Color image sensor heads for High-speed Scanner

IA1208-FE10A

Contact Image Sensor Head with 3 times higher scanning speed due to 3ch outputs.
Newly developed resolution change-over IC is employed which has improved noise resistance.

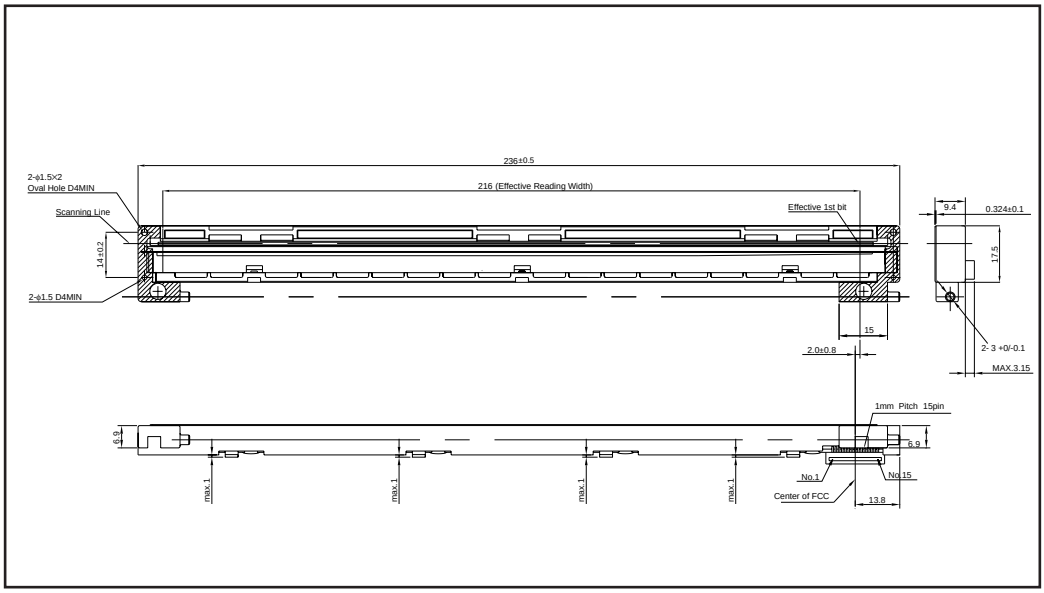
●Applications

High speed reading equipment (i.e. document scanners, plotters, laser multifunction devices).

●Features

1) High speed reading capability due to 3 analog output.
2) Signal amplifier is built into the image sensor IC in order to increase immunity to external noise.
3) ROHM's newly developed sensor IC reduces failures due to ESD (based on the IEC61000-4-2 standard).
4) With the proprietary prism, the output signal is maintained uniformly.
5) The ceramic substrate is used for excellent dimensional accuracy and thermal stability.

●External dimensions (Unit : mm)



●Characteristics

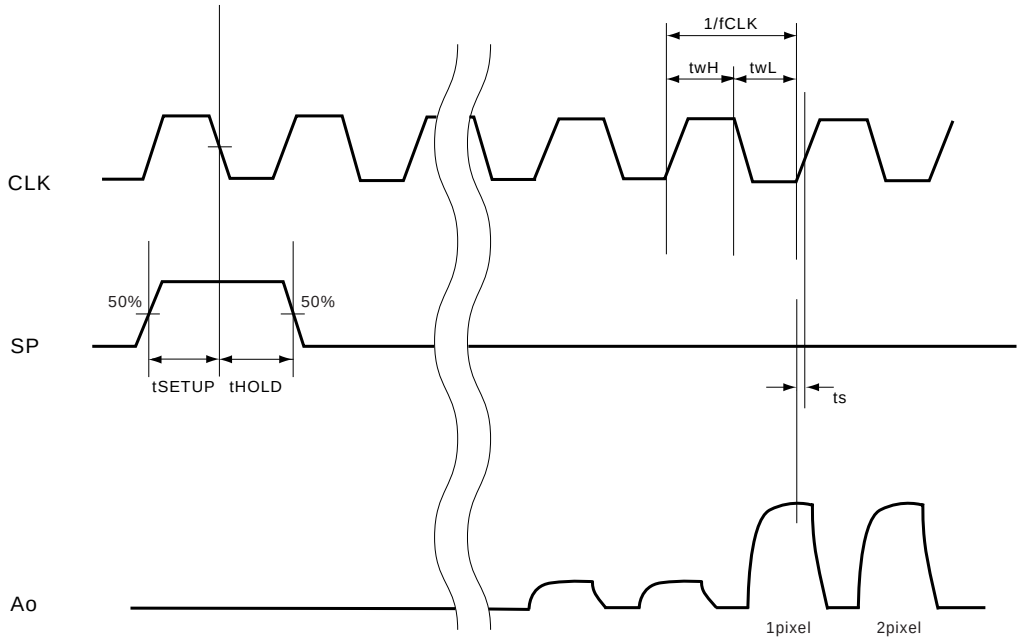
Parameter	Symbol	Typ.	Unit
Effective scanning width	–	216	mm
Primary scan dot density	–	1200	dpi
Total dot number	–	10368	dots
Power supply voltage	V_{DD}	3.3	V
Reference voltage	V_{REF}	0.8	V
Scanning speed	SLT	3.0	ms / line
Clock frequency	CLK	5	MHz
Maximum dynamic range	VRMax	0.5	V
Minimum dynamic range	VRMin.	0.25	V
Dark output	Vod	$V_{REF} \pm 0.1$	V
Operating temperature	–	5 to 45	°C

