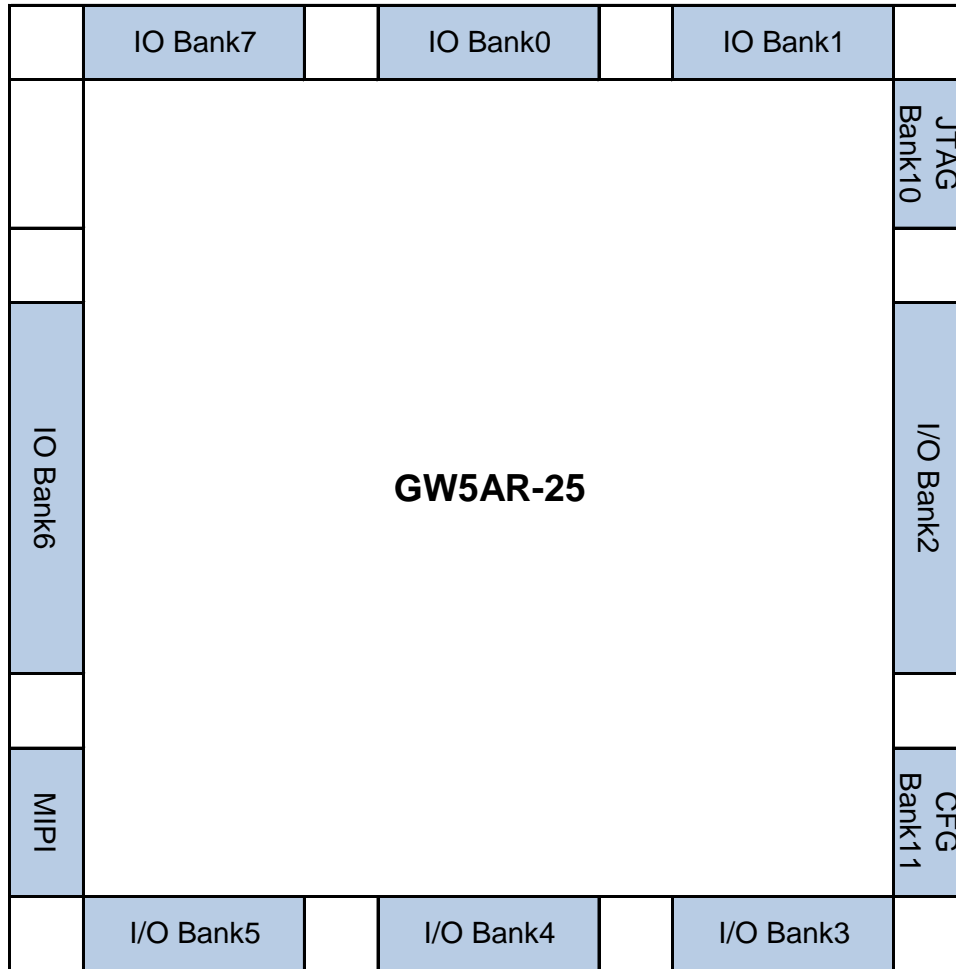
| 日期 | 版本 | 说明 |
|------------|-------|-----------------------------------------------------------|
| 2023/9/8 | 1.0 | 初始版本，支持UG256P封装。 |
| 2023/11/10 | 1.0.1 | 更新TrueLVDS页的X16信息。 删除MCKTEST、ADCINCLK、ADCOTEST管脚的配置信息。 |
| 2023/12/7 | 1.0.2 | 优化Pin Definitions页的管脚描述。 更新UG256P封装所有管脚和电源信息。 |
| 2023/12/14 | 1.0.3 | 优化Pin Definitions页的管脚方向描述。 |
| 2024/2/2 | 1.0.4 | 删除X16信息。 更新Pin Definitions页中VCC_REG管脚的注释。 |
| 2024/4/18 | 1.0.5 | 更新Power页中VCC的电压最大值。 |

| 管脚名称 | 方向 | 说明 |
|--------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 用户I/O管脚 | | |
| IO [End][Row/Column Number][A/B] | I/O/LVDS | [End]提供管脚在器件中的位置信息，包括L(left) R(right) B(bottom) T(top) [Row/Column Number]提供管脚在器件中的具体行列位置信息，若[End]为T(top)或B(bottom)，则提供列信息，即管脚对应的CFU列数。若[End]为L(left)或R(right)，则提供行信息，即管脚对应的CFU行数 [A/B]提供差分信号对信息 方向为LVDS时表示该管脚只支持真LVDS输出 |
| [pin]_[End][Row/Column Number][A/B] | I/O | [pin]管脚名称，其他信息同上 有封装管脚的短接IO，按数字大小排序，第一个IO使用管脚的名称，其他短接的使用管脚名称和去掉IO字符位置信息拼接，如IOR1A/IOB14A短接，管脚名为C1，则IOR1A对应C1，IOB14A对应C1_B14A |
| 多功能管脚 | | |
| IO [End][Row/Column Number][A/B]/MMM | | 多功能管脚定义，/MMM表示在用户I/O功能的基础上有另外的一种或多种功能。当这些功能不使用的时 候，这些管脚可以用作用户I/O |
| D00~D07 | I/O，内部弱上拉 | CPU模式：数据输入输出端口D00~D07 |
| D08~D15 | I | CPU模式：数据输入端口D08~D15 |
| MI0 | I/O，内部弱上拉 | MSPI模式：串行指令和地址输出，以及X2，X4模式下的并行数据bit0的输入管脚，连接外部Flash器件的DQ0/D/SI/IO0管脚 |
| MI1 | I/O，内部弱上拉 | MSPI模式：X1模式下串行数据输入，X2，X4模式下并行数据bit1的输入管脚，连接外部Flash器件的DQ1/Q/SO/IO1管脚 |
| MI2 | I/O，内部弱上拉 | MSPI模式：X4模式下并行数据bit2的输入管脚，分别连接外部Flash器件的DQ2/W#/WP#/IO2管脚 |
| MI3 | I/O，内部弱上拉 | MSPI模式：X4模式下并行数据bit3的输入管脚，分别连接外部Flash器件的DQ3/HOLD#/IO3管脚 |
| CCLK | I/O，内部弱上拉 | 配置时钟 Slave模式：CCLK为输入，需要连接外部时钟源 Master模式：CCLK为输出 |
| EMCCLK | I，内部弱上拉 | 外部输入时钟信号 Master模式：EMCCLK用作FPGA配置逻辑，以及输出CCLK的时钟源 Slave模式：EMCCLK对slave模式没有关联 |
| MOSI | I/O，内部弱上拉 | MSPI模式：串行指令和地址输出，以及X2，X4模式下的并行数据bit0的输入管脚，连接外部Flash器件的DQ0/D/SI/IO0管脚 |
| MISO | I/O，内部弱上拉 | MSPI模式：X1模式下串行数据输入，X2，X4模式下并行数据bit1的输入管脚，连接外部Flash器件的DQ1/Q/SO/IO1管脚 |
| MCS_N | O， MODE[1:0]：内部弱上拉 MODE[2:0]：None | MSPI模式：使能信号MCS_N，低电平有效 |
| SDA | I/O，内部弱上拉 | I2C串行数据线；当GowinCONFIG配置模式支持I2C时，需要外上拉 |

| 管脚名称 | 方向 | 说明 |
|-----------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCL | I, MODE[1:0]: None MODE[2:0]: 内部弱上拉 | I2C串行时钟线; 当GowinCONFIG配置模式支持I2C时, 需要外上拉 |
| SO | O, 内部弱上拉 | SSPI模式下SO |
| SI | I, 内部弱上拉 | SSPI模式下SI |
| SSI0 | I, 内部弱上拉 | QSSPI配置模式: 数据输入管脚 |
| SSI1 | I, 内部弱上拉 | QSSPI配置模式: 数据输入管脚 |
| SSI2 | I, MODE[1:0]: 内部弱上拉 MODE[2:0]: None | QSSPI配置模式: 数据输入管脚 |
| SSI3 | I, 内部弱上拉 | QSSPI配置模式: 数据输入管脚 |
| SSPI_CLK | I, 内部弱上拉 | SSPI/QSSPI配置模式: 时钟输入管脚 |
| SSPI_CS_N | I, 内部弱上拉 | SSPI模式: 使能信号SSPI_CS_N, 低电平有效, 内部弱上拉 |
| SSPI_WPN | I, MODE[1:0]: 内部弱上拉 MODE[2:0]: None | QSSPI配置模式: 数据输入管脚 |
| CLKHOLD_N | I, 内部弱下拉 | 在SSPI模式下, 低电平有效 |
| CSI_B | I, 内部弱上拉 | CPU模式: 片选信号低有效 Master CPU模式: 连接外部配置controller的片选信号, 也可以直接接地或者串接1KΩ电阻接地 Slave CPU模式: 外部配置controller可以通过控制CSI_B信号选择FPGA Master和Slave模式都是由外部controller发出, 其他模式CSI_B信号没有关联 |
