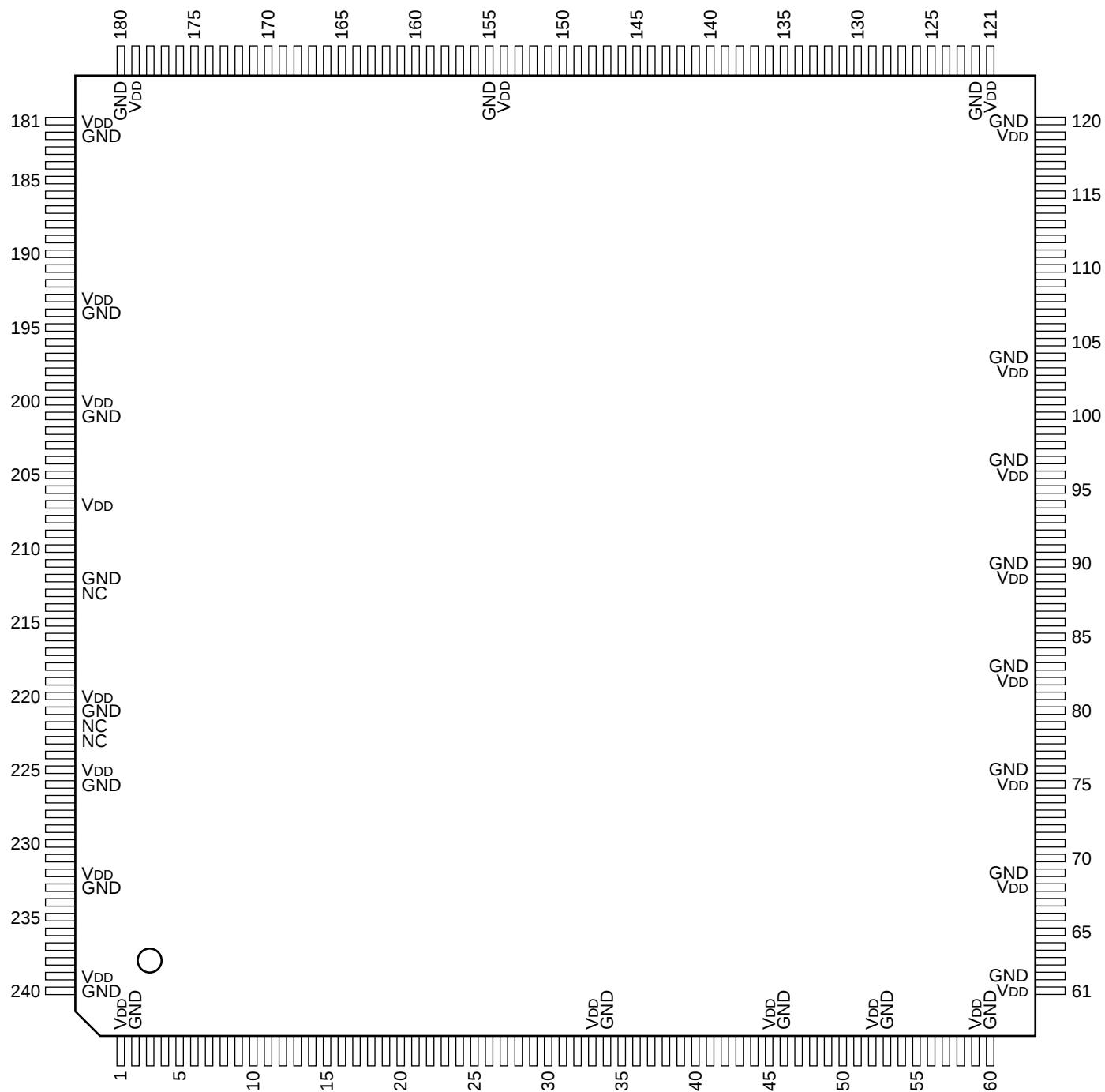


## C-MOS FILTER

—TOP VIEW—



| PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          | PIN NO. | I/O | SIGNAL          |
|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|
| 1       | —   | V <sub>DD</sub> | 61      | —   | V <sub>DD</sub> | 121     | —   | V <sub>DD</sub> | 181     | —   | V <sub>DD</sub> |
| 2       | —   | GND             | 62      | —   | GND             | 122     | —   | GND             | 182     | —   | GND             |
| 3       | I   | HV9             | 63      | I/O | V5 9            | 123     | I   | LSF0            | 183     | I   | V14 9           |
| 4       | I   | HV8             | 64      | I/O | V5 8            | 124     | I   | V9 9            | 184     | I   | V14 8           |
| 5       | I   | HV7             | 65      | I/O | V5 7            | 125     | I   | V9 8            | 185     | I   | V14 7           |
| 6       | I   | HV6             | 66      | I/O | V5 6            | 126     | I   | V9 7            | 186     | I   | V14 6           |
| 7       | I   | HV5             | 67      | I/O | V5 5            | 127     | I   | V9 6            | 187     | I   | V14 5           |
| 8       | I   | HV4             | 68      | —   | V <sub>DD</sub> | 128     | I   | V9 5            | 188     | I   | V14 4           |
| 9       | I   | HV3             | 69      | —   | GND             | 129     | I   | V9 4            | 189     | I   | V14 3           |
| 10      | I   | HV2             | 70      | I/O | V5 4            | 130     | I   | V9 3            | 190     | I   | V14 2           |
| 11      | I   | HV1             | 71      | I/O | V5 3            | 131     | I   | V9 2            | 191     | I   | V14 1           |
| 12      | I   | HV0             | 72      | I/O | V5 2            | 132     | I   | V9 1            | 192     | I   | V14 0           |
| 13      | I   | V1 9            | 73      | I/O | V5 1            | 133     | I   | V9 0            | 193     | —   | V <sub>DD</sub> |
| 14      | I   | V1 8            | 74      | I/O | V5 0            | 134     | I   | V10 9           | 194     | —   | GND             |
| 15      | I   | V1 7            | 75      | —   | V <sub>DD</sub> | 135     | I   | V10 8           | 195     | O   | FIL9            |
| 16      | I   | V1 6            | 76      | —   | GND             | 136     | I   | V10 7           | 196     | O   | FIL8            |
| 17      | I   | V1 5            | 77      | I/O | V6 9            | 137     | I   | V10 6           | 197     | O   | FIL7            |
| 18      | I   | V1 4            | 78      | I/O | V6 8            | 138     | I   | V10 5           | 198     | O   | FIL6            |
| 19      | I   | V1 3            | 79      | I/O | V6 7            | 139     | I   | V10 4           | 199     | O   | FIL5            |