●Pin assignments

No.	Circuit	I / O	Function
1	A_{O3}	O	Analog output
2	GND	I	Ground
3	A_{O2}	O	Analog output
4	GND	I	Ground
5	A_{O1}	O	Analog output
6	MODE	I	Mode select
7	GND	I	Ground
8	V_{DD}	I	Power supply
9	V_{REF}	I	Reference voltage
10	SP	I	Start pulse
11	CLK	I	Clock
12	V-LED	I	LED power supply
13	B-GND	I	BLUE LED ground
14	G-GND	I	GREEN LED ground
15	R-GND	I	RED LED ground

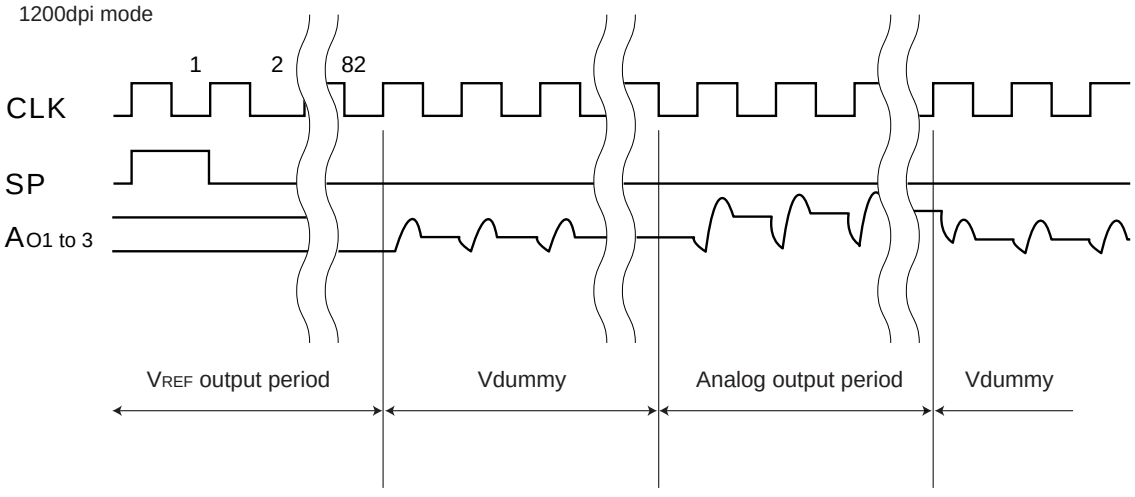
●**Timing chart**

(a) CLK Timing Chart



(b-1) Data Output Timing Chart (1200dpi mode)

After turning on the SP pulse, the analog output starts from the setting up point of 82 clock pulse.



