Contact image sensor heads

Color image sensor head (300dpi)
IA3004-CE10A

The IA3004-CE10A is a color image sensor head that uses LED chips of the three colors red, green, and blue. Through the use of ROHM's further improvements in optical technologies and LSI circuit designing, the IA3004-CE10A provides excellent color reproducibility and noise resistance and has taken its place as the industry's highest level compact and lightweight image sensor head.
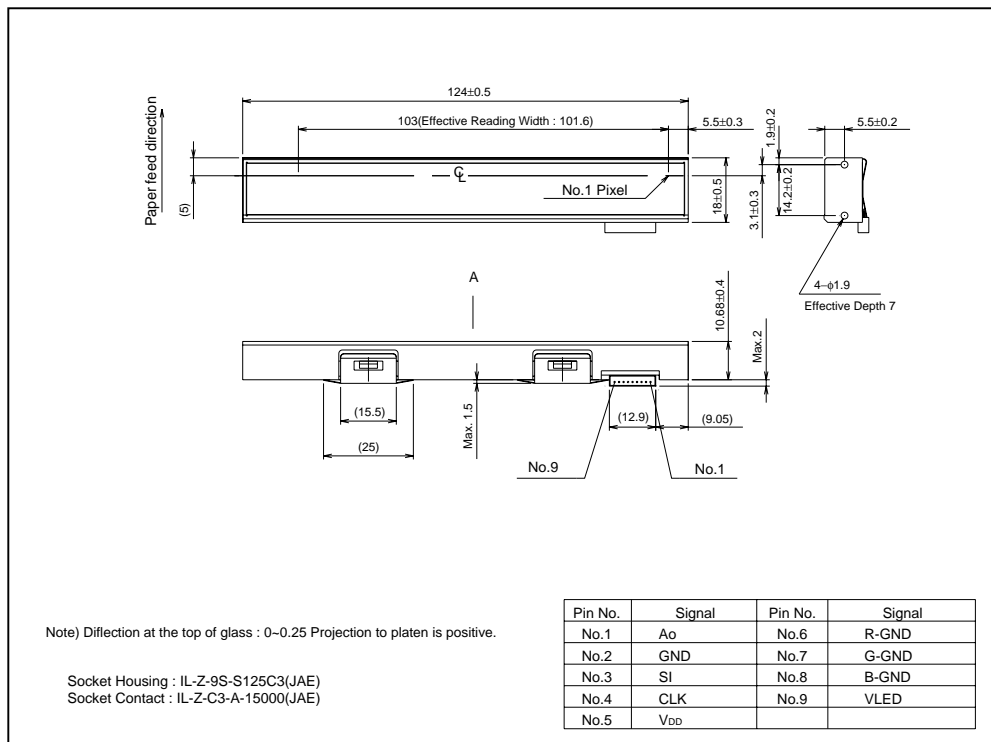
●**Applications**
Color scanners
Check readers
Image scanning devices

●**Features**
1) Each sensor IC is equipped with a built-in amplifier for greatly increased noise resistance.
2) Red, green, and blue LED chips are used for the light source to obtain excellent color reproducibility.
3) Uses a single power supply operational amplifier. Operation requires only a single 5V power supply.
4) Uses a ceramic board as the base board for excellent dimensional stability, and excellent stability in optical characteristics.

●**External dimensions** (Units : mm)

Note) Diflection at the top of glass : 0~0.25 Projection to platen is positive.

Socket Housing : IL-Z-9S-S125C3(JAE)
Socket Contact : IL-Z-C3-A-15000(JAE)

Pin No.	Signal	Pin No.	Signal
No.1	Ao	No.6	R-GND
No.2	GND	No.7	G-GND
No.3	SI	No.8	B-GND
No.4	CLK	No.9	VLED
No.5	V_{DD}		

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●**Characteristics**

Parameter	Symbol	Typ.	Unit
Effective scanning width	–	101.6	mm
Primary scan dot density	–	300	dpi
Total dot number	–	1216	dots
Power supply voltage	V_{DD}	5	V
Scanning speed	SLT	3	ms / line
Clock frequency	CLK	3	MHz
Maximum dynamic range	VRMax.	0.5	V
Minimum dynamic range	VRMin.	0.25	V
Dark output	Vod	1.0±0.1	V
Operating temperature	–	5~45	°C