| CSO_B | O, 内部弱上拉 | 在FPGA级联配置模式(Daisy Chain)用于连接下一级器件 SERIAL模式: 输出下一级器件的配置数据 Master SPI模式: 输出下一级器件的配置数据 CPU模式: 输出下一级器件的片选信号 |
| PUDC_B | I, 内部弱下拉 | 配置过程中的弱上拉选择信号管脚: FPGA上电后在配置过程中低电平有效使能内部弱上拉电阻 PUDC_B低电平: 除PUDC_B外所有的GPIO 弱上拉 PUDC_B高电平: 所有GPIO 高阻 PUDC_B不允许在配置过程中悬空 |

| 管脚名称 | 方向 | 说明 |
|--------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RDWR_B | I, 内部弱下拉 | CPU模式: 数据读写控制信号 RDWR为高电平时, FPGA输出数据; 为低电平时, 外部控制器将数据写入FPGA Master CPU模式: 可以接外部控制器RDWR信号, 也可以直接或者串接 $\leq 1k\Omega$ 电阻器连接到GND。 Slave CPU模式: 外部控制器RDWR信号 CPU模式的低8位专用IO在wakeup后会受RDWR状态影响, CPU模式低8位设置复用fuse不受RDWR影响 |
| GCLKC_[x] | I | GCLKT_[x]的差分对比输入管脚, C(Comp), [x]是时钟序号 |
| GCLKT_[x] | I | 全局时钟输入管脚, T(True), [x]时钟序号 |
| GCLKT/C_[x]A | I | GCLKT/C_[x]的默认专用管脚, [x]时钟序号 |
| GCLKT/C_[x]B | I | 可配置成GCLKT/C_[x]的专用管脚, 在对应的A未作为GCLK专用管脚时, 通过配置实现GCLK管脚功能, [x]时钟序号 |
| DOUT | O | SERIAL模式: 数据输出 |
| DIN | I, 内部弱上拉 | SERIAL模式: 数据输入 |
| TMS | I, 内部弱上拉 | JTAG模式: 串行模式输入 |
| TCK | I, 内部弱上拉 | JTAG模式: 串行时钟输入 |
| TDO | O, 内部弱上拉 | JTAG模式: 串行数据输出 |
| TDI | I, 内部弱上拉 | JTAG模式: 串行数据输入 |
| RECONFIG_N | I, 内部弱上拉 | 全局复位GowinCONFIG逻辑信号, 低电平有效 |
| DONE ^[1] | O, 内部弱上拉 | 高电平表示成功完成编程配置 低电平表示未完成编程配置或编程配置失败 |
| | I, 内部弱上拉 | DONE信号为低电平时, 延迟芯片启动, 直到DONE信号为高电平 |
| READY ^[1] | I/O, 内部弱上拉 | 高电平表示当前可以对器件进行编程配置 低电平表示无法对器件进行编程配置 |
| LPLL_C_FB/RPLL_C_FB/ PLL_C_FB/BPLL_C_FB | I | 左边/右边/上边/下边PLL反馈输入管脚, C(Comp) |
| LPLL_T_FB/RPLL_T_FB | I | 左边/右边/上边/下边PLL反馈输入管脚, T(True) |
| LPLL_C_IN/RPLL_C_IN | I | 左边/右边/上边/下边PLL时钟输入管脚, C(Comp) |
| LPLL_T_IN/RPLL_T_IN/ LL_T_IN/BPLL_T_IN | I | 左边/右边/上边/下边PLL时钟输入管脚, T(True) |
| MODE2 | I, 内部弱上拉 | GowinCONFIG配置模式选择信号端口: 若该管脚标记为“VCCIO”, 表示该管脚内接电源; 若该管脚标记为“GND”, 表示该管脚内部接地 |
| MODE1 | I, 内部弱上拉 | GowinCONFIG配置模式选择信号端口: 若该管脚标记为“VCCIO”, 表示该管脚内接电源; 若该管脚标记为“GND”, 表示该管脚内部接地 |

| 管脚名称 | 方向 | 说明 |
|--------------------------------------------------------|----------|---------------------------------------------------------------------------|
| MODE0 | I, 内部弱上拉 | GowinCONFIG配置模式选择信号端口: 若该管脚标记为“VCCIO”, 表示该管脚内接电源; 若该管脚标记为“GND”, 表示该管脚内部接地 |
| 其他管脚 | | |
| VSS | NA | Ground管脚 |
| VCC | NA | 核电压供电管脚 |
| VCCIO# | NA | I/O BANK#的I/O电压供电管脚 |
| VCCC | NA | Clock tree电压供电管脚 |
| VCCX | NA | 辅助电压供电管脚 |
| VCC_REG ^[2] | NA | Regulator电压供电管脚 |
| VQPS | NA | eFuse写入所需电压供电管脚 |
| VCC_EXT | NA | VCC/VCCC Regulator和MIPI LP电压供电管脚 |
| M*_VDD* | NA | MIPI电压供电管脚 |
| NC | NA | 预留未使用 |
| ADCVN | DIO | SENSOR差分模拟信号输入管脚 |
| ADCVP | DIO | SENSOR差分模拟信号输入管脚 |
| M0_CKN | DIO | MIPI_DPHY的时钟通道差分管脚 |
| M0_CKP | DIO | MIPI_DPHY的时钟通道差分管脚 |
| M0_D0N | DIO | MIPI_DPHY的数据通道0差分管脚 |
| M0_D0P | DIO | MIPI_DPHY的数据通道0差分管脚 |
| M0_D1N | DIO | MIPI_DPHY的数据通道1差分管脚 |
| M0_D1P | DIO | MIPI_DPHY的数据通道1差分管脚 |
| M0_D2N | DIO | MIPI_DPHY的数据通道2差分管脚 |
| M0_D2P | DIO | MIPI_DPHY的数据通道2差分管脚 |
| M0_D3N | DIO | MIPI_DPHY的数据通道3差分管脚 |
| M0_D3P | DIO | MIPI_DPHY的数据通道3差分管脚 |
| 注! | | |
| [1] READY和DONE默认状态为open-drain输出, 内部弱上拉。在配置期间, DONE输出0。 | | |
| [2] VCC_REG经过内部LDO为PLL、SRAM等模块供电。 | | |



注!