| 20      | I   | V1 2            | 80      | I/O | V6 6            | 140     | I   | V10 3           | 200     | —   | V <sub>DD</sub> |
| 21      | I   | V1 1            | 81      | I/O | V6 5            | 141     | I   | V10 2           | 201     | —   | GND             |
| 22      | I   | V1 0            | 82      | —   | V <sub>DD</sub> | 142     | I   | V10 1           | 202     | O   | FIL4            |
| 23      | I   | V2 9            | 83      | —   | GND             | 143     | I   | V10 0           | 203     | O   | FIL3            |
| 24      | I   | V2 8            | 84      | I/O | V6 4            | 144     | I   | V11 9           | 204     | O   | FIL2            |
| 25      | I   | V2 7            | 85      | I/O | V6 3            | 145     | I   | V11 8           | 205     | O   | FIL1            |
| 26      | I   | V2 6            | 86      | I/O | V6 2            | 146     | I   | V11 7           | 206     | O   | FIL0            |
| 27      | I   | V2 5            | 87      | I/O | V6 1            | 147     | I   | V11 6           | 207     | —   | V <sub>DD</sub> |
| 28      | I   | V2 4            | 88      | I/O | V6 0            | 148     | I   | V11 5           | 208     | I   | CLK             |
| 29      | I   | V2 3            | 89      | —   | V <sub>DD</sub> | 149     | I   | V11 4           | 209     | I   | CCLK            |
| 30      | I   | V2 2            | 90      | —   | GND             | 150     | I   | V11 3           | 210     | I   | CFCLK           |
| 31      | I   | V2 1            | 91      | I/O | V7 9            | 151     | I   | V11 2           | 211     | I   | CK18            |
| 32      | I   | V2 0            | 92      | I/O | V7 8            | 152     | I   | V11 1           | 212     | —   | GND             |
| 33      | —   | V <sub>DD</sub> | 93      | I/O | V7 7            | 153     | I   | V11 0           | 213     | —   | NC              |
| 34      | —   | GND             | 94      | I/O | V7 6            | 154     | —   | V <sub>DD</sub> | 214     | I   | CPGM            |
| 35      | I   | V3 9            | 95      | I/O | V7 5            | 155     | —   | GND             | 215     | I   | CSADD           |
| 36      | I   | V3 8            | 96      | —   | V <sub>DD</sub> | 156     | I   | V12 9           | 216     | I   | CSEL            |
| 37      | I   | V3 7            | 97      | —   | GND             | 157     | I   | V12 8           | 217     | I   | CDIN            |
| 38      | I   | V3 6            | 98      | I/O | V7 4            | 158     | I   | V12 7           | 218     | I   | CFRST           |
| 39      | I   | V3 5            | 99      | I/O | V7 3            | 159     | I   | V12 6           | 219     | I   | RST             |