●**Pin assignments**

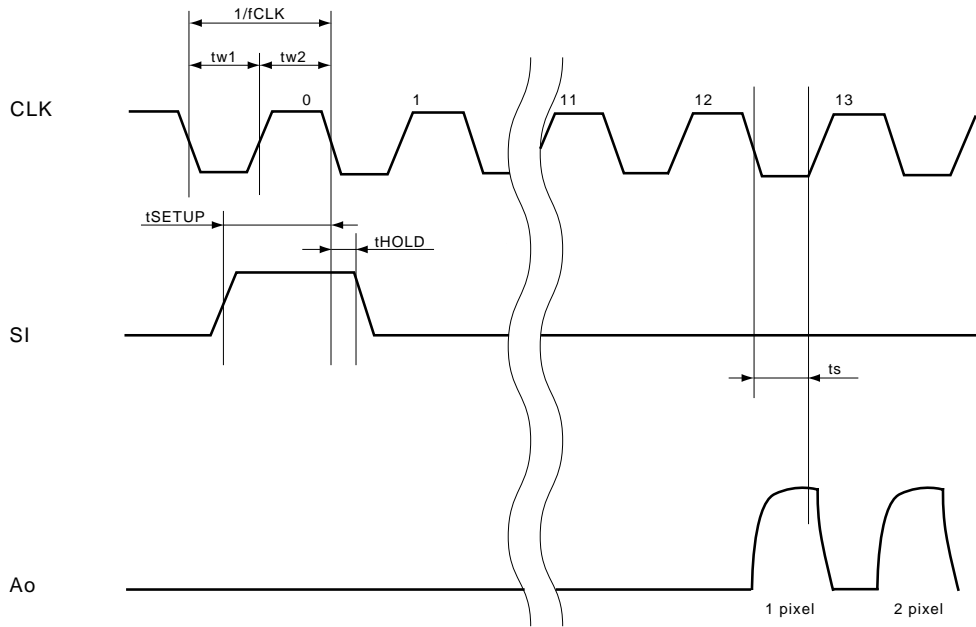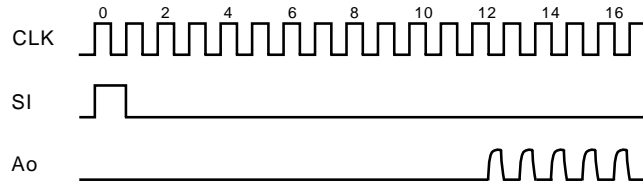| No.	Circuit	I / O	Functions
1	Ao	O	Analog output
2	GND	I	Ground
3	SI	I	Serial-in
4	CLK	I	Clock
5	V_{DD}	I	Power supply
6	R-GND	I	LED red ground
7	G-GND	I	LED green ground
8	B-GND	I	LED blue ground
9	VLED	I	LED power supply

●**Timing chart**

(a) CLK Timing Chart

Fig.1

(b) Data Output Timing Chart

After turning on the SI pulse, the analog output shape starts from the setting down point of 12CLK pulse.

Note) The CLK section area which is over the effective pixel numbers
(Output blank part) cannot be used as the analog Output standard level.
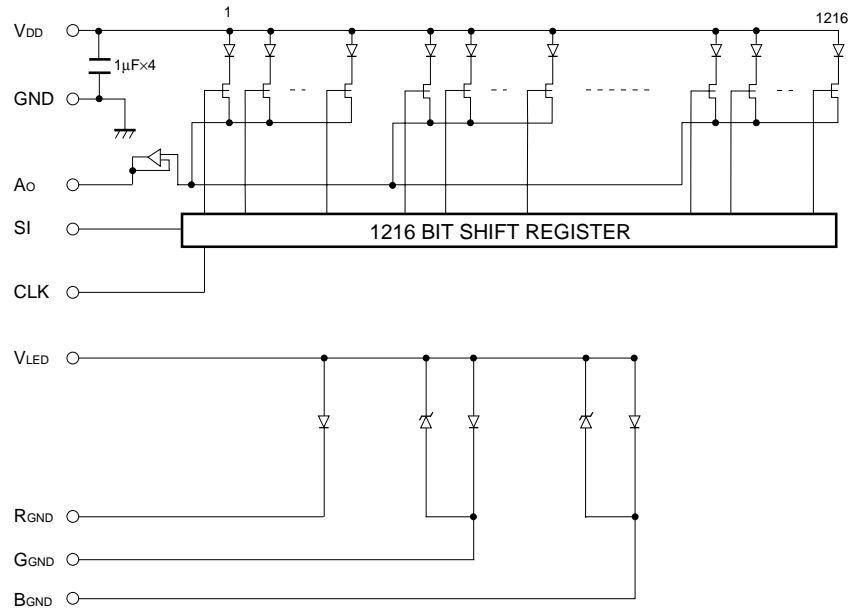
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●Equivalent circuit

Fig.2

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