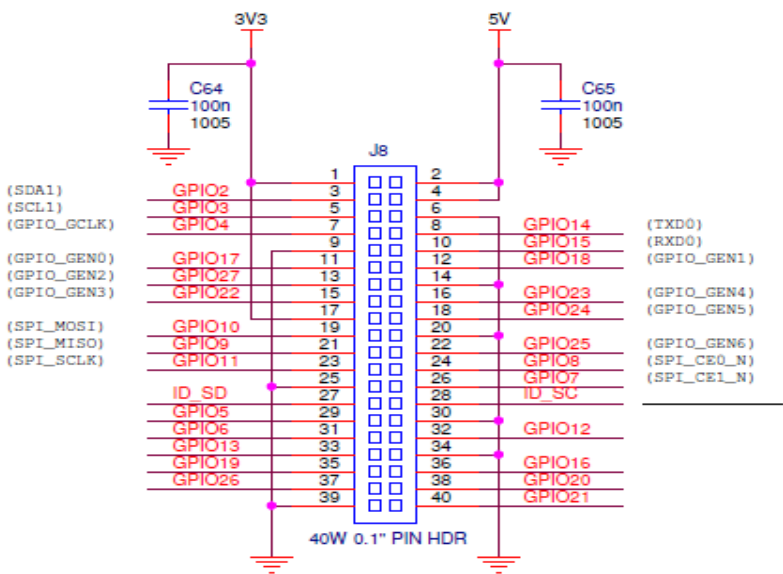


|                              |                |                 |                  |   |  | GPIO function enable offset (add to register offset)                                       |  |   |                   |  |
|------------------------------|----------------|-----------------|------------------|---|--|--|--|---|-------------------|--|
|                              |                |                 |                  |   |  | GPIO   | GPIO function enable bit (ls)  | GPIO function enable offset (add to 0x20200000) | R/W GPIO bit (ls) | R/W GPIO offset (add to register offset) |
| GPIO Base address 0x3F200000 | Hex 0x3F200000 | Offset (dec) 0  | 32-bit registers | Function Select Register store GPIO start address: ldr r0,=0x3F200000                         | bits 0-2 = GPIO 0<br>bits 9-11 = GPIO 3<br>bits 15-17 = GPIO 5<br>bits 24-26 = GPIO 8              | bits 3-5 = GPIO 1<br>bits 12-14 = GPIO 4<br>bits 18-20 = GPIO 6<br>bits 27-29 = GPIO 9     | bits 6-8 = GPIO 2<br>bits 21-23 = GPIO 7<br>bits 6-8 = GPIO 12<br>bits 21-23 = GPIO 17<br>bits 6-8 = GPIO 22<br>bits 21-23 = GPIO 27<br>bits 27-29 = GPIO 29 |   |                   |  |
|                              |                |                 |                  |   |  |  |  |   |                   |  |
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| GPIO exec write 1            | Hex 0x3F20001C | Offset (dec) 28 | 32-bit registers | Function Select Register Write 1 to GPIO18 (Lab 7) mov r1,#1 lsl r1,#18 str r1,[r0,#28]       | bits 0-7 = GPIO 0-7<br>bits 8-15 = GPIO 8-15<br>bits 16-23 = GPIO 16-23<br>bits 24-31 = GPIO 24-31 | bits 3-5 = GPIO 31<br>bits 12-14 = GPIO 34<br>bits 18-20 = GPIO 36<br>bits 27-29 = GPIO 39 | bits 6-8 = GPIO 42<br>bits 21-23 = GPIO 47<br>bits 27-29 = GPIO 49   |   |                   |  |
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| GPIO exec write 0            | Hex 0x3F20002C | Offset (dec) 44 | 32-bit registers | Function Select Register Write 1 GPIO18 (Lab 7) mov r1,#1 lsl r1,#18 str r1,[r0,#40]          | bits 0-7 = GPIO 0-7<br>bits 8-15 = GPIO 8-15<br>bits 16-23 = GPIO 16-23<br>bits 24-31 = GPIO 24-31 | bits 3-5 = GPIO 32-39<br>bits 8-15 = GPIO 40-47<br>bits 16-22 = GPIO 48-54                 |  |   |                   |  |
|                              |                |                 |                  |   |  |  |  |   |                   |  |
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| GPIO exec read               | Hex 0x3F200034 | Offset (dec) 52 | 32-bit registers | Function Select Register This register contains state of the GPIO pin (if programmed to read) | bits 0-7 = GPIO 0-7<br>bits 8-15 = GPIO 8-15<br>bits 16-23 = GPIO 16-23<br>bits 24-31 = GPIO 24-31 | bits 3-5 = GPIO 32-39<br>bits 8-15 = GPIO 40-47<br>bits 16-22 = GPIO 48-54                 |  |   |                   |  |
|                              |                |                 |                  |   |  |  |  |   |                   |  |
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RPi Model B+, 2B, 3B



GPIO EXPANSION