[1]每个Bank还提供一个独立的参考电压 (VREF)。

[2]用户可选择使用IOB内置的VREF源 (0.6V、0.75V、0.9V、1.25V、1.5V, 以及基于VCCIO的比例电压 (36%,50%,64%))。

[3]用户也可选择外部的VREF输入 (使用Bank中任意一个IO管脚作为外部VREF输入)。

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|------------------------------------------------|-----|------|------|-----------------------------------------|----------------|------|--------|
| IOB10A/D03/SSPI_CS_N | I/O | 5 | none | D03/SSPI_CS_N | True_of_IOB10B | True | D3 |
| IOB10B/D04/SI/SSI0 | I/O | 5 | none | D04/SI/SSI0 | Comp_of_IOB10A | True | D2 |
| IOB12A/GCLKT_10B/D07/SSPI_WPN/SSI2/LPLL1_T_IN1 | I/O | 5 | none | GCLKT_10B/D07/SSPI_WPN/SSI2/LPLL1_T_IN1 | True_of_IOB12B | True | E1 |
| IOB12B/GCLKC_10B/RDWR_B/LPLL1_C_IN1 | I/O | 5 | none | GCLKC_10B/RDWR_B/LPLL1_C_IN1 | Comp_of_IOB12A | True | D1 |
| IOB14A/SSPI_CLK | I/O | 5 | none | SSPI_CLK | True_of_IOB14B | True | F2 |
| IOB14B/CLKHOLD_N/SSI3 | I/O | 5 | none | CLKHOLD_N/SSI3 | Comp_of_IOB14A | True | F1 |
| IOB16A | I/O | 5 | none | | True_of_IOB16B | True | F5 |
| IOB16B | I/O | 5 | none | | Comp_of_IOB16A | True | E5 |
| IOB18A | I/O | 5 | none | | True_of_IOB18B | True | F4 |
| IOB18B | I/O | 5 | none | | Comp_of_IOB18A | True | F3 |
| IOB1A/RECONFIG_N | I/O | 5 | none | RECONFIG_N | | none | A2 |
| IOB22A | I/O | 5 | none | | True_of_IOB22B | True | G5 |
| IOB22B | I/O | 5 | none | | Comp_of_IOB22A | True | H5 |
| IOB24A | I/O | 5 | none | | True_of_IOB24B | True | G2 |
| IOB24B | I/O | 5 | none | | Comp_of_IOB24A | True | G1 |
| IOB26A/GCLKT_9B | I/O | 5 | none | GCLKT_9B | True_of_IOB26B | True | H2 |
| IOB26B/GCLKC_9B | I/O | 5 | none | GCLKC_9B | Comp_of_IOB26A | True | H1 |
| IOB29A/GCLKT_11A | I/O | 4 | none | GCLKT_11A | True_of_IOB29B | True | H4 |
| IOB29B/GCLKC_11A | I/O | 4 | none | GCLKC_11A | Comp_of_IOB29A | True | H3 |
| IOB2A | I/O | 5 | none | | True_of_IOB2B | True | F6 |
| IOB2B | I/O | 5 | none | | Comp_of_IOB2A | True | E6 |
| IOB31A/GCLKT_10A/D14/BPLL_T_FB0 | I/O | 4 | none | GCLKT_10A/D14/BPLL_T_FB0 | True_of_IOB31B | True | J2 |
| IOB31B/GCLKC_10A/D15/BPLL_C_FB0 | I/O | 4 | none | GCLKC_10A/D15/BPLL_C_FB0 | Comp_of_IOB31A | True | J1 |
| IOB33A/GCLKT_9A/D13/BPLL_T_IN1 | I/O | 4 | none | GCLKT_9A/D13/BPLL_T_IN1 | True_of_IOB33B | True | J4 |
| IOB33B/GCLKC_9A/EMCCLK/BPLL_C_IN1 | I/O | 4 | none | GCLKC_9A/EMCCLK/BPLL_C_IN1 | Comp_of_IOB33A | True | J3 |
| IOB35A/GCLKT_8 | I/O | 4 | none | GCLKT_8 | True_of_IOB35B | True | K2 |
| IOB35B/GCLKC_8 | I/O | 4 | none | GCLKC_8 | Comp_of_IOB35A | True | K1 |
| IOB37A/READY | I/O | 4 | none | READY | True_of_IOB37B | True | L2 |
| IOB37B/MCS_N/CSO_B | I/O | 4 | none | MCS_N/CSO_B | Comp_of_IOB37A | True | L1 |
| IOB4A/D08/SDA/LPLL1_T_FB0 | I/O | 5 | none | D08/SDA/LPLL1_T_FB0 | True_of_IOB4B | True | C1 |
| IOB4B/D09/SCL/LPLL1_C_FB0 | I/O | 5 | none | D09/SCL/LPLL1_C_FB0 | Comp_of_IOB4A | True | B1 |
| IOB50A/D11 | I/O | 4 | none | D11 | True_of_IOB50B | True | M2 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|-------------------------------------|-----|------|----------|------------------------------|----------------|------|--------|
| IOB50B/D12 | I/O | 4 | none | D12 | Comp_of_IOB50A | True | M1 |
| IOB52A/MODE1 | I/O | 4 | none | MODE1 | True_of_IOB52B | True | N2 |
| IOB52B/D10 | I/O | 4 | none | D10 | Comp_of_IOB52A | True | N1 |
| IOB54A/GCLKT_11B/D01/MI2/BPLL_T_FB1 | I/O | 4 | none | GCLKT_11B/D01/MI2/BPLL_T_FB1 | True_of_IOB54B | True | P2 |
| IOB54B/GCLKC_11B/D02/MI3/BPLL_C_FB1 | I/O | 4 | none | GCLKC_11B/D02/MI3/BPLL_C_FB1 | Comp_of_IOB54A | True | P1 |
| IOB58A/D00/DIN/MISO/MI1 | I/O | 4 | none | D00/DIN/MISO/MI1 | True_of_IOB58B | True | N3 |
| IOB58B/MOSI/MI0/CSI_B | I/O | 4 | none | MOSI/MI0/CSI_B | Comp_of_IOB58A | True | P3 |
| IOB62A/CCLK | I/O | 4 | none | CCLK | True_of_IOB62B | True | L4 |
| IOB62B/MODE0 | I/O | 4 | none | MODE0 | Comp_of_IOB62A | True | L3 |
| IOB64A/DONE | I/O | 4 | none | DONE | | none | R1 |
| IOB65A | I/O | 3 | none | | True_of_IOB65B | True | M6 |
| IOB65B/DOUT | I/O | 3 | none | DOUT | Comp_of_IOB65A | True | N5 |
| IOB6A | I/O | 5 | none | | True_of_IOB6B | True | D5 |
| IOB6B | I/O | 5 | none | | Comp_of_IOB6A | True | D4 |
| IOB81A | I/O | 3 | DQ4 | | True_of_IOB81B | True | J6 |
| IOB81B | I/O | 3 | DQ4 | | Comp_of_IOB81A | True | J5 |
| IOB83A | I/O | 3 | DQ4 | | True_of_IOB83B | True | K6 |
| IOB83B | I/O | 3 | DQ4 | | Comp_of_IOB83A | True | K5 |
| IOB85A | I/O | 3 | DQS4/DQ4 | | True_of_IOB85B | True | K8 |
| IOB85B | I/O | 3 | DQS4/DQ4 | | Comp_of_IOB85A | True | L8 |
| IOB87A | I/O | 3 | DQ4 | | True_of_IOB87B | True | M7 |
| IOB87B | I/O | 3 | DQ4 | | Comp_of_IOB87A | True | M8 |
| IOB89A/GCLKT_7/BPLL_T_IN0 | I/O | 3 | DQ4 | GCLKT_7/BPLL_T_IN0 | True_of_IOB89B | True | L6 |
| IOB89B/GCLKC_7/BPLL_C_IN0 | I/O | 3 | DQ4 | GCLKC_7/BPLL_C_IN0 | Comp_of_IOB89A | True | L7 |
| IOB8A/D05/SO/SSI1 | I/O | 5 | none | D05/SO/SSI1 | True_of_IOB8B | True | C3 |
| IOB8B/D06 | I/O | 5 | none | D06 | Comp_of_IOB8A | True | C2 |
| IOB91A/GCLKT_6A | I/O | 3 | DQ4 | GCLKT_6A | True_of_IOB91B | True | R3 |
| IOB91B/GCLKC_6A | I/O | 3 | DQ4 | GCLKC_6A | Comp_of_IOB91A | True | R4 |
| IOL12A | I/O | 6 | DQ7 | | True_of_IOL12B | True | C8 |
| IOL12B | I/O | 6 | DQ7 | | Comp_of_IOL12A | True | D8 |
| IOL14A/LPLL1_T_IN0 | I/O | 6 | DQ7 | LPLL1_T_IN0 | True_of_IOL14B | True | C6 |