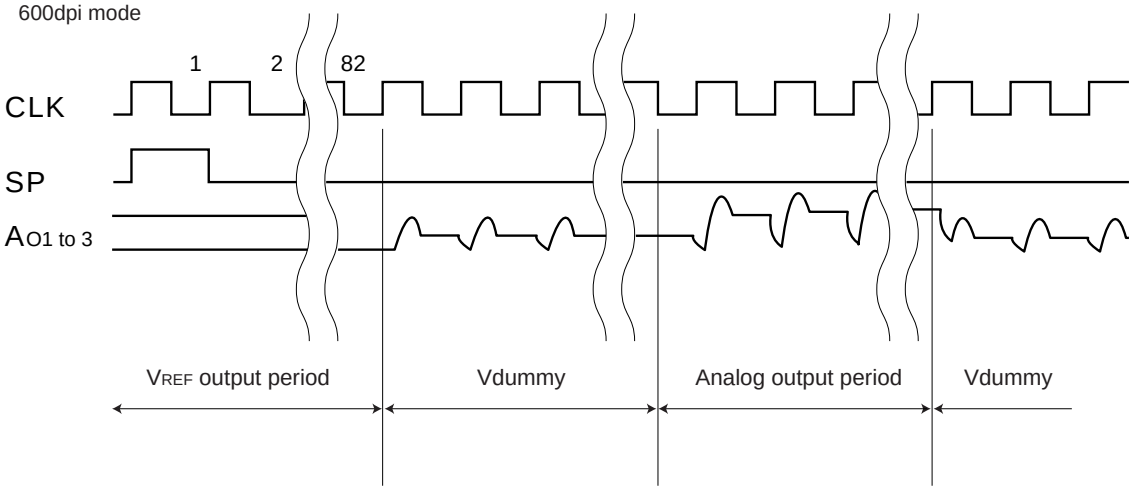
A_{O1} :	1 to 82clock	1 to 100pixels	101 to 3456pixels	–
A_{O2} :	1 to 82clock	–	3457 to 6912pixels	–
A_{O3} :	1 to 82clock	–	6913 to 10312pixels	10313 to 10368pixels

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

(b-2) Data Output Timing Chart (600dpi mode)

After turning on the SP pulse, the analog output starts from the setting up point of 82 clock pulse.

600dpi mode



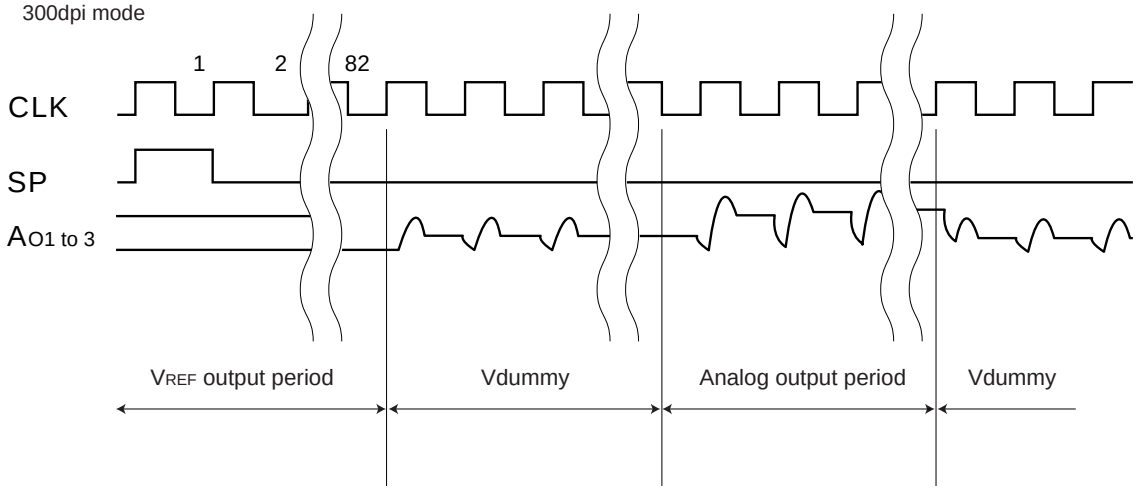
AO1 :	1 to 82clock	1 to 50pixels	51 to 1728pixels	–
AO2 :	1 to 82clock	–	1729 to 3456pixels	–
AO3 :	1 to 82clock	–	3457 to 5156pixels	5157 to 5184pixels

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

(b-3) Data Output Timing Chart (300dpi mode)

After turning on the SP pulse, the analog output starts from the setting up point of 82 clock pulse.

