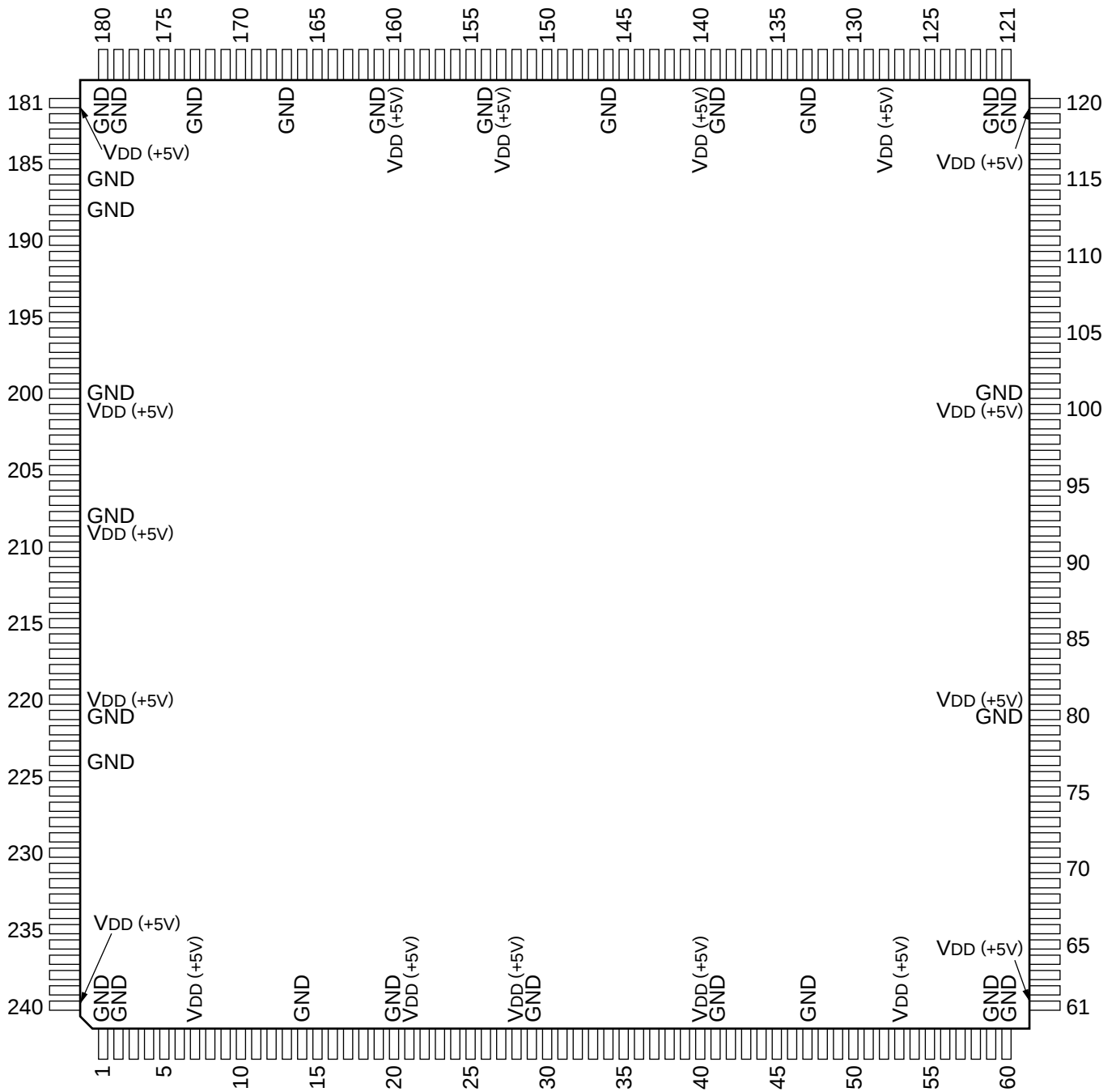


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## C-MOS PIXEL DATA CONTROL

-TOP VIEW-



(V<sub>DD</sub> = +5V)

| PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          |
|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|
| 1       | —   | GND             | 49      | I/O | KC4             | 97      | I   | BB6             | 145     | I/O | RC5             | 193     | I   | VHD             |
| 2       | —   | GND             | 50      | I/O | KC5             | 98      | I   | BB7             | 146     | —   | GND             | 194     | I   | VVD             |
| 3       | O   | MODE0           | 51      | I/O | KC6             | 99      | I   | RB0             | 147     | I/O | RC6             | 195     | I   | VFLD            |
| 4       | O   | MODE1           | 52      | I/O | KC7             | 100     | —   | V <sub>DD</sub> | 148     | I/O | RC7             | 196     | I/O | AD00            |
| 5       | O   | SA00            | 53      | —   | V <sub>DD</sub> | 101     | —   | GND             | 149     | O   | B0              | 197     | I/O | AD01            |
| 6       | O   | SA01            | 54      | I   | BA0             | 102     | I   | RB1             | 150     | O   | B1              | 198     | I/O | AD02            |
| 7       | —   | V <sub>DD</sub> | 55      | I   | BA1             | 103     | I   | RB2             | 151     | O   | B2              | 199     | I/O | AD03            |
| 8       | I   | CLR             | 56      | I   | BA2             | 104     | I   | RB3             | 152     | O   | B3              | 200     | —   | GND             |
| 9       | O   | SA02            | 57      | I   | BA3             | 105     | I   | RB4             | 153     | —   | V <sub>DD</sub> | 201     | —   | V <sub>DD</sub> |
| 10      | O   | SA03            | 58      | I   | BA4             | 106     | I   | RB5             | 154     | —   | GND             | 202     | I/O | AD04            |
| 11      | O   | SA04            | 59      | —   | GND             | 107     | I   | RB6             | 155     | O   | B4              | 203     | I/O | AD05            |
| 12      | O   | SA05            | 60      | —   | GND             | 108     | I   | RB7             | 156     | O   | B5              | 204     | I/O | AD06            |
| 13      | O   | SA06            | 61      | —   | V <sub>DD</sub> | 109     | I   | YB0             | 157     | O   | B6              | 205     | I/O | AD07            |
| 14      | —   | GND             | 62      | I   | BA5             | 110     | I   | YB1             | 158     | O   | B7              | 206     | I/O | AD08            |
| 15      | O   | SA07            | 63      | I   | BA6             | 111     | I   | YB2             | 159     | O   | R0              | 207     | I/O | AD09            |
| 16      | O   | SA08            | 64      | I   | BA7             | 112     | I   | YB3             | 160     | —   | V <sub>DD</sub> | 208     | —   | GND             |
| 17      | O   | SA09            | 65      | I   | RA0             | 113     | I   | YB4             | 161     | —   | GND             | 209     | —   | V <sub>DD</sub> |
| 18      | O   | SA10            | 66      | I   | RA1             | 114     | I   | YB5             | 162     | O   | R1              | 210     | I/O | AD10            |
| 19      | O   | SA11            | 67      | I   | RA2             | 115     | I   | YB6             | 163     | O   | R2              | 211     | I/O | AD11            |
| 20      | —   | GND             | 68      | I   | RA3             | 116     | I   | YB7             | 164     | O   | R3              | 212     | I/O | AD12            |
| 21      | —   | V <sub>DD</sub> | 69      | I   | RA4             | 117     | I   | KB0             | 165     | O   | R4              | 213     | I/O | AD13            |
| 22      | I   | TEST2           | 70      | I   | RA5             | 118     | I   | KB1             | 166     | O   | R5              | 214     | I/O | AD14            |
| 23      | O   | SA12            | 71      | I   | RA6             | 119     | I   | KB2             | 167     | —   | GND             | 215     | I/O | AD15            |
| 24      | O   | SA13            | 72      | I   | RA7             | 120     | —   | V <sub>DD</sub> | 168     | O   | R6              | 216     | I   | LDA             |