| IOL14B/LPLL1_C_IN0 | I/O | 6 | DQ7 | LPLL1_C_IN0 | Comp_of_IOL14A | True | D6 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|----------------------------------------|-----|------|------------|----------------------------------|----------------|------|--------|
| IOL16A | I/O | 6 | DQ6/DQS_67 | | True_of_IOL16B | True | B13 |
| IOL16B | I/O | 6 | DQ6/DQS_67 | | Comp_of_IOL16A | True | A13 |
| IOL18A | I/O | 6 | DQ6 | | True_of_IOL18B | True | B11 |
| IOL18B | I/O | 6 | DQ6 | | Comp_of_IOL18A | True | B12 |
| IOL21A | I/O | 6 | DQS6/DQ6 | | True_of_IOL21B | True | A11 |
| IOL21B | I/O | 6 | DQS6/DQ6 | | Comp_of_IOL21A | True | A12 |
| IOL23A | I/O | 6 | DQ6 | | True_of_IOL23B | True | B10 |
| IOL23B | I/O | 6 | DQ6 | | Comp_of_IOL23A | True | A10 |
| IOL25A | I/O | 6 | DQ6 | | True_of_IOL25B | True | B9 |
| IOL25B | I/O | 6 | DQ6 | | Comp_of_IOL25A | True | A9 |
| IOL27A | I/O | 6 | DQ6 | | True_of_IOL27B | True | A8 |
| IOL27B | I/O | 6 | DQ6 | | Comp_of_IOL27A | True | B8 |
| IOL29A | I/O | 6 | none | | True_of_IOL29B | True | E8 |
| IOL29B | I/O | 6 | none | | Comp_of_IOL29A | True | F8 |
| IOL31A | I/O | 6 | none | | True_of_IOL31B | True | E7 |
| IOL31B | I/O | 6 | none | | Comp_of_IOL31A | True | F7 |
| IOL3A/GCLKT_14/LPLL0_T_IN2/LPLL0_T_FB0 | I/O | 6 | DQ7 | GCLKT_14/LPLL0_T_IN2/LPLL0_T_FB0 | True_of_IOL3B | True | A15 |
| IOL3B/GCLKC_14/LPLL0_C_IN2/LPLL0_C_FB0 | I/O | 6 | DQ7 | GCLKC_14/LPLL0_C_IN2/LPLL0_C_FB0 | Comp_of_IOL3A | True | B16 |
| IOL5A/GCLKT_13/LPLL0_T_IN1/LPLL0_T_FB1 | I/O | 6 | DQ7 | GCLKT_13/LPLL0_T_IN1/LPLL0_T_FB1 | True_of_IOL5B | True | B14 |
| IOL5B/GCLKC_13/LPLL0_C_IN1/LPLL0_C_FB1 | I/O | 6 | DQ7 | GCLKC_13/LPLL0_C_IN1/LPLL0_C_FB1 | Comp_of_IOL5A | True | A14 |
| IOL7A | I/O | 6 | DQ7 | | True_of_IOL7B | True | D11 |
| IOL7B | I/O | 6 | DQ7 | | Comp_of_IOL7A | True | C11 |
| IOL9A | I/O | 6 | DQS7/DQ7 | | True_of_IOL9B | True | C9 |
| IOL9B | I/O | 6 | DQS7/DQ7 | | Comp_of_IOL9A | True | D9 |
| IOR12A | I/O | 2 | DQS2/DQ2 | | True_of_IOR12B | True | T10 |
| IOR12B/ADCINCLK | I/O | 2 | DQS2/DQ2 | ADCINCLK | Comp_of_IOR12A | True | T11 |
| IOR14A | I/O | 2 | DQ2 | | True_of_IOR14B | True | R9 |
| IOR14B/ADCOTEST | I/O | 2 | DQ2 | ADCOTEST | Comp_of_IOR14A | True | R10 |
| IOR16A | I/O | 2 | DQ2 | | True_of_IOR16B | True | T9 |
| IOR16B | I/O | 2 | DQ2 | | Comp_of_IOR16A | True | T8 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|----------------------------------------|-----|------|------------|---------------------------------|----------------|------|--------|
| IOR18A | I/O | 2 | DQ2/DQS_23 | | True_of_IOR18B | True | N9 |
| IOR18B | I/O | 2 | DQ2/DQS_23 | | Comp_of_IOR18A | True | P9 |
| IOR1A/TCK | I/O | 10 | none | TCK | | none | R13 |
| IOR1B/TDI | I/O | 10 | none | TDI | | none | R14 |
| IOR20A | I/O | 2 | DQ3 | | True_of_IOR20B | True | N8 |
| IOR20B | I/O | 2 | DQ3 | | Comp_of_IOR20A | True | P8 |
| IOR22A | I/O | 2 | DQ3 | | True_of_IOR22B | True | R8 |
| IOR22B | I/O | 2 | DQ3 | | Comp_of_IOR22A | True | R7 |
| IOR24A | I/O | 2 | DQ3 | | True_of_IOR24B | True | N6 |
| IOR24B | I/O | 2 | DQ3 | | Comp_of_IOR24A | True | P6 |
| IOR26A | I/O | 2 | DQS3/DQ3 | | True_of_IOR26B | True | T7 |
| IOR26B | I/O | 2 | DQS3/DQ3 | | Comp_of_IOR26A | True | T6 |
| IOR29A | I/O | 2 | DQ3 | | True_of_IOR29B | True | R6 |
| IOR29B | I/O | 2 | DQ3 | | Comp_of_IOR29A | True | R5 |
| IOR31A/GCLKT_4/RPLL1_T_IN0/RPLL1_T_FB1 | I/O | 2 | DQ3 | GCLKT_4/RPLL1_T_IN0/RPLL1_T_FB1 | True_of_IOR31B | True | T5 |
| IOR31B/GCLKC_4/RPLL1_C_IN0/RPLL1_C_FB1 | I/O | 2 | DQ3 | GCLKC_4/RPLL1_C_IN0/RPLL1_C_FB1 | Comp_of_IOR31A | True | T4 |
| IOR33A/GCLKT_5/RPLL1_T_IN1/RPLL1_T_FB0 | I/O | 2 | none | GCLKT_5/RPLL1_T_IN1/RPLL1_T_FB0 | True_of_IOR33B | True | T3 |
| IOR33B/GCLKC_5/RPLL1_C_IN1/RPLL1_C_FB0 | I/O | 2 | none | GCLKC_5/RPLL1_C_IN1/RPLL1_C_FB0 | Comp_of_IOR33A | True | T2 |
| IOR3A/TMS | I/O | 10 | none | TMS | | none | T14 |
| IOR3B/TDO | I/O | 10 | none | TDO | | none | T15 |
| IOR5A | I/O | 2 | none | | True_of_IOR5B | True | N11 |
| IOR5B | I/O | 2 | none | | Comp_of_IOR5A | True | P11 |
| IOR7A | I/O | 2 | DQ2 | | True_of_IOR7B | True | T12 |
| IOR7B | I/O | 2 | DQ2 | | Comp_of_IOR7A | True | T13 |
| IOR9A | I/O | 2 | DQ2 | | True_of_IOR9B | True | R11 |
| IOR9B/MCKTEST | I/O | 2 | DQ2 | MCKTEST | Comp_of_IOR9A | True | R12 |
| IOT11A | I/O | 7 | none | | True_of_IOT11B | True | D14 |
| IOT11B | I/O | 7 | none | | Comp_of_IOT11A | True | C14 |
| IOT13A | I/O | 7 | none | | True_of_IOT13B | True | G11 |
| IOT13B | I/O | 7 | none | | Comp_of_IOT13A | True | F11 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|----------------------------|-----|------|------|----------------------|----------------|------|--------|
| IOT15A | I/O | 7 | none | | True_of_IOT15B | True | E15 |
| IOT15B | I/O | 7 | none | | Comp_of_IOT15A | True | E16 |
| IOT17A | I/O | 7 | none | | True_of_IOT17B | True | F13 |
| IOT17B | I/O | 7 | none | | Comp_of_IOT17A | True | F14 |
| IOT19A | I/O | 7 | none | | True_of_IOT19B | True | F15 |
| IOT19B | I/O | 7 | none | | Comp_of_IOT19A | True | F16 |
| IOT1A/GCLKT_15/LPLL0_T_IN0 | I/O | 7 | none | GCLKT_15/LPLL0_T_IN0 | True_of_IOT1B | True | C15 |
| IOT1B/GCLKC_15/LPLL0_C_IN0 | I/O | 7 | none | GCLKC_15/LPLL0_C_IN0 | Comp_of_IOT1A | True | C16 |
| IOT21A | I/O | 7 | none | | True_of_IOT21B | True | G15 |
