HAMAMATSU

TECHNICAL DATA

DRIVER/AMPLIFIER CIRCUIT C4069

For Serial/Current Output Type MOS Linear Image Sensors

The C4069 is a high-speed driver/amplifier circuit designed specifically for use with Hamamatsu serial/current output type MOS linear image sensors (S3901, S3904, S3902, S3903). The C4069 driver/amplifier circuit includes a generator for a start pulse and two-phase clock pulses used to drive a MOS linear image sensor and a signal processing circuit used to read out the video signal in the current-voltage conversion mode. The signal inputs required are only a master start pulse, a master clock pulse, +5V and ±15V.

In addition, the C4091 pulse generator is available, which supplies the C4069 with a master start pulse and a master clock pulse.

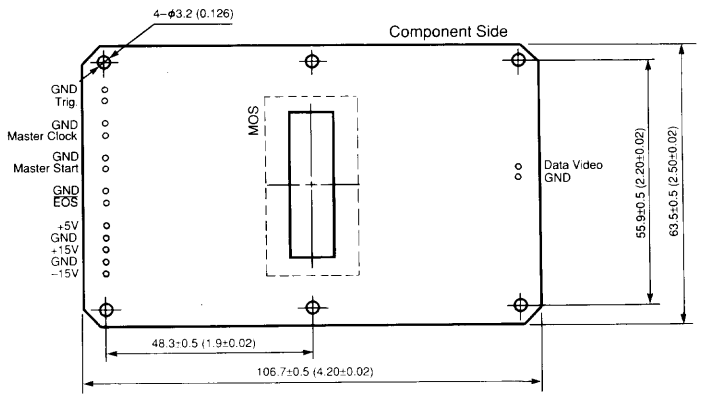
FEATURES

- **Structure allows easy cooling and optical alignment of MOS image sensor**
- **Simple operation: only a master start pulse, a master clock pulse, +5V and ±15V required**
- **High-speed operation (2MHz Max.)**
- **No adjustment**

DESCRIPTIONS OF TERMINALS

	Terminals	Symbols	Descriptions
Input	Supply Voltage	V_d (+5) V_a (+15) (−15)	+5 Vdc, 70 mA +15 Vdc, 30 mA −15 Vdc, 30 mA
Input	Master Start ϕms	St.	CMOS logic compatible. Positive logic. For initializing the circuit and the MOS shift register.
Input	Master Clock ϕmc	CLK	CMOS logic compatible. The maximum frequency is 12 MHz. For synchronizing the circuit and the MOS shift register.
Output	Data Video	Video	Positive output. This is the voltage output produced after the current-voltage conversion of the MOS video signal and the differential amplification with respect to the dummy video line. It is obtained synchronized with the positive transition of ϕ2.
Output	Sample-and-hold	Trig.	CMOS logic compatible. Positive logic. This output can be used as the trigger signal for the sample-and-hold or A/D conversion.
Output	End of Scan	$\overline{EOS}$	CMOS logic compatible. Negative logic. This is the end-of-scan signal of the MOS shift register and it is obtained synchronized with ϕ2 right after the last element is scanned.

Figure 1: Dimensional Outline and Terminals



Dimensions in mm (inches)

Figure 2: Wiring Example

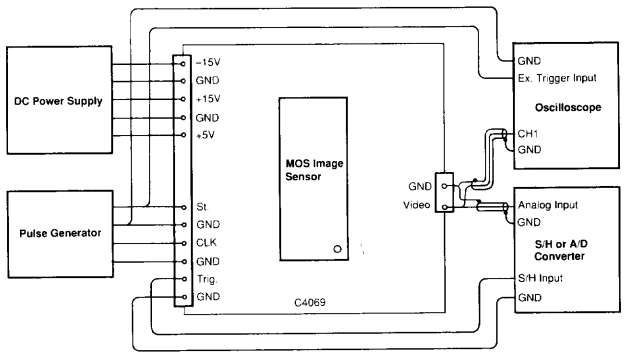


Figure 3: Block Diagram

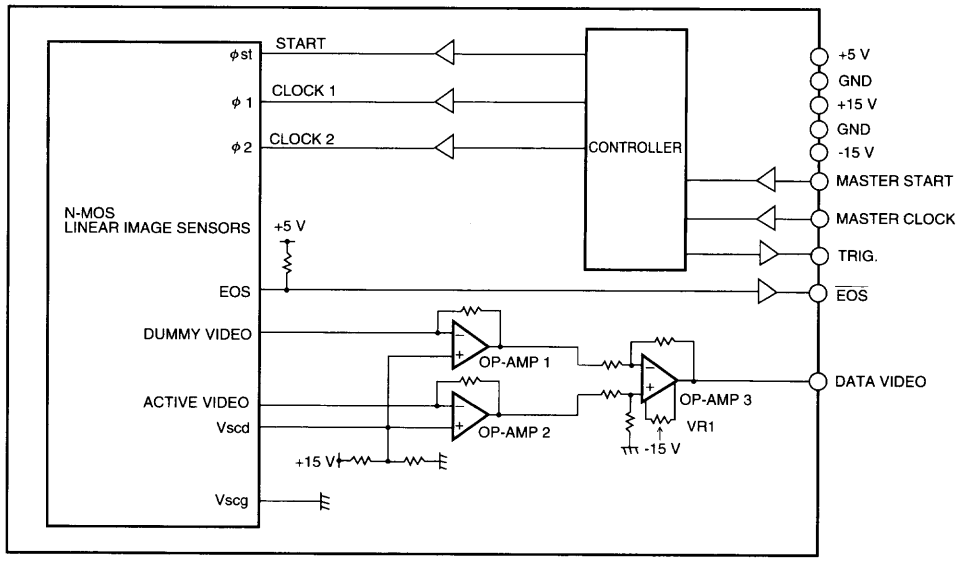


Figure 4: Timing Diagram