| 25      | O   | SA14            | 73      | I   | YA0             | 121     | —   | GND             | 169     | O   | R7              | 217     | I   | UPA             |
| 26      | O   | SA15            | 74      | I   | YA1             | 122     | —   | GND             | 170     | O   | Y0              | 218     | I   | IOWR            |
| 27      | O   | SA16            | 75      | I   | YA2             | 123     | I   | KB3             | 171     | O   | Y1              | 219     | I   | IORD            |
| 28      | —   | V <sub>DD</sub> | 76      | I   | YA3             | 124     | I   | KB4             | 172     | O   | Y2              | 220     | —   | V <sub>DD</sub> |
| 29      | —   | GND             | 77      | I   | YA4             | 125     | I   | KB5             | 173     | —   | GND             | 221     | —   | GND             |
| 30      | O   | SWE0            | 78      | I   | YA5             | 126     | I   | KB6             | 174     | O   | Y3              | 222     | I   | RST             |
| 31      | O   | SWE1            | 79      | I   | YA6             | 127     | I   | KB7             | 175     | O   | Y4              | 223     | I   | PCLK            |
| 32      | O   | SOE0            | 80      | —   | GND             | 128     | —   | V <sub>DD</sub> | 176     | O   | Y5              | 224     | —   | GND             |
| 33      | O   | SOE1            | 81      | —   | V <sub>DD</sub> | 129     | I/O | BC0             | 177     | O   | Y6              | 225     | I   | CS              |
| 34      | I/O | YC0             | 82      | I   | YA7             | 130     | I/O | BC1             | 178     | O   | Y7              | 226     | O   | COUNT LD        |
| 35      | I/O | YC1             | 83      | I   | KA0             | 131     | I/O | BC2             | 179     | —   | GND             | 227     | O   | COUNT UP        |
| 36      | I/O | YC2             | 84      | I   | KA1             | 132     | I/O | BC3             | 180     | —   | GND             | 228     | O   | HSYNC           |
| 37      | I/O | YC3             | 85      | I   | KA2             | 133     | —   | GND             | 181     | —   | V <sub>DD</sub> | 229     | O   | VSYN            |
| 38      | I/O | YC4             | 86      | I   | KA3             | 134     | I/O | BC4             | 182     | O   | K0              | 230     | O   | CSYN            |
| 39      | I/O | YC5             | 87      | I   | KA4             | 135     | I/O | BC5             | 183     | O   | K1              | 231     | O   | HBLK            |
| 40      | —   | V <sub>DD</sub> | 88      | I   | KA5             | 136     | I/O | BC6             | 184     | O   | K2              | 232     | O   | VBLK            |
| 41      | —   | GND             | 89      | I   | KA6             | 137     | I/O | BC7             | 185     | O   | K3              | 233     | O   | SCBLK           |
| 42      | I/O | YC6             | 90      | I   | KA7             | 138     | I/O | RC0             | 186     | —   | GND             | 234     | O   | KVBLK           |
| 43      | I/O | YC7             | 91      | I   | BB0             | 139     | —   | GND             | 187     | I   | DCLK            | 235     | O   | FLD             |
| 44      | I/O | KC0             | 92      | I   | BB1             | 140     | —   | V <sub>DD</sub> | 188     | —   | GND             | 236     | O   | HACTIVE         |
| 45      | I/O | KC1             | 93      | I   | BB2             | 141     | I/O | RC1             | 189     | O   | K4              | 237     | O   | VACTIVE         |
| 46      | I/O | KC2             | 94      | I   | BB3             | 142     | I/O | RC2             | 190     | O   | K5              | 238     | O   | SCLK            |
| 47      | —   | GND             | 95      | I   | BB4             | 143     | I/O | RC3             | 191     | O   | K6              | 239     | I   | HP0             |
| 48      | I/O | KC3             | 96      | I   | BB5             | 144     | I/O | RC4             | 192     | O   | K7              | 240     | —   | V <sub>DD</sub> |