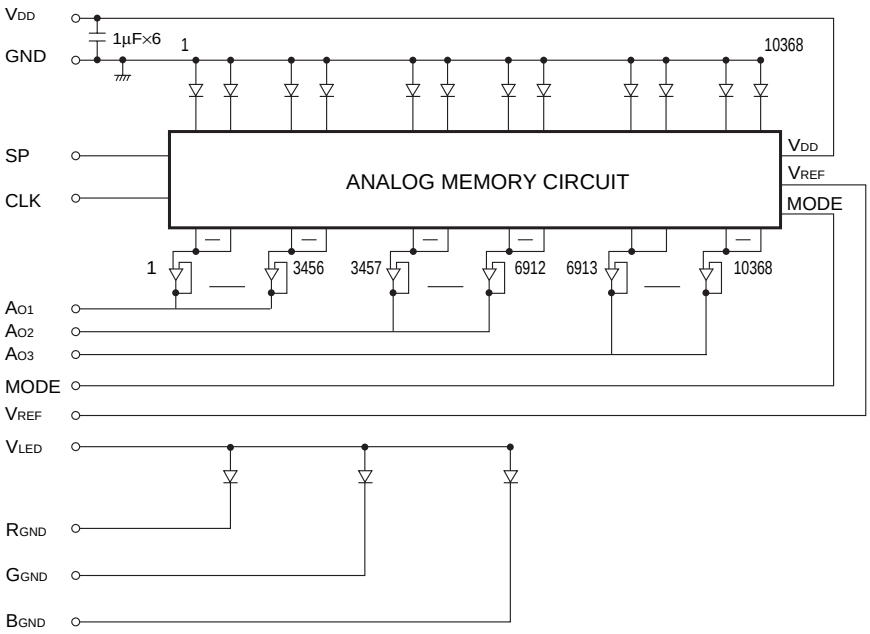
300dpi mode



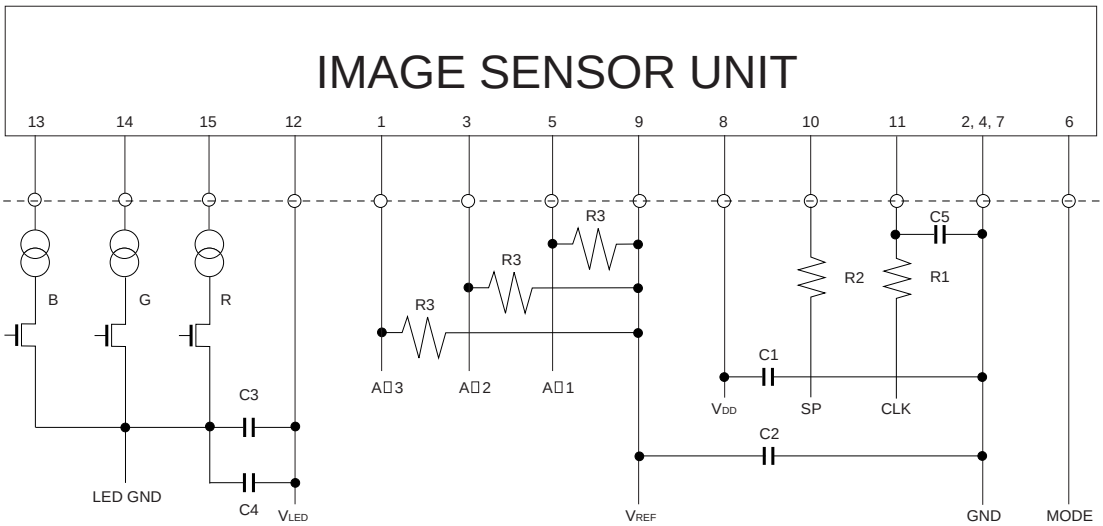
AO1 :	1 to 82clock	1 to 25pixels	26 to 864pixels	–
AO2 :	1 to 82clock	–	865 to 1728pixels	–
AO3 :	1 to 82clock	–	1729 to 2578pixels	2579 to 2592pixels

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

●**Circuit diagram**



●**Peripheral circuit**



R1=R2=100Ω, R3=100KΩ
C1=C2=47μF
C3=100μF, C4=0.1μF, C5=100pF

Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).
Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.
In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.