

# Ultra-small Contact Image Sensor Heads, covering the character recognition

## LSH2001-AA10A

Easy to mount on whatever sets because of its small size, this is the device best suitable for whatever detecting thanks to its deep focus point and high recognition accuracy.

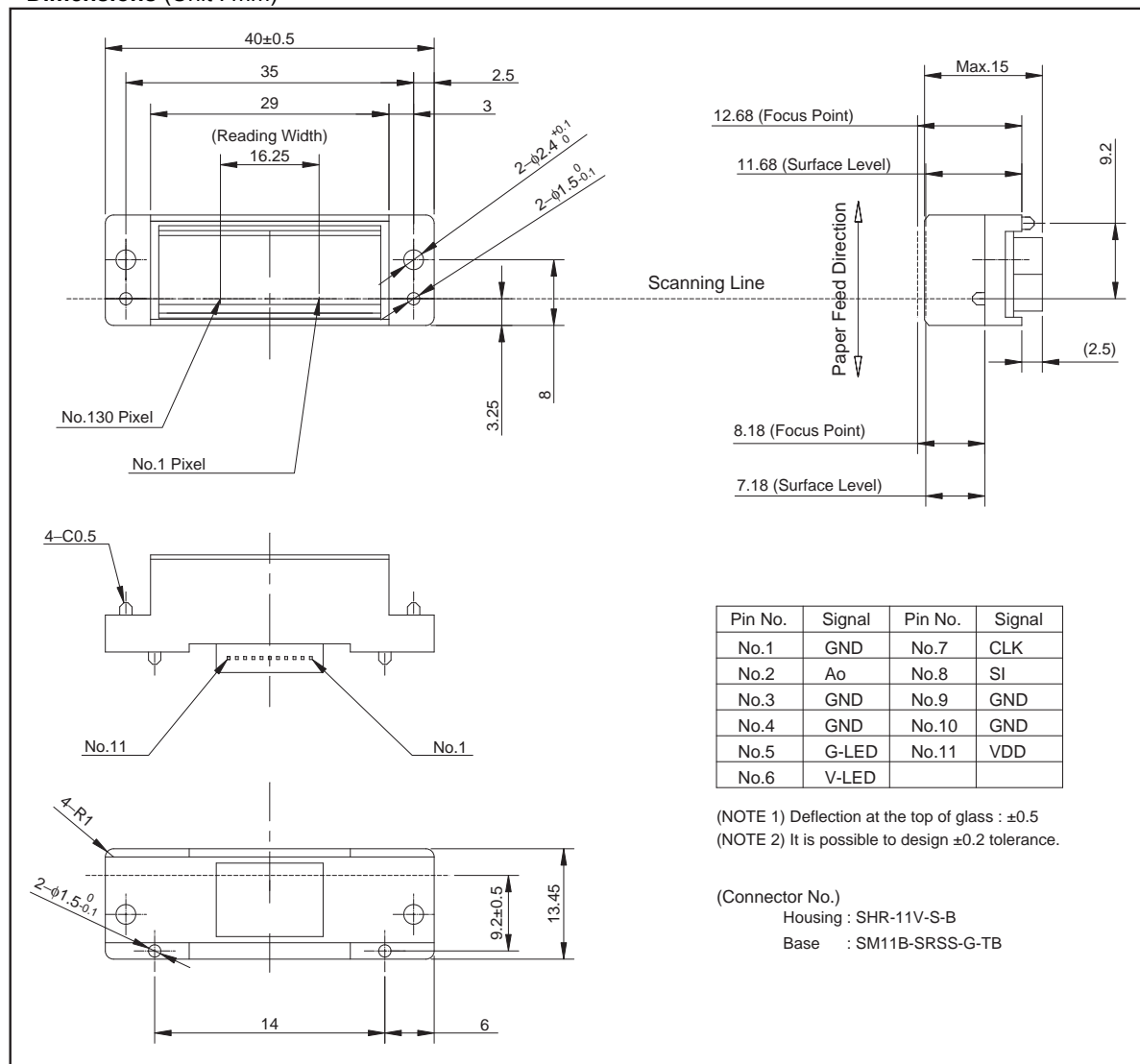
### ●Applications

Detection sets (e.g. surface, paper edge, paper type)

