

# Multi Line Sensor Heads for narrow-width scanners

## LSH3004-AA20A

Compatible with A6 size media, feature a dual-arch structure, allowing straight-pass reading (both-directions). In addition, it is compact, measuring only 119.5mm in length.

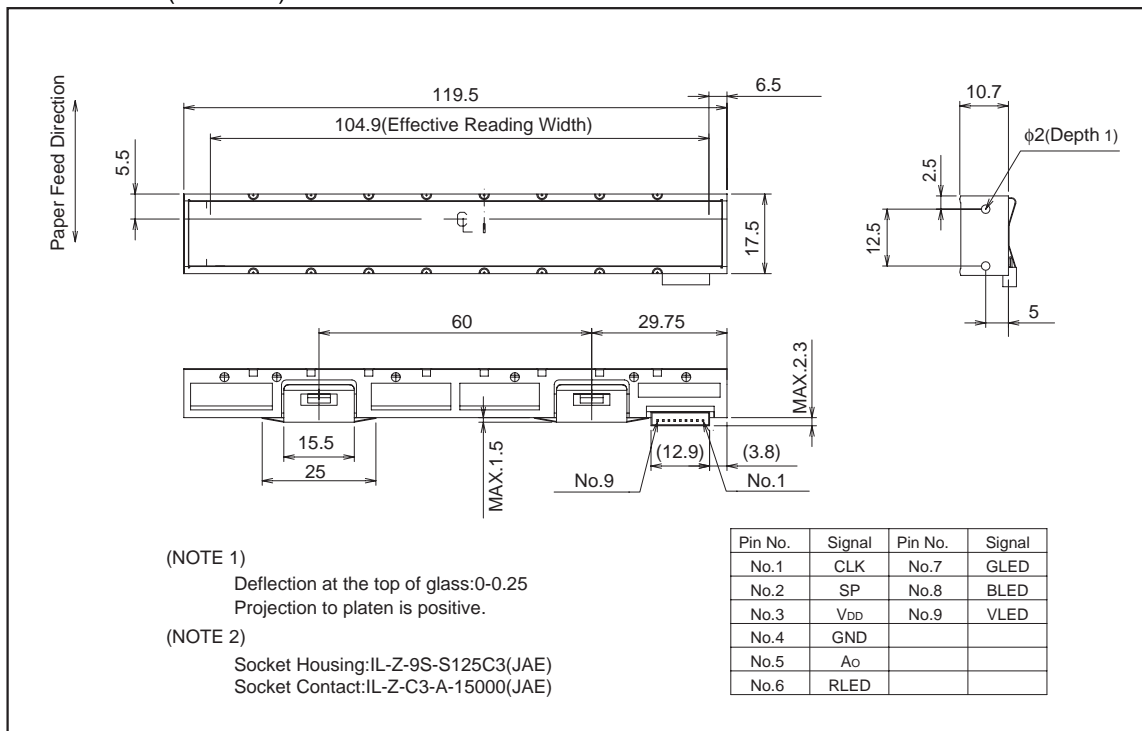
### ●Applications

Check readers, card scanners, and a variety of other image input devices.

### ●Features

- 1) Signal amplifier integrated into each sensor IC in order to eliminate external noise.
- 2) LED light source mounted on the same substrate as the sensor chip itself, resulting in a more compact, lightweight package.
- 3) Proprietary prism maintains a uniform output signal.
- 4) Ceramic substrate used, ensuring excellent dimensional and thermal stability.

### ●Dimensions (Unit : mm)



●Characteristics

Parameter	Symbol	Typ.	Unit
Effective scanning width	-	104.9	mm
Primary scan dot density	-	300	dpi
Total dot number	-	1296	dots
Power supply voltage	V <sub>DD</sub>	3.3	V
Scanning speed	SLT	0.28×3	ms / line *
Clock frequency	CLK	5	MHz
Maximum dynamic range	VRMax.	0.5	V
Minimum dynamic range	VRMin.	0.25	V
Dark output	V <sub>od</sub>	0.8±0.2	V
Operating temperature	-	5 to 45	°C