| IOT21B | I/O | 7 | none | | Comp_of_IOT21A | True | G16 |
| IOT23A | I/O | 7 | none | | True_of_IOT23B | True | H14 |
| IOT23B | I/O | 7 | none | | Comp_of_IOT23A | True | J14 |
| IOT25A | I/O | 7 | none | | True_of_IOT25B | True | J15 |
| IOT25B | I/O | 7 | none | | Comp_of_IOT25A | True | J16 |
| IOT27A | I/O | 7 | none | | True_of_IOT27B | True | J12 |
| IOT27B | I/O | 7 | none | | Comp_of_IOT27A | True | J13 |
| IOT29A/PUDC_B | I/O | 0 | none | PUDC_B | True_of_IOT29B | True | K15 |
| IOT29B | I/O | 0 | none | | Comp_of_IOT29A | True | K16 |
| IOT31A | I/O | 0 | none | | True_of_IOT31B | True | J11 |
| IOT31B | I/O | 0 | none | | Comp_of_IOT31A | True | K11 |
| IOT33A | I/O | 0 | none | | True_of_IOT33B | True | K10 |
| IOT33B | I/O | 0 | none | | Comp_of_IOT33A | True | K9 |
| IOT35A | I/O | 0 | none | | True_of_IOT35B | True | K12 |
| IOT35B | I/O | 0 | none | | Comp_of_IOT35A | True | L12 |
| IOT37A | I/O | 0 | none | | True_of_IOT37B | True | L13 |
| IOT37B | I/O | 0 | none | | Comp_of_IOT37A | True | L14 |
| IOT39A | I/O | 0 | none | | True_of_IOT39B | True | L15 |
| IOT39B | I/O | 0 | none | | Comp_of_IOT39A | True | L16 |
| IOT3A/GCLKT_16 | I/O | 7 | none | GCLKT_16 | True_of_IOT3B | True | D15 |
| IOT3B/GCLKC_16 | I/O | 7 | none | GCLKC_16 | Comp_of_IOT3A | True | D16 |
| IOT41A | I/O | 0 | none | | True_of_IOT41B | True | L10 |
| IOT41B | I/O | 0 | none | | Comp_of_IOT41A | True | L9 |
| IOT43A | I/O | 0 | none | | True_of_IOT43B | True | L11 |
| IOT43B | I/O | 0 | none | | Comp_of_IOT43A | True | M11 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|--------------------------------------|-------|------|------|-------------------------------|----------------|------|--------|
| IOT45A | I/O | 0 | none | | True_of_IOT45B | True | M10 |
| IOT45B | I/O | 0 | none | | Comp_of_IOT45A | True | M9 |
| IOT48A | I/O | 0 | none | | True_of_IOT48B | True | M12 |
| IOT48B | I/O | 0 | none | | Comp_of_IOT48A | True | N12 |
| IOT50A | I/O | 0 | none | | True_of_IOT50B | True | M15 |
| IOT50B | I/O | 0 | none | | Comp_of_IOT50A | True | M16 |
| IOT52A | I/O | 0 | none | | True_of_IOT52B | True | N13 |
| IOT52B | I/O | 0 | none | | Comp_of_IOT52A | True | N14 |
| IOT54A | I/O | 0 | none | | True_of_IOT54B | True | P14 |
| IOT54B | I/O | 0 | none | | Comp_of_IOT54A | True | P15 |
| IOT56A/GCLKT_0/TPLL_T_IN1/TPLL_T_FB1 | I/O | 0 | none | GCLKT_0/TPLL_T_IN1/TPLL_T_FB1 | True_of_IOT56B | True | N15 |
| IOT56B/GCLKC_0/TPLL_C_IN1/TPLL_C_FB1 | I/O | 0 | none | GCLKC_0/TPLL_C_IN1/TPLL_C_FB1 | Comp_of_IOT56A | True | N16 |
| IOT58A/GCLKT_1/TPLL_T_IN2/TPLL_T_FB0 | I/O | 0 | none | GCLKT_1/TPLL_T_IN2/TPLL_T_FB0 | True_of_IOT58B | True | P16 |
| IOT58B/GCLKC_1/TPLL_C_IN2/TPLL_C_FB0 | I/O | 0 | none | GCLKC_1/TPLL_C_IN2/TPLL_C_FB0 | Comp_of_IOT58A | True | R16 |
| IOT5A | I/O | 7 | none | | True_of_IOT5B | True | E10 |
| IOT5B | I/O | 7 | none | | Comp_of_IOT5A | True | F10 |
| IOT7A | I/O | 7 | none | | True_of_IOT7B | True | F9 |
| IOT7B | I/O | 7 | none | | Comp_of_IOT7A | True | E9 |
| IOT9A | I/O | 7 | none | | True_of_IOT9B | True | E11 |
| IOT9B | I/O | 7 | none | | Comp_of_IOT9A | True | D12 |
| M0_CKN | DIO | MIPI | none | | | none | B5 |
| M0_CKP | DIO | MIPI | none | | | none | A5 |
| M0_D0N | DIO | MIPI | none | | | none | B7 |
| M0_D0P | DIO | MIPI | none | | | none | A7 |
| M0_D1N | DIO | MIPI | none | | | none | B6 |
| M0_D1P | DIO | MIPI | none | | | none | A6 |
| M0_D2N | DIO | MIPI | none | | | none | B4 |
| M0_D2P | DIO | MIPI | none | | | none | A4 |
| M0_D3N | DIO | MIPI | none | | | none | B3 |
| M0_D3P | DIO | MIPI | none | | | none | A3 |
| M0_VDD_12 | Power | N/A | | | | | G9 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|------------------------------|-------|------|-----|------|--------|------|--------|
| M0_VDDA/M0_VDDD | Power | N/A | | | | | G6 |
| M0_VDDX/VCC_REG/VCCIO10/VCCX | Power | N/A | | | | | L5 |
| M0_VDDX/VCC_REG/VCCIO10/VCCX | Power | N/A | | | | | F12 |
| VCC/VCCC | Power | N/A | | | | | D13 |
| VCC/VCCC | Power | N/A | | | | | H6 |
| VCC/VCCC | Power | N/A | | | | | G10 |
| VCC/VCCC | Power | N/A | | | | | G7 |
| VCC/VCCC | Power | N/A | | | | | H11 |
| VCC/VCCC | Power | N/A | | | | | K7 |
| VCC/VCCC | Power | N/A | | | | | G8 |
| VCC/VCCC | Power | N/A | | | | | N4 |
| VCCIO0 | Power | N/A | | | | | M14 |
| VCCIO0 | Power | N/A | | | | | K14 |
| VCCIO1 | Power | N/A | | | | | P10 |
| VCCIO1 | Power | N/A | | | | | P13 |
| VCCIO1 | Power | N/A | | | | | T16 |
| VCCIO2 | Power | N/A | | | | | T1 |
| VCCIO2 | Power | N/A | | | | | P4 |
| VCCIO2 | Power | N/A | | | | | P7 |
| VCCIO3 | Power | N/A | | | | | M3 |
| VCCIO3 | Power | N/A | | | | | K3 |
| VCCIO4 | Power | N/A | | | | | G3 |
| VCCIO4 | Power | N/A | | | | | E3 |
| VCCIO5 | Power | N/A | | | | | A1 |
| VCCIO5 | Power | N/A | | | | | C4 |
| VCCIO5 | Power | N/A | | | | | C7 |
| VCCIO6 | Power | N/A | | | | | C10 |
| VCCIO6 | Power | N/A | | | | | A16 |
| VCCIO6 | Power | N/A | | | | | C13 |
| VCCIO7 | Power | N/A | | | | | E14 |
| VCCIO7 | Power | N/A | | | | | H13 |
| VCCIO7 | Power | N/A | | | | | G14 |
| VCCIO7 | Power | N/A | | | | | H12 |
| VQPS | Power | N/A | | | | | M5 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|------|--------|------|-----|------|--------|------|--------|