| 40      | I   | V3 4            | 100     | I/O | V7 2            | 160     | I   | V12 5           | 220     | —   | V <sub>DD</sub> |
| 41      | I   | V3 3            | 101     | I/O | V7 1            | 161     | I   | V12 4           | 221     | —   | GND             |
| 42      | I   | V3 2            | 102     | I/O | V7 0            | 162     | I   | V12 3           | 222     | —   | NC              |
| 43      | I   | V3 1            | 103     | —   | V <sub>DD</sub> | 163     | I   | V12 2           | 223     | —   | NC              |
| 44      | I   | V3 0            | 104     | —   | GND             | 164     | I   | V12 1           | 224     | O   | PO              |
| 45      | —   | V <sub>DD</sub> | 105     | I   | V8 9            | 165     | I   | V12 0           | 225     | —   | V <sub>DD</sub> |
| 46      | —   | GND             | 106     | I   | V8 8            | 166     | I   | V13 9           | 226     | —   | GND             |
| 47      | I/O | V4 9            | 107     | I   | V8 7            | 167     | I   | V13 8           | 227     | I/O | COEF9           |
| 48      | I/O | V4 8            | 108     | I   | V8 6            | 168     | I   | V13 7           | 228     | I/O | COEF8           |
| 49      | I/O | V4 7            | 109     | I   | V8 5            | 169     | I   | V13 6           | 229     | I/O | COEF7           |
| 50      | I/O | V4 6            | 110     | I   | V8 4            | 170     | I   | V13 5           | 230     | I/O | COEF6           |
| 51      | I/O | V4 5            | 111     | I   | V8 3            | 171     | I   | V13 4           | 231     | I/O | COEF5           |
| 52      | —   | V <sub>DD</sub> | 112     | I   | V8 2            | 172     | I   | V13 3           | 232     | —   | V <sub>DD</sub> |
| 53      | —   | GND             | 113     | I   | V8 1            | 173     | I   | V13 2           | 233     | —   | GND             |
| 54      | I/O | V4 4            | 114     | I   | V8 0            | 174     | I   | V13 1           | 234     | I/O | COEF4           |
| 55      | I/O | V4 3            | 115     | I   | LSF4            | 175     | I   | V13 0           | 235     | I/O | COEF3           |
| 56      | I/O | V4 2            | 116     | I   | LSF3            | 176     | I   | FRAME           | 236     | I/O | COEF2           |
| 57      | I/O | V4 1            | 117     | I   | LSF2            | 177     | I   | OE              | 237     | I/O | COEF1           |
| 58      | I/O | V4 0            | 118     | I   | LSF1            | 178     | I   | VFRAME          | 238     | I/O | COEF0           |
| 59      | —   | V <sub>DD</sub> | 119     | —   | V <sub>DD</sub> | 179     | —   | V <sub>DD</sub> | 239     | —   | V <sub>DD</sub> |
| 60      | —   | GND             | 120     | —   | GND             | 180     | —   | GND             | 240     | —   | GND             |