**INPUT**

|           |                                   |
|-----------|-----------------------------------|
| BA0 - BA7 | ; B PIXEL DATA                    |
| BB0 - BB7 | ; B PIXEL DATA                    |
| CLR       | ; INTERNAL REGISTER CLEAR         |
| CS        | ; CHIP SELECT                     |
| DCLK      | ; PIXEL CLOCK (13.5 MHz)          |
| HP0       | ; VRAM SERIAL CLOCK PHASE SETTING |
| KA0 - KA7 | ; K PIXEL DATA                    |
| KB0 - KB7 | ; K PIXEL DATA                    |
| IORD      | ; I/O READ SIGNAL                 |
| IOWR      | ; I/O WRITE SIGNAL                |
| LDA       | ; ADDRESS LOAD SIGNAL             |
| PCLK      | ; I/O CLOCK (33.3 MHz)            |
| RA0 - RA7 | ; R PIXEL DATA                    |
| RB0 - RB7 | ; R PIXEL DATA                    |
| RST       | ; RESET                           |
| TEST2     | ; HIGH = TEST MODE/LOW = NORMAL   |
| UPA       | ; ADDRESS UP SIGNAL               |
| VFLD      | ; EXTERNAL FLD                    |
| VHD       | ; EXTERNAL HD                     |
| VVD       | ; EXTERNAL VD                     |
| YA0 - YA7 | ; Y PIXEL DATA                    |
| YB0 - YB7 | ; Y PIXEL DATA                    |

**OUTPUT**

|              |                                                              |
|--------------|--------------------------------------------------------------|
| B0 - B7      | ; B PIXEL DATA                                               |
| COUNT LD     | ; DISPLAY ADDRESS STROBE SIGNAL                              |
| COUNT UP     | ; DISPLAY ADDRESS UP SIGNAL                                  |
| CSYNC        | ; CHROMINANCE SYNC                                           |
| FLD          | ; FIELD                                                      |
| HACTIVE      | ; AREA (HORIZONTAL)                                          |
| HBLK         | ; HORIZONTAL BLANKING                                        |
| HSYNC        | ; HORIZONTAL SYNC                                            |
| K0 - K7      | ; K PIXEL DATA                                               |
| KVBLK        | ; KEY BLANKING                                               |
| MODE0, MODE1 | ; MODE SELECT                                                |
| R0 - R7      | ; R PIXEL DATA                                               |
| SA00 - SA16  | ; SRAM ADDRESS                                               |
| SCBLK        | ; SCLK BLANKING                                              |
| SCLK         | ; VRAM SERIAL CLOCK                                          |
| SOE0, SOE1   | ; SRAM OUTPUT ENABLE (SOE0 = BC, RC SIDE/SOE1 = YC, KC SIDE) |
| SWE0, SWE1   | ; SRAM WRITE ENABLE (SWE0 = BC, RC SIDE/SWE1 = YC, KC SIDE)  |
| VACTIVE      | ; AREA (VERTICAL)                                            |
| VBLK         | ; VERTICAL BLANKING                                          |
| VSNC         | ; VERTICAL SYNC                                              |
| Y0 - Y7      | ; Y PIXEL DATA                                               |

**INPUT/OUTPUT**

|             |                    |
|-------------|--------------------|
| AD00 - AD15 | ; ADDRESS/DATA BUS |
| BC0 - BC7   | ; B SRAM DATA BUS  |
| KC0 - KC7   | ; K SRAM DATA BUS  |
| RC0 - RC7   | ; R SRAM DATA BUS  |
| YC0 - YC7   | ; Y SRAM DATA BUS  |