| VSS | Ground | N/A | | | | | B2 |
| VSS | Ground | N/A | | | | | B15 |
| VSS | Ground | N/A | | | | | C5 |
| VSS | Ground | N/A | | | | | C12 |
| VSS | Ground | N/A | | | | | D7 |
| VSS | Ground | N/A | | | | | D10 |
| VSS | Ground | N/A | | | | | E2 |
| VSS | Ground | N/A | | | | | E4 |
| VSS | Ground | N/A | | | | | E12 |
| VSS | Ground | N/A | | | | | E13 |
| VSS | Ground | N/A | | | | | G4 |
| VSS | Ground | N/A | | | | | G12 |
| VSS | Ground | N/A | | | | | G13 |
| VSS | Ground | N/A | | | | | H7 |
| VSS | Ground | N/A | | | | | H8 |
| VSS | Ground | N/A | | | | | H9 |
| VSS | Ground | N/A | | | | | H10 |
| VSS | Ground | N/A | | | | | H15 |
| VSS | Ground | N/A | | | | | H16 |
| VSS | Ground | N/A | | | | | J7 |
| VSS | Ground | N/A | | | | | J8 |
| VSS | Ground | N/A | | | | | J9 |
| VSS | Ground | N/A | | | | | J10 |
| VSS | Ground | N/A | | | | | K4 |
| VSS | Ground | N/A | | | | | K13 |
| VSS | Ground | N/A | | | | | M4 |
| VSS | Ground | N/A | | | | | M13 |
| VSS | Ground | N/A | | | | | N7 |
| VSS | Ground | N/A | | | | | N10 |
| VSS | Ground | N/A | | | | | P5 |
| VSS | Ground | N/A | | | | | P12 |
| VSS | Ground | N/A | | | | | R2 |
| VSS | Ground | N/A | | | | | R15 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|-----------------------------|-----|------|------|----------------------|----------------|------|--------|
| BANK7 True LVDS Pair | | | | | | | |
| IOT11A | I/O | 7 | none | | True_of_IOT11B | True | D14 |
| IOT11B | I/O | 7 | none | | Comp_of_IOT11A | True | C14 |
| IOT13A | I/O | 7 | none | | True_of_IOT13B | True | G11 |
| IOT13B | I/O | 7 | none | | Comp_of_IOT13A | True | F11 |
| IOT15A | I/O | 7 | none | | True_of_IOT15B | True | E15 |
| IOT15B | I/O | 7 | none | | Comp_of_IOT15A | True | E16 |
| IOT17A | I/O | 7 | none | | True_of_IOT17B | True | F13 |
| IOT17B | I/O | 7 | none | | Comp_of_IOT17A | True | F14 |
| IOT19A | I/O | 7 | none | | True_of_IOT19B | True | F15 |
| IOT19B | I/O | 7 | none | | Comp_of_IOT19A | True | F16 |
| IOT1A/GCLKT_15/LPLL0_T_IN0 | I/O | 7 | none | GCLKT_15/LPLL0_T_IN0 | True_of_IOT1B | True | C15 |
| IOT1B/GCLKC_15/LPLL0_C_IN0 | I/O | 7 | none | GCLKC_15/LPLL0_C_IN0 | Comp_of_IOT1A | True | C16 |
| IOT21A | I/O | 7 | none | | True_of_IOT21B | True | G15 |
| IOT21B | I/O | 7 | none | | Comp_of_IOT21A | True | G16 |
| IOT23A | I/O | 7 | none | | True_of_IOT23B | True | H14 |
| IOT23B | I/O | 7 | none | | Comp_of_IOT23A | True | J14 |
| IOT25A | I/O | 7 | none | | True_of_IOT25B | True | J15 |
| IOT25B | I/O | 7 | none | | Comp_of_IOT25A | True | J16 |
| IOT27A | I/O | 7 | none | | True_of_IOT27B | True | J12 |
| IOT27B | I/O | 7 | none | | Comp_of_IOT27A | True | J13 |
| IOT3A/GCLKT_16 | I/O | 7 | none | GCLKT_16 | True_of_IOT3B | True | D15 |
| IOT3B/GCLKC_16 | I/O | 7 | none | GCLKC_16 | Comp_of_IOT3A | True | D16 |
| IOT5A | I/O | 7 | none | | True_of_IOT5B | True | E10 |
| IOT5B | I/O | 7 | none | | Comp_of_IOT5A | True | F10 |
| IOT7A | I/O | 7 | none | | True_of_IOT7B | True | F9 |
| IOT7B | I/O | 7 | none | | Comp_of_IOT7A | True | E9 |
| IOT9A | I/O | 7 | none | | True_of_IOT9B | True | E11 |
| IOT9B | I/O | 7 | none | | Comp_of_IOT9A | True | D12 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|----------------------------------------|-----|------|------------|----------------------------------|----------------|------|--------|
| BANK6 True LVDS Pair | | | | | | | |
| IOL12A | I/O | 6 | DQ7 | | True_of_IOL12B | True | C8 |
| IOL12B | I/O | 6 | DQ7 | | Comp_of_IOL12A | True | D8 |
| IOL14A/LPLL1_T_IN0 | I/O | 6 | DQ7 | LPLL1_T_IN0 | True_of_IOL14B | True | C6 |
| IOL14B/LPLL1_C_IN0 | I/O | 6 | DQ7 | LPLL1_C_IN0 | Comp_of_IOL14A | True | D6 |
| IOL16A | I/O | 6 | DQ6/DQS_67 | | True_of_IOL16B | True | B13 |
| IOL16B | I/O | 6 | DQ6/DQS_67 | | Comp_of_IOL16A | True | A13 |
| IOL18A | I/O | 6 | DQ6 | | True_of_IOL18B | True | B11 |
| IOL18B | I/O | 6 | DQ6 | | Comp_of_IOL18A | True | B12 |
| IOL21A | I/O | 6 | DQS6/DQ6 | | True_of_IOL21B | True | A11 |
| IOL21B | I/O | 6 | DQS6/DQ6 | | Comp_of_IOL21A | True | A12 |
| IOL23A | I/O | 6 | DQ6 | | True_of_IOL23B | True | B10 |
| IOL23B | I/O | 6 | DQ6 | | Comp_of_IOL23A | True | A10 |
| IOL25A | I/O | 6 | DQ6 | | True_of_IOL25B | True | B9 |
| IOL25B | I/O | 6 | DQ6 | | Comp_of_IOL25A | True | A9 |
| IOL27A | I/O | 6 | DQ6 | | True_of_IOL27B | True | A8 |
| IOL27B | I/O | 6 | DQ6 | | Comp_of_IOL27A | True | B8 |
| IOL29A | I/O | 6 | none | | True_of_IOL29B | True | E8 |
| IOL29B | I/O | 6 | none | | Comp_of_IOL29A | True | F8 |
| IOL31A | I/O | 6 | none | | True_of_IOL31B | True | E7 |
| IOL31B | I/O | 6 | none | | Comp_of_IOL31A | True | F7 |
| IOL3A/GCLKT_14/LPLL0_T_IN2/LPLL0_T_FB0 | I/O | 6 | DQ7 | GCLKT_14/LPLL0_T_IN2/LPLL0_T_FB0 | True_of_IOL3B | True | A15 |
| IOL3B/GCLKC_14/LPLL0_C_IN2/LPLL0_C_FB0 | I/O | 6 | DQ7 | GCLKC_14/LPLL0_C_IN2/LPLL0_C_FB0 | Comp_of_IOL3A | True | B16 |
| IOL5A/GCLKT_13/LPLL0_T_IN1/LPLL0_T_FB1 | I/O | 6 | DQ7 | GCLKT_13/LPLL0_T_IN1/LPLL0_T_FB1 | True_of_IOL5B | True | B14 |
| IOL5B/GCLKC_13/LPLL0_C_IN1/LPLL0_C_FB1 | I/O | 6 | DQ7 | GCLKC_13/LPLL0_C_IN1/LPLL0_C_FB1 | Comp_of_IOL5A | True | A14 |
| IOL7A | I/O | 6 | DQ7 | | True_of_IOL7B | True | D11 |
| IOL7B | I/O | 6 | DQ7 | | Comp_of_IOL7A | True | C11 |
| IOL9A | I/O | 6 | DQS7/DQ7 | | True_of_IOL9B | True | C9 |
