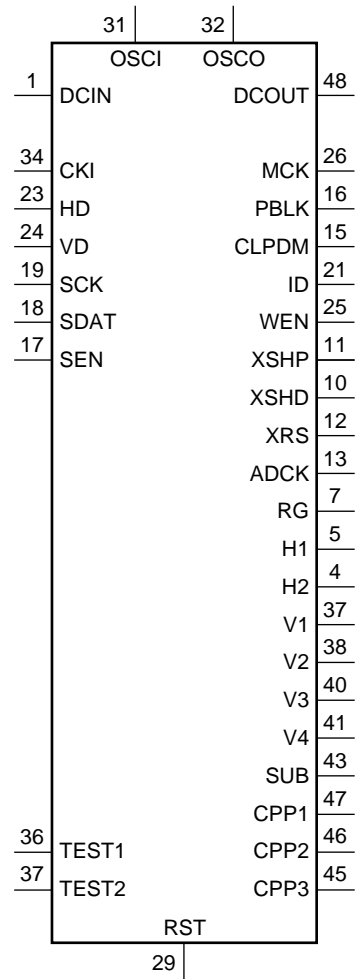
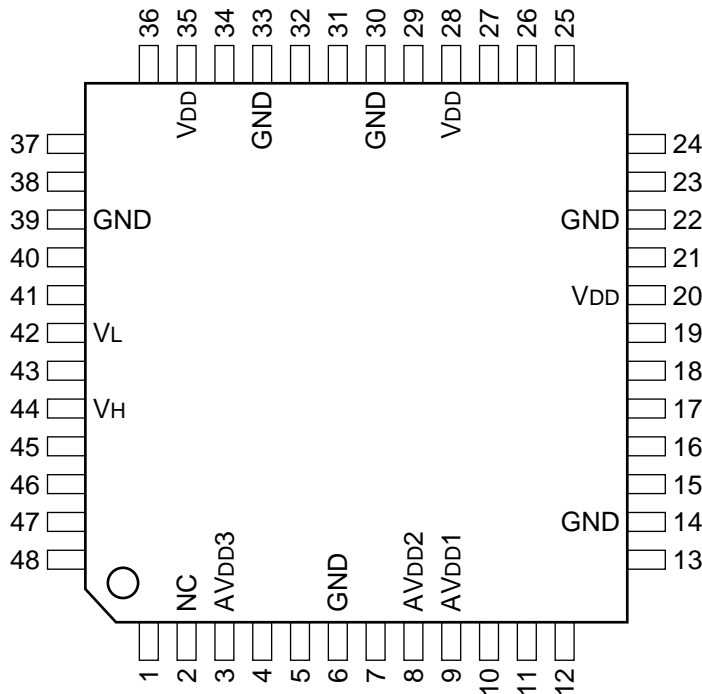


C-MOS TIMING CONTROLLER WITH CCD DRIVERS

—TOP VIEW—



| PIN NO. | I/O | SIGNAL | PIN NO. | I/O | SIGNAL |
|---------|-----|--------|---------|-----|--------|
| 1       | I   | DCIN   | 25      | O   | WEN    |
| 2       | —   | NC     | 26      | O   | MCK    |
| 3       | —   | AVDD3  | 27      | I   | TEST2  |
| 4       | O   | H2     | 28      | —   | VDD    |
| 5       | O   | H1     | 29      | I   | RST    |
| 6       | —   | GND    | 30      | —   | GND    |
| 7       | O   | RG     | 31      | I   | OSCI   |
| 8       | —   | AVDD2  | 32      | O   | OSCO   |
| 9       | —   | AVDD1  | 33      | —   | GND    |
| 10      | O   | XSHD   | 34      | I   | CKI    |
| 11      | O   | XSHP   | 35      | —   | VDD    |
| 12      | O   | XRS    | 36      | I   | TEST1  |
| 13      | O   | ADCK   | 37      | O   | V1     |
| 14      | —   | GND    | 38      | O   | V2     |
| 15      | O   | LLPDM  | 39      | —   | GND    |
| 16      | O   | PBLK   | 40      | O   | V3     |
| 17      | I   | SEN    | 41      | O   | V4     |
| 18      | I   | SDAT   | 42      | —   | VL     |
| 19      | I   | SCK    | 43      | O   | SUB    |
| 20      | —   | VDD    | 44      | —   | VH     |
| 21      | O   | ID     | 45      | O   | CPP3   |
| 22      | —   | GND    | 46      | O   | CPP2   |
| 23      | I   | HD     | 47      | O   | CPP1   |
| 24      | I   | VD     | 48      | O   | DCOUT  |

**INPUT**

CKI ; CLOCK  
DCIN ; OPERATIONAL AMPLIFIER INPUT FOR GENERATING  
THE SUB CLAMP VOLTAGE  
HD ; HORIZONTAL SYNC SIGNAL  
OSCI ; OSCILLATOR  
RST ; RESET  
SCK ; SERIAL COMMUNICATION CLOCK  
SDAT ; SERIAL COMMUNICATION DATA  
SEN ; SERIAL COMMUNICATION STROBE  
TEST1, TEST2 ; TEST  
VD ; VERTICAL SYNC SIGNAL

**OUTPUT**

ADCK ; A/D CONVERTER CLOCK  
CLPDM ; CLAMP PULSE FOR CCD DUMMY SIGNAL  
CPP1 - CPP3 ; CHARGE PUMP CAPACITORS  
DCOUT ; OPERATIONAL AMPLIFIER OUTPUT FOR GENERATING  
THE SUB CLAMP VOLTAGE  
H1, H2 ; CCD HORIZONTAL REGISTER DRIVE PULSES  
ID ; LINE IDENTIFICATION SIGNAL  
MCK ; MODULATION CLOCK (1/2 CKI)  
OSCO ; OSCILLATOR  
PBLK ; BLANKING CLEANING PULSE  
RG ; CCD RESET GATE DRIVE PULSE  
SUB ; CCD ELECTRON-CHARGE DRAIN PULSE  
V1 - V4 ; CCD VERTICAL REGISTER DRIVE PULSES  
WEN ; WRITE ENABLE SIGNAL  
(ONLY IN LOW-SPEED SHUTTER OPERATION)  
XRS ; A/D CONVERTER SAMPLE AND HOLD PULSE  
XSHD ; SAMPLE AND HOLD PULSE FOR DATA  
XSHP ; SAMPLE AND HOLD PULSE FOR PRECHARGING

