◇Structure　Silicon monolithic integrated circuit
◇Product Series　Lens control LSI
◇Type　BU24024GU
◇Applications　Digital still cameras
◇Functions　・Driver (1-5 channels)　: Voltage control type H-bridge(Adaptable to STM 2 systems)
・Driver (6,7 channels)　: Current control type H-bridge
・PI driving circuit (2 channels)

◇Absolute maximum ratings (Ta = 25℃)

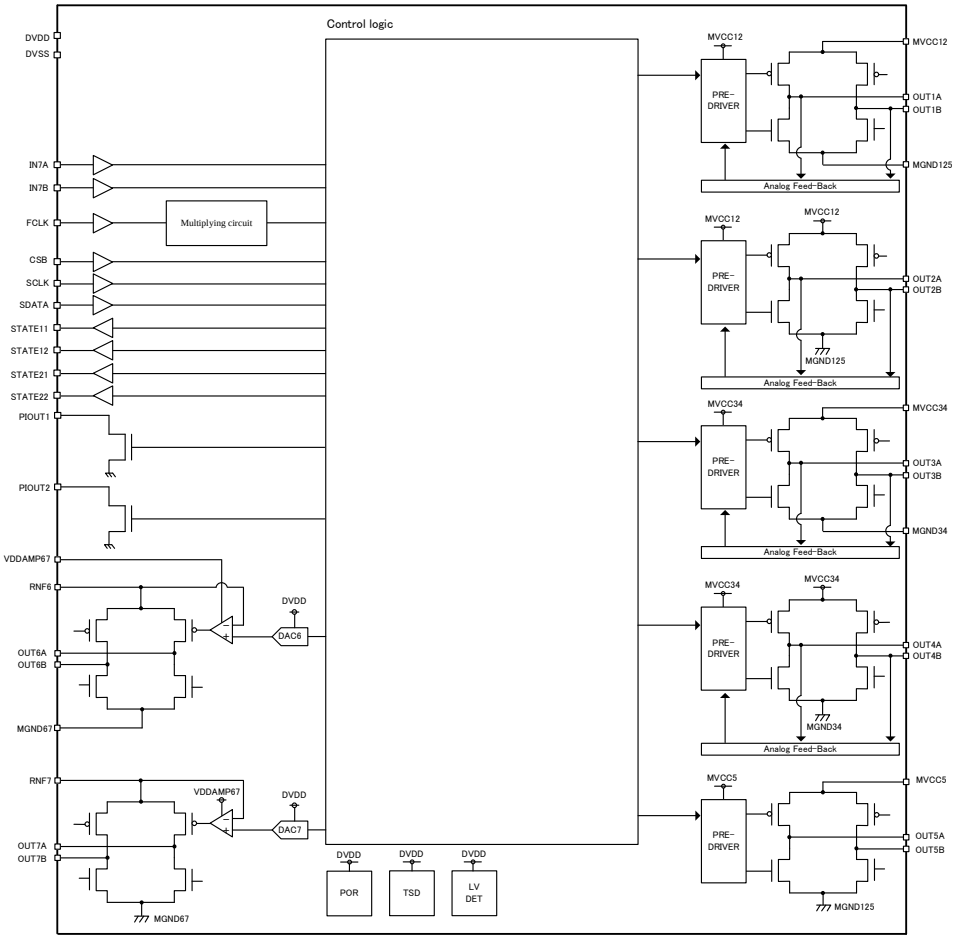
Parameter	Symbol	Limits	Unit	Remark
Power supply voltage	DVDD	−0.3～4.5	V	
	MVCC	−0.3～7.0	V	
Input voltage	VIN	−0.3～DVDD+0.3	V	
Input/output current ∗1	IIN	±400	mA	MVCC12, MVCC34, RNF6 and RNF7 pin
		±600	mA	MVCC5 pin
		＋50	mA	by PIOUT pin
Storage temperature range	TSTG	−55～125	℃	
Operating temperature range	TOPE	−20～85	℃	
Permissible dissipation ∗2	PD	1200	mW	

∗1 Please do not exceed PD.
∗2 To use this product at a temperature higher than Ta=25℃, reduce 12mW per 1℃ (At mounting ROHM's standard board : 50mm x 58mm x 1.75tmm / glass epoxy board)
This product is not designed for anti-radiation applications.

◇Operating conditions (Ta=25℃)

Parameter	Symbol	Limits	Unit	Remark
Digital power supply voltage	DVDD	2.7～3.6	V	DVDD≦MVCC
Driver power supply voltage	MVCC	2.7～5.5	V	
Clock operating frequency	FCLK	1～27.5	MHz	Reference clock