| IOL9B | I/O | 6 | DQS7/DQ7 | | Comp_of_IOL9A | True | D9 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|------------------------------------------------|-----|------|------|-----------------------------------------|----------------|------|--------|
| BANK5 True LVDS Pair | | | | | | | |
| IOB10A/D03/SSPI_CS_N | I/O | 5 | none | D03/SSPI_CS_N | True_of_IOB10B | True | D3 |
| IOB10B/D04/SI/SSI0 | I/O | 5 | none | D04/SI/SSI0 | Comp_of_IOB10A | True | D2 |
| IOB12A/GCLKT_10B/D07/SSPI_WPN/SSI2/LPLL1_T_IN1 | I/O | 5 | none | GCLKT_10B/D07/SSPI_WPN/SSI2/LPLL1_T_IN1 | True_of_IOB12B | True | E1 |
| IOB12B/GCLKC_10B/RDWR_B/LPLL1_C_IN1 | I/O | 5 | none | GCLKC_10B/RDWR_B/LPLL1_C_IN1 | Comp_of_IOB12A | True | D1 |
| IOB14A/SSPI_CLK | I/O | 5 | none | SSPI_CLK | True_of_IOB14B | True | F2 |
| IOB14B/CLKHOLD_N/SSI3 | I/O | 5 | none | CLKHOLD_N/SSI3 | Comp_of_IOB14A | True | F1 |
| IOB16A | I/O | 5 | none | | True_of_IOB16B | True | F5 |
| IOB16B | I/O | 5 | none | | Comp_of_IOB16A | True | E5 |
| IOB18A | I/O | 5 | none | | True_of_IOB18B | True | F4 |
| IOB18B | I/O | 5 | none | | Comp_of_IOB18A | True | F3 |
| IOB22A | I/O | 5 | none | | True_of_IOB22B | True | G5 |
| IOB22B | I/O | 5 | none | | Comp_of_IOB22A | True | H5 |
| IOB24A | I/O | 5 | none | | True_of_IOB24B | True | G2 |
| IOB24B | I/O | 5 | none | | Comp_of_IOB24A | True | G1 |
| IOB26A/GCLKT_9B | I/O | 5 | none | GCLKT_9B | True_of_IOB26B | True | H2 |
| IOB26B/GCLKC_9B | I/O | 5 | none | GCLKC_9B | Comp_of_IOB26A | True | H1 |
| IOB2A | I/O | 5 | none | | True_of_IOB2B | True | F6 |
| IOB2B | I/O | 5 | none | | Comp_of_IOB2A | True | E6 |
| IOB4A/D08/SDA/LPLL1_T_FB0 | I/O | 5 | none | D08/SDA/LPLL1_T_FB0 | True_of_IOB4B | True | C1 |
| IOB4B/D09/SCL/LPLL1_C_FB0 | I/O | 5 | none | D09/SCL/LPLL1_C_FB0 | Comp_of_IOB4A | True | B1 |
| IOB6A | I/O | 5 | none | | True_of_IOB6B | True | D5 |
| IOB6B | I/O | 5 | none | | Comp_of_IOB6A | True | D4 |
| IOB8A/D05/SO/SSI1 | I/O | 5 | none | D05/SO/SSI1 | True_of_IOB8B | True | C3 |
| IOB8B/D06 | I/O | 5 | none | D06 | Comp_of_IOB8A | True | C2 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|-------------------------------------|-----|------|------|------------------------------|----------------|------|--------|
| BANK4 True LVDS Pair | | | | | | | |
| IOB29A/GCLKT_11A | I/O | 4 | none | GCLKT_11A | True_of_IOB29B | True | H4 |
| IOB29B/GCLKC_11A | I/O | 4 | none | GCLKC_11A | Comp_of_IOB29A | True | H3 |
| IOB31A/GCLKT_10A/D14/BPLL_T_F B0 | I/O | 4 | none | GCLKT_10A/D14/BPLL_T_F B0 | True_of_IOB31B | True | J2 |
| IOB31B/GCLKC_10A/D15/BPLL_C_F B0 | I/O | 4 | none | GCLKC_10A/D15/BPLL_C_F B0 | Comp_of_IOB31A | True | J1 |
| IOB33A/GCLKT_9A/D13/BPLL_T_IN1 | I/O | 4 | none | GCLKT_9A/D13/BPLL_T_IN1 | True_of_IOB33B | True | J4 |
| IOB33B/GCLKC_9A/EMCCLK/BPLL_C_IN1 | I/O | 4 | none | GCLKC_9A/EMCCLK/BPLL_C_IN1 | Comp_of_IOB33A | True | J3 |
| IOB35A/GCLKT_8 | I/O | 4 | none | GCLKT_8 | True_of_IOB35B | True | K2 |
| IOB35B/GCLKC_8 | I/O | 4 | none | GCLKC_8 | Comp_of_IOB35A | True | K1 |
| IOB37A/READY | I/O | 4 | none | READY | True_of_IOB37B | True | L2 |
| IOB37B/MCS_N/CSO_B | I/O | 4 | none | MCS_N/CSO_B | Comp_of_IOB37A | True | L1 |
| IOB50A/D11 | I/O | 4 | none | D11 | True_of_IOB50B | True | M2 |
| IOB50B/D12 | I/O | 4 | none | D12 | Comp_of_IOB50A | True | M1 |
| IOB52A/MODE1 | I/O | 4 | none | MODE1 | True_of_IOB52B | True | N2 |
| IOB52B/D10 | I/O | 4 | none | D10 | Comp_of_IOB52A | True | N1 |
| IOB54A/GCLKT_11B/D01/MI2/BPLL_T_FB1 | I/O | 4 | none | GCLKT_11B/D01/MI2/BPLL_T_FB1 | True_of_IOB54B | True | P2 |
| IOB54B/GCLKC_11B/D02/MI3/BPLL_C_FB1 | I/O | 4 | none | GCLKC_11B/D02/MI3/BPLL_C_FB1 | Comp_of_IOB54A | True | P1 |
| IOB58A/D00/DIN/MISO/MI1 | I/O | 4 | none | D00/DIN/MISO/MI1 | True_of_IOB58B | True | N3 |
| IOB58B/MOSI/MI0/CSI_B | I/O | 4 | none | MOSI/MI0/CSI_B | Comp_of_IOB58A | True | P3 |
| IOB62A/CCLK | I/O | 4 | none | CCLK | True_of_IOB62B | True | L4 |
| IOB62B/MODE0 | I/O | 4 | none | MODE0 | Comp_of_IOB62A | True | L3 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|-----------------------------|-----|------|------------|--------------------|----------------|------|--------|
| BANK3 True LVDS Pair | | | | | | | |
| IOB65A | I/O | 3 | none | | True_of_IOB65B | True | M6 |
| IOB65B/DOUT | I/O | 3 | none | DOUT | Comp_of_IOB65A | True | N5 |
| IOB81A | I/O | 3 | DQ4 | | True_of_IOB81B | True | J6 |
| IOB81B | I/O | 3 | DQ4 | | Comp_of_IOB81A | True | J5 |
| IOB83A | I/O | 3 | DQ4 | | True_of_IOB83B | True | K6 |
| IOB83B | I/O | 3 | DQ4 | | Comp_of_IOB83A | True | K5 |
| IOB85A | I/O | 3 | DQS4/DQ4 | | True_of_IOB85B | True | K8 |
| IOB85B | I/O | 3 | DQS4/DQ4 | | Comp_of_IOB85A | True | L8 |
| IOB87A | I/O | 3 | DQ4 | | True_of_IOB87B | True | M7 |
| IOB87B | I/O | 3 | DQ4 | | Comp_of_IOB87A | True | M8 |
| IOB89A/GCLKT_7/BPLL_T_IN0 | I/O | 3 | DQ4 | GCLKT_7/BPLL_T_IN0 | True_of_IOB89B | True | L6 |
| IOB89B/GCLKC_7/BPLL_C_IN0 | I/O | 3 | DQ4 | GCLKC_7/BPLL_C_IN0 | Comp_of_IOB89A | True | L7 |
| IOB91A/GCLKT_6A | I/O | 3 | DQ4 | GCLKT_6A | True_of_IOB91B | True | R3 |
| IOB91B/GCLKC_6A | I/O | 3 | DQ4 | GCLKC_6A | Comp_of_IOB91A | True | R4 |
| BANK2 True LVDS Pair | | | | | | | |
| IOR12A | I/O | 2 | DQS2/DQ2 | | True_of_IOR12B | True | T10 |
| IOR12B/ADCINCLK | I/O | 2 | DQS2/DQ2 | ADCINCLK | Comp_of_IOR12A | True | T11 |