### ●Features

- 1) Its deep focus point enables scanning of the object without close contact to the glass bed of scanner, so that both the scanned object and the scanner bed won't be damaged.
- 2) Screw holes and the alignment pin are provided for convenience of mounting.
- 3) 16.25mm read width (40mm total width)

### ●Dimensions (Unit : mm)



### ●Characteristics

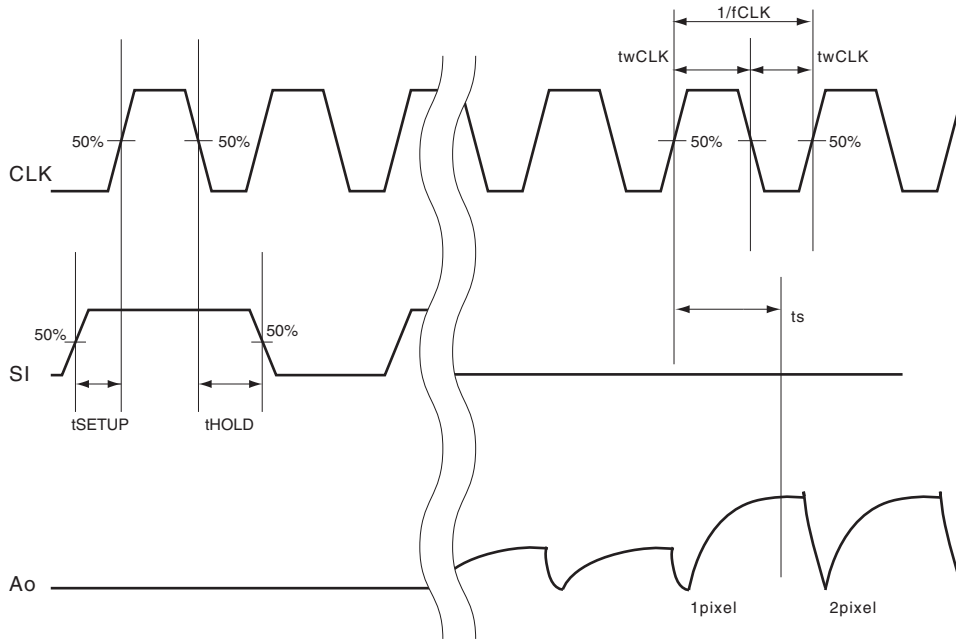
| Parameter                | Symbol          | Typ.    | Unit      |
|--------------------------|-----------------|---------|-----------|
| Effective scanning width | –               | 16.25   | mm        |
| Primary scan dot density | –               | 200     | dpi       |
| Total dot number         | –               | 128     | dots      |
| Power supply voltage     | V <sub>DD</sub> | 3.3     | V         |
| Scanning speed           | SLT             | 0.1     | ms / line |
| Clock frequency          | CLK             | 8       | MHz       |
| Maximum dynamic range    | VRMax.          | 1.0     | V         |
| Minimum dynamic range    | VRMin.          | 0.5     | V         |
| Dark output              | V <sub>od</sub> | 0.8±0.1 | V         |
| Operating temperature    | –               | 5 to 45 | °C        |

### ●Pin assignments

| No. | Circuit          | I / O | Functions         |
|-----|------------------|-------|-------------------|
| 1   | GND              | I     | Ground            |
| 2   | Ao               | O     | Analog Output     |
| 3   | GND              | I     | Ground            |
| 4   | V <sub>REF</sub> | I     | Reference Voltage |
| 5   | R-GND            | I     | LED ground        |
| 6   | V-LED            | I     | LED power supply  |
| 7   | CLK              | I     | Clock             |
| 8   | SP               | I     | Start Pulse       |
| 9   | GND              | I     | Ground            |
| 10  | GND              | I     | Ground            |
| 11  | V <sub>DD</sub>  | I     | Power Supply      |
| 12  | NC               | –     |                   |