|     |     |     |     |    |          |
|-----|-----|-----|-----|----|----------|
| 137 | B07 | 108 | RB7 | 82 | YA7      |
| 136 | B06 |     |     |    | YA6      |
| 135 | B05 |     |     |    | YA5      |
| 134 | B04 |     |     |    | YA4      |
| 133 | B03 |     |     |    | YA3      |
| 132 | B02 |     |     |    | YA2      |
| 131 | B01 |     |     |    | YA1      |
| 130 | B00 |     |     |    | YA0      |
| 129 |     |     |     |    | YB7      |
| 148 | RC7 |     |     |    | YB6      |
| 147 | RC6 |     |     |    | YB5      |
| 146 | RC5 |     |     |    | YB4      |
| 145 | RC4 |     |     |    | YB3      |
| 144 | RC3 |     |     |    | YB2      |
| 143 | RC2 |     |     |    | YB1      |
| 142 | RC1 |     |     |    | YB0      |
| 141 | RC0 |     |     |    |          |
| 43  | YC7 |     |     |    | KA7      |
| 42  | YC6 |     |     |    | KA6      |
| 39  | YC5 |     |     |    | KA5      |
| 38  | YC4 |     |     |    | KA4      |
| 37  | YC3 |     |     |    | KA3      |
| 36  | YC2 |     |     |    | KA2      |
| 35  | YC1 |     |     |    | KA1      |
| 34  | YC0 |     |     |    | KA0      |
| 52  | K07 |     |     |    | KB7      |
| 51  | K06 |     |     |    | KB6      |
| 50  | K05 |     |     |    | KB5      |
| 49  | K04 |     |     |    | KB4      |
| 48  | K03 |     |     |    | KB3      |
| 46  | K02 |     |     |    | KB2      |
| 45  | K01 |     |     |    | KB1      |
| 44  | K00 |     |     |    | KB0      |
| 158 |     |     |     |    | AD15     |
| 157 | B7  |     |     |    | AD14     |
| 156 | B6  |     |     |    | AD13     |
| 155 | B5  |     |     |    | AD12     |
| 154 | B4  |     |     |    | AD11     |
| 153 | B3  |     |     |    | AD10     |
| 151 | B2  |     |     |    | AD09     |
| 150 | B1  |     |     |    | AD08     |
| 149 | B0  |     |     |    | AD07     |
| 168 | R7  |     |     |    | AD06     |
| 167 | R6  |     |     |    | AD05     |
| 166 | R5  |     |     |    | AD04     |
| 165 | R4  |     |     |    | AD03     |
| 164 | R3  |     |     |    | AD02     |
| 163 | R2  |     |     |    | AD01     |
| 162 | R1  |     |     |    | AD00     |
| 161 | R0  |     |     |    |          |
| 178 |     |     |     |    | DCLK     |
| 177 | Y7  |     |     |    | VHD      |
| 176 | Y6  |     |     |    | VW0      |
| 175 | Y5  |     |     |    | VFD0     |
| 174 | Y4  |     |     |    | HP0      |
| 173 | Y3  |     |     |    | LD8      |
| 172 | Y2  |     |     |    | LD7      |
| 171 | Y1  |     |     |    | LD6      |
| 170 | Y0  |     |     |    | LD5      |
| 192 | K7  |     |     |    | LD4      |
| 191 | K6  |     |     |    | LD3      |
| 190 | K5  |     |     |    | LD2      |
| 189 | K4  |     |     |    | LD1      |
| 188 | K3  |     |     |    | LD0      |
| 187 | K2  |     |     |    | LD0      |
| 186 | K1  |     |     |    | LD0      |
| 185 | K0  |     |     |    | LD0      |
| 231 |     |     |     |    | HBK      |
| 232 |     |     |     |    | VBK      |
| 234 |     |     |     |    | KVBK     |
| 235 |     |     |     |    | FLD      |
| 228 |     |     |     |    | HSYNC    |
| 229 |     |     |     |    | VSYNC    |
| 230 |     |     |     |    | CSYNC    |
| 233 |     |     |     |    | SCBK     |
| 238 |     |     |     |    | SCLK     |
| 226 |     |     |     |    | COUNT LD |
| 227 |     |     |     |    | COUNT UP |
| 236 |     |     |     |    | HACTIVE  |
| 237 |     |     |     |    | VACTIVE  |
| 31  |     |     |     |    | SWE1     |
| 30  |     |     |     |    | SWE0     |
| 32  |     |     |     |    | SOE0     |
| 33  |     |     |     |    | SOE1     |
| 27  |     |     |     |    | SA16     |
| 26  |     |     |     |    | SA15     |
| 25  |     |     |     |    | SA14     |
| 24  |     |     |     |    | SA13     |
| 23  |     |     |     |    | SA12     |
| 19  |     |     |     |    | SA11     |
| 18  |     |     |     |    | SA10     |
| 17  |     |     |     |    | SA09     |
| 16  |     |     |     |    | SA08     |
| 15  |     |     |     |    | SA07     |
| 13  |     |     |     |    | SA06     |
| 12  |     |     |     |    | SA05     |
| 11  |     |     |     |    | SA04     |
| 10  |     |     |     |    | SA03     |
| 9   |     |     |     |    | SA02     |
| 6   |     |     |     |    | SA01     |
| 5   |     |     |     |    | SA00     |
| 4   |     |     |     |    | MODE1    |
| 3   |     |     |     |    | MODE0    |