| IOR14A | I/O | 2 | DQ2 | | True_of_IOR14B | True | R9 |
| IOR14B/ADCOTEST | I/O | 2 | DQ2 | ADCOTEST | Comp_of_IOR14A | True | R10 |
| IOR16A | I/O | 2 | DQ2 | | True_of_IOR16B | True | T9 |
| IOR16B | I/O | 2 | DQ2 | | Comp_of_IOR16A | True | T8 |
| IOR18A | I/O | 2 | DQ2/DQS_23 | | True_of_IOR18B | True | N9 |
| IOR18B | I/O | 2 | DQ2/DQS_23 | | Comp_of_IOR18A | True | P9 |
| IOR20A | I/O | 2 | DQ3 | | True_of_IOR20B | True | N8 |
| IOR20B | I/O | 2 | DQ3 | | Comp_of_IOR20A | True | P8 |
| IOR22A | I/O | 2 | DQ3 | | True_of_IOR22B | True | R8 |
| IOR22B | I/O | 2 | DQ3 | | Comp_of_IOR22A | True | R7 |
| IOR24A | I/O | 2 | DQ3 | | True_of_IOR24B | True | N6 |
| IOR24B | I/O | 2 | DQ3 | | Comp_of_IOR24A | True | P6 |
| IOR26A | I/O | 2 | DQS3/DQ3 | | True_of_IOR26B | True | T7 |
| IOR26B | I/O | 2 | DQS3/DQ3 | | Comp_of_IOR26A | True | T6 |
| IOR29A | I/O | 2 | DQ3 | | True_of_IOR29B | True | R6 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|--------------------------------------------|-----|------|------|-------------------------------------|----------------|------|--------|
| IOR29B | I/O | 2 | DQ3 | | Comp_of_IOR29A | True | R5 |
| IOR31A/GCLKT_4/RPLL1_T_IN0/RPL L1_T_FB1 | I/O | 2 | DQ3 | GCLKT_4/RPLL1_T_IN0/RP LL1_T_FB1 | True_of_IOR31B | True | T5 |
| IOR31B/GCLKC_4/RPLL1_C_IN0/RP LL1_C_FB1 | I/O | 2 | DQ3 | GCLKC_4/RPLL1_C_IN0/RP LL1_C_FB1 | Comp_of_IOR31A | True | T4 |
| IOR33A/GCLKT_5/RPLL1_T_IN1/RPL L1_T_FB0 | I/O | 2 | none | GCLKT_5/RPLL1_T_IN1/RP LL1_T_FB0 | True_of_IOR33B | True | T3 |
| IOR33B/GCLKC_5/RPLL1_C_IN1/RP LL1_C_FB0 | I/O | 2 | none | GCLKC_5/RPLL1_C_IN1/RP LL1_C_FB0 | Comp_of_IOR33A | True | T2 |
| IOR5A | I/O | 2 | none | | True_of_IOR5B | True | N11 |
| IOR5B | I/O | 2 | none | | Comp_of_IOR5A | True | P11 |
| IOR7A | I/O | 2 | DQ2 | | True_of_IOR7B | True | T12 |
| IOR7B | I/O | 2 | DQ2 | | Comp_of_IOR7A | True | T13 |
| IOR9A | I/O | 2 | DQ2 | | True_of_IOR9B | True | R11 |
| IOR9B/MCKTEST | I/O | 2 | DQ2 | MCKTEST | Comp_of_IOR9A | True | R12 |
| BANK0 True LVDS Pair | | | | | | | |
| IOT29A/PUDC_B | I/O | 0 | none | PUDC_B | True_of_IOT29B | True | K15 |
| IOT29B | I/O | 0 | none | | Comp_of_IOT29A | True | K16 |
| IOT31A | I/O | 0 | none | | True_of_IOT31B | True | J11 |
| IOT31B | I/O | 0 | none | | Comp_of_IOT31A | True | K11 |
| IOT33A | I/O | 0 | none | | True_of_IOT33B | True | K10 |
| IOT33B | I/O | 0 | none | | Comp_of_IOT33A | True | K9 |
| IOT35A | I/O | 0 | none | | True_of_IOT35B | True | K12 |
| IOT35B | I/O | 0 | none | | Comp_of_IOT35A | True | L12 |
| IOT37A | I/O | 0 | none | | True_of_IOT37B | True | L13 |
| IOT37B | I/O | 0 | none | | Comp_of_IOT37A | True | L14 |
| IOT39A | I/O | 0 | none | | True_of_IOT39B | True | L15 |
| IOT39B | I/O | 0 | none | | Comp_of_IOT39A | True | L16 |
| IOT41A | I/O | 0 | none | | True_of_IOT41B | True | L10 |
| IOT41B | I/O | 0 | none | | Comp_of_IOT41A | True | L9 |
| IOT43A | I/O | 0 | none | | True_of_IOT43B | True | L11 |
| IOT43B | I/O | 0 | none | | Comp_of_IOT43A | True | M11 |
| IOT45A | I/O | 0 | none | | True_of_IOT45B | True | M10 |

| 管脚名称 | 功能 | BANK | DQS | 配置功能 | 差分Pair | LVDS | UG256P |
|--------------------------------------|-----|------|------|-------------------------------|----------------|------|--------|
| IOT45B | I/O | 0 | none | | Comp_of_IOT45A | True | M9 |
| IOT48A | I/O | 0 | none | | True_of_IOT48B | True | M12 |
| IOT48B | I/O | 0 | none | | Comp_of_IOT48A | True | N12 |
| IOT50A | I/O | 0 | none | | True_of_IOT50B | True | M15 |
| IOT50B | I/O | 0 | none | | Comp_of_IOT50A | True | M16 |
| IOT52A | I/O | 0 | none | | True_of_IOT52B | True | N13 |
| IOT52B | I/O | 0 | none | | Comp_of_IOT52A | True | N14 |
| IOT54A | I/O | 0 | none | | True_of_IOT54B | True | P14 |
| IOT54B | I/O | 0 | none | | Comp_of_IOT54A | True | P15 |
| IOT56A/GCLKT_0/TPLL_T_IN1/TPLL_T_FB1 | I/O | 0 | none | GCLKT_0/TPLL_T_IN1/TPLL_T_FB1 | True_of_IOT56B | True | N15 |
| IOT56B/GCLKC_0/TPLL_C_IN1/TPLL_C_FB1 | I/O | 0 | none | GCLKC_0/TPLL_C_IN1/TPLL_C_FB1 | Comp_of_IOT56A | True | N16 |
| IOT58A/GCLKT_1/TPLL_T_IN2/TPLL_T_FB0 | I/O | 0 | none | GCLKT_1/TPLL_T_IN2/TPLL_T_FB0 | True_of_IOT58B | True | P16 |
| IOT58B/GCLKC_1/TPLL_C_IN2/TPLL_C_FB0 | I/O | 0 | none | GCLKC_1/TPLL_C_IN2/TPLL_C_FB0 | Comp_of_IOT58A | True | R16 |

注！
[1] VQPS为eFuse写入所需的电源，当不需要写eFuse的时候，这个电源可以给GND或floating。

| GW5AR-25器件UG256P封装电源供电要求 | | | |
|------------------------------|---------------------------------------------------------------|--------|--------|
| 名称 | 描述 | 最小值 | 最大值 |
| VCCIO0 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO1 | I/O Bank电源电压，与PSRAM接口相连，VCCIO1提供PSRAM工作电压 | 1.71V | 1.89V |
| VCCIO2 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO3 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO4 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO5 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO6 | I/O Bank电压 | 1.14V | 3.465V |
| VCCIO7 | I/O Bank电压 | 1.14V | 3.465V |
| M0_VDDX/VCC_REG/VCCIO10/VCCX | MIPI电压M0_VDDX, Regulator电压, I/O Bank电压VCCIO10和辅助电压VCCX内部短接在一起 | 2.375V | 3.3V |
| VQPS ^[1] | eFuse写入所需电压 | 1.62V | 1.98V |
| VCC/VCCC | 核电压和Clock tree电压内部短接在一起 | 0.87V | 1.03V |
| M0_VDD_12 | MIPI电压M0_VDD_12 | 1.14V | 1.32V |
| M0_VDDA/M0_VDDD | MIPI电压M0_VDDA和M0_VDDD内部短接在一起 | 0.87V | 1.03V |