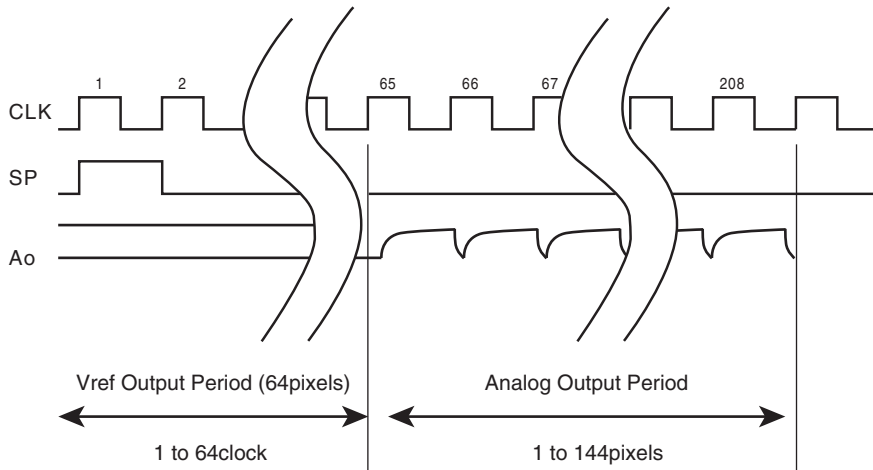
●Timing chart

(a) CLK Timing Chart



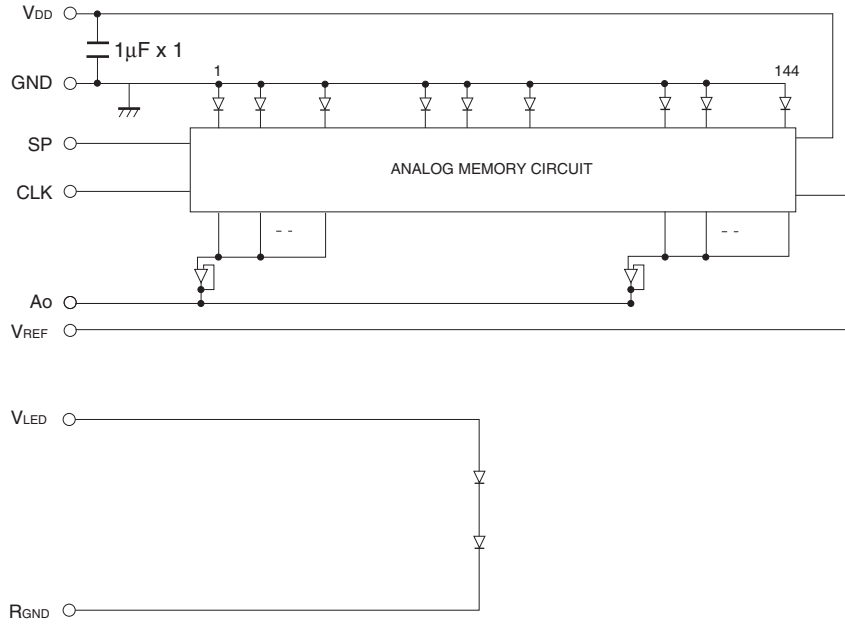
(b) Data Output Timing Chart

After turning on the SP pulse, the analog output shape starts from the setting up point of 65 clock pulse.

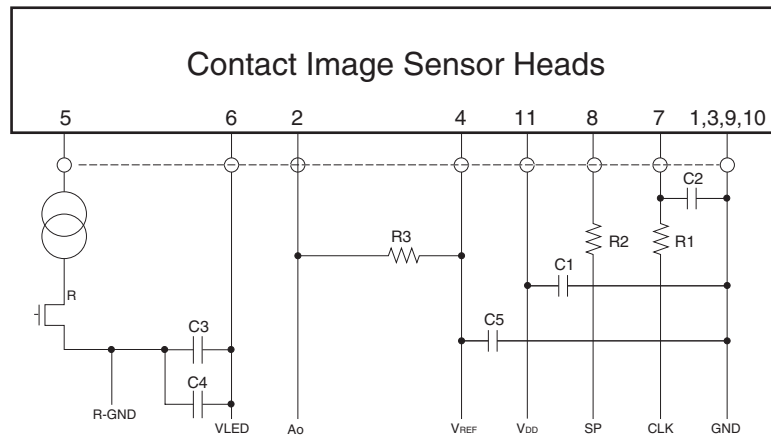


Note) Output blank part cannot be used as the analog output standard level.

●Inner circuit



●Peripheral circuit



- \* R1=R2=100Ω
- R3=100kΩ
- C1=C5=47µF
- C2=100pF
- C3=100µF, C4=0.1µF

Please adjust the value of resistance to fit your interface circuit.

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