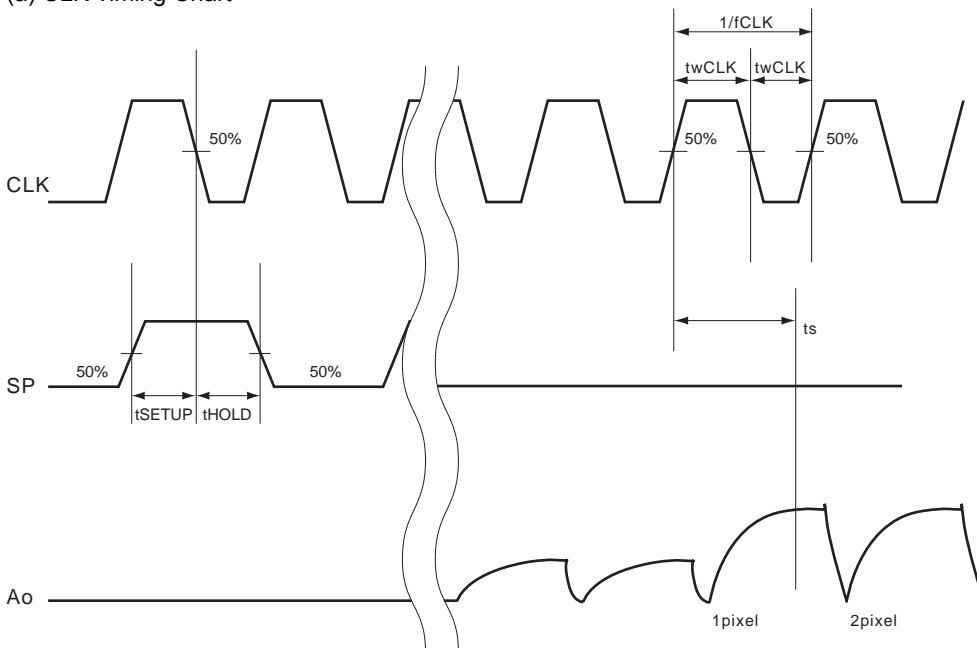
\* Analogue signals are produced output at double rate of clock frequency.

●Pin assignments

No.	Circuit	I / O	Functions
1	CLK	I	Clock
2	SP	I	Start pulse
3	V <sub>DD</sub>	I	Power Supply
4	GND	I	Ground
5	Ao	O	Analog Output
6	RLED	I	LED ground
7	GLED	I	LED ground
8	BLED	I	LED ground
9	VLED	I	LED power supply

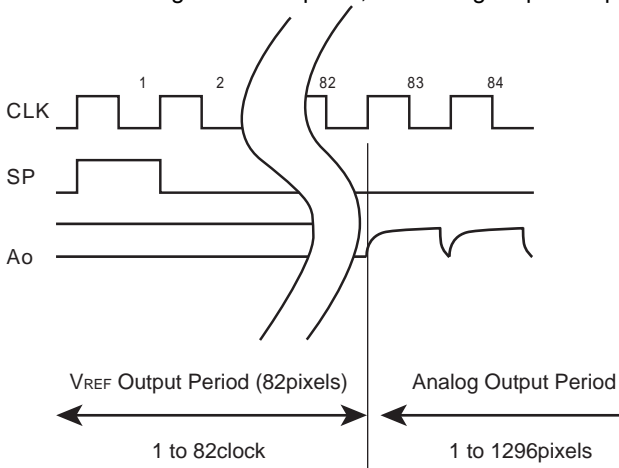
●Timing chart

(a) CLK Timing Chart



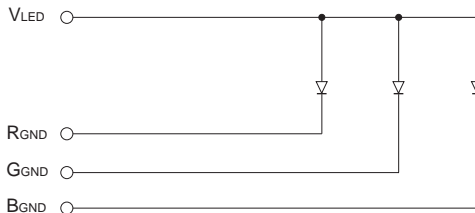
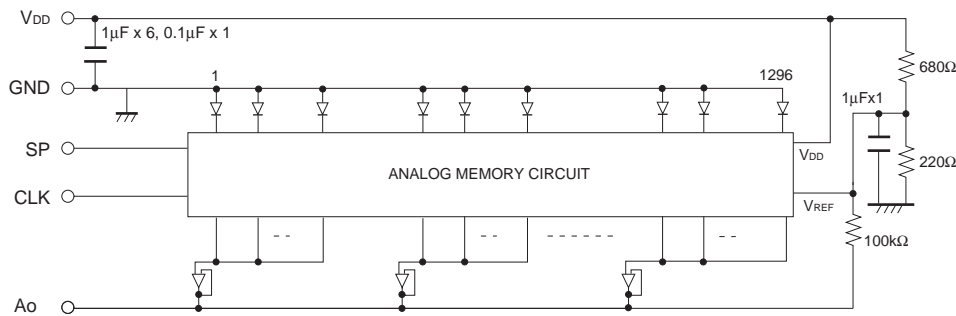
(b) Data Output Timing Chart

After turning on the SP pulse, the analog output shape starts from the setting up point of 83 clock pulse.

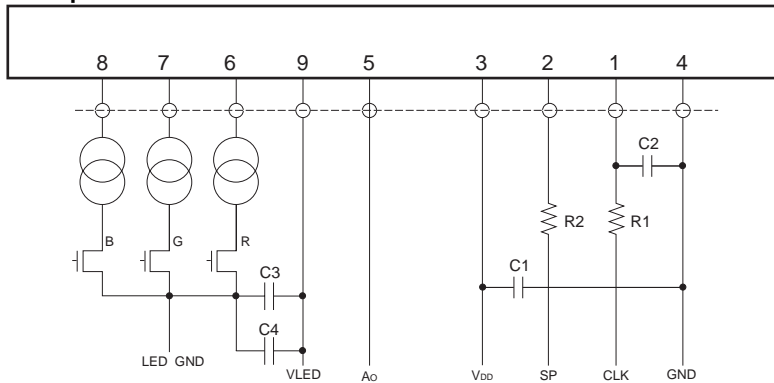


Note) Output blank part cannot be used as the analog output standard level.

●Inner circuit



●Peripheral circuit



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

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

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