**INPUT**

|                           |                                    |
|---------------------------|------------------------------------|
| CCLK                      | : SIF CLOCK                        |
| CDIN                      | : SIF SERIAL DATA                  |
| CFCLK                     | : COEFFICIENT ADDRESS CLOCK        |
| $\overline{\text{CFRST}}$ | : COEFFICIENT ADDRESS RESET        |
| CKI8                      | : QUARTER RATE CLOCK               |
| CLK                       | : 75 MHz SYSTEM CLOCK              |
| CPGM                      | : SIF REGISTER ENABLE              |
| CSADD                     | : SIF SERIAL ADDRESS               |
| $\overline{\text{CSEL}}$  | : SIF CHIP SELECT                  |
| FRAME                     | : ACTIVE LINE WINDOW               |
| HV0 - HV9                 | : HORIZONTAL DATA, VERTICAL0, KEY0 |
| LSF0 - LSF4               | : LOCAL SCALLING FACTOR            |
| $\overline{\text{OE}}$    | : FILTER OUTPUT ENABLE             |
| RST                       | : SYSTEM ASYNCHRONOUS RESET        |
| V1 0 - V1 9               | : VERTICAL1, KEY1                  |
| V2 0 - V2 9               | : VERTICAL2, KEY2                  |
| V3 0 - V3 9               | : VERTICAL3, KEY3                  |
| V8 0 - V8 9               | : VERTICAL8 INPUT FIFOR02A         |
| V9 0 - V9 9               | : VERTICAL9 INPUT FIFOR11A         |
| V10 0 - V10 9             | : VERTICAL10 INPUT FIFOR12A        |
| V11 0 - V11 9             | : VERTICAL11 INPUT FIFOR01B        |
| V12 0 - V12 9             | : VERTICAL12 INPUT FIFOR02B        |
| V13 0 - V13 9             | : VERTICAL13 INPUT FIFOR11B        |
| V14 0 - V14 9             | : VERTICAL14 INPUT FIFOR12B        |
| VFRAME                    | : VERTICAL FRAME                   |

**OUTPUT**

|             |                                |
|-------------|--------------------------------|
| FIL0 - FIL9 | : FILTER OUTPUT, PKEY0         |
| PO          | : PARAMETRIC OUTPUT (FOR TEST) |

**INPUT/OUTPUT**

|               |                                          |
|---------------|------------------------------------------|
| COEF0 - COEF9 | : COEFFICIENT DATA INPUT, PKEY1 OUTPUT   |
| V4 0 - V4 9   | : VERTICAL4 INPUT YKEY0, FIFOW0 OUTPUT   |
| V5 0 - V5 9   | : VERTICAL5 INPUT YKEY1, FIFOW1 OUTPUT   |
| V6 0 - V6 9   | : VERTICAL6 INPUT YKEY2, RSTWA1 OUTPUT   |
| V7 0 - V7 9   | : VERTICAL7, FIFOR01A INPUT YKEY3 OUTPUT |