◇Block Diagram

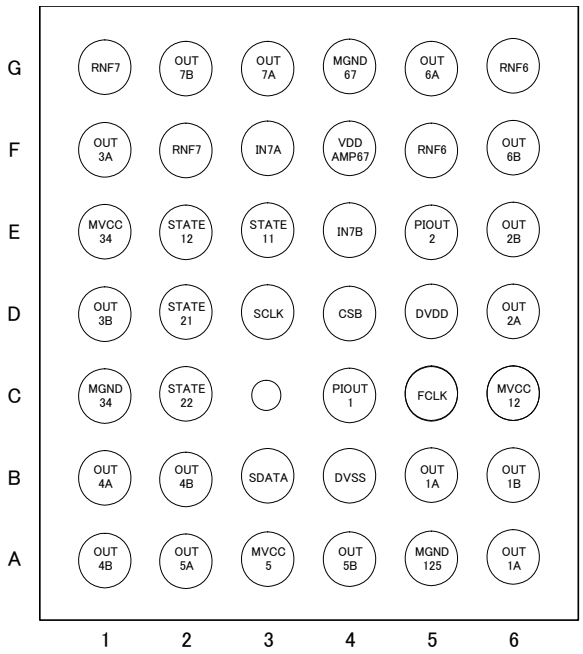


◇Pin functions

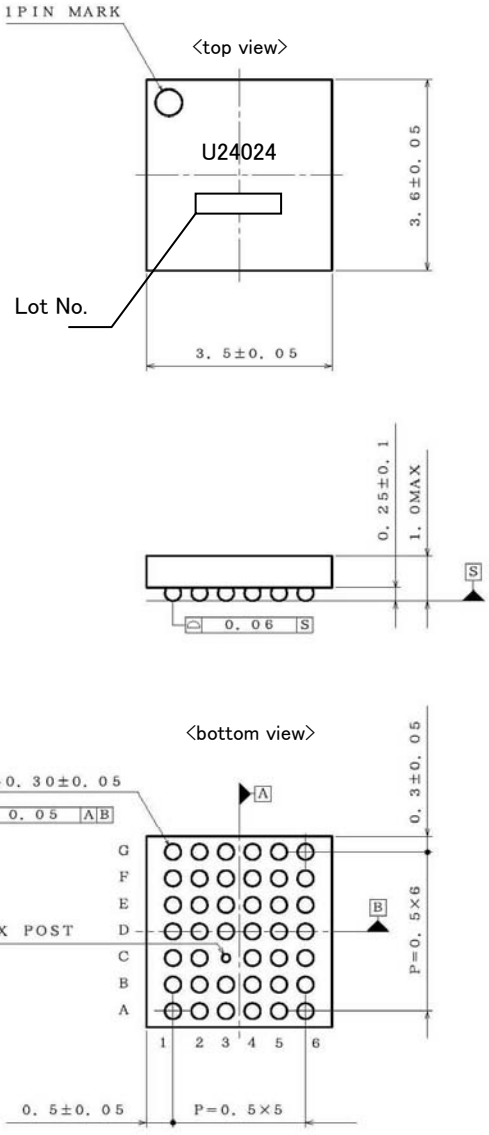
Land Matrix No.	Pin name	Power supply	Function	Land Matrix No.	Pin name	Power supply	Function
D5	DVDD	–	Digital power supply	F1	OUT3A	MVCC34	3-channel driver A output
B4	DVSS	–	Digital ground	D1	OUT3B	MVCC34	3-channel driver B output
C5	FCLK	DVDD	FCLK logic input	B1	OUT4A	MVCC34	4-channel driver A output
D4	CSB	DVDD	CSB logic input	A1, B2(*)	OUT4B	MVCC34	4-channel driver B output
D3	SCLK	DVDD	SCLK logic input	A3	MVCC5	–	5-channel driver power supply
B3	SDATA	DVDD	SDATA logic input	A2	OUT5A	MVCC5	5-channel driver A output
F3	IN7A	DVDD	IN7A logic input	A4	OUT5B	MVCC5	5-channel driver B output
E4	IN7B	DVDD	IN7B logic input	F4	VDDAMP67	–	Power supply of 6-7channel current driver control
E3	STATE11	DVDD	STATE11 logic output	F5, G6(*)	RNF6	–	6-channel driver power supply
E2	STATE12	DVDD	STATE12 logic output	G4	MGND67	–	6-7channel driver ground
D2	STATE21	DVDD	STATE21 logic output	G5	OUT6A	RNF6	6-channel driver A output
C2	STATE22	DVDD	STATE22 logic output	F6	OUT6B	RNF6	6-channel driver B output
C4	PIOUT1	DVDD	PI driving output1	F2, G1(*)	RNF7	–	7-channel driver power supply
E5	PIOUT2	DVDD	PI driving output2	G3	OUT7A	RNF7	7-channel driver A output
C6	MVCC12	–	1-2channel driver power supply	G2	OUT7B	RNF7	7-channel driver B output
A5	MGND125	–	1-2, 5channel driver ground				
A6, B5(*)	OUT1A	MVCC12	1-channel drive A output				
B6	OUT1B	MVCC12	1-channel drive B output				
D6	OUT2A	MVCC12	2-channel drive A output				
E6	OUT2B	MVCC12	2-channel drive B output				
E1	MVCC34	–	3-4channel driver power supply				
C1	MGND34	–	3-4channel driver ground				

(*)It is not possible to use corner pin only.(Corner pins are A1, A6, G1 and G6.)
Please short A1-B2, A6-B5, F2-G1, F5-G6 or use B2, B5, F2, F5 only.

◇Pin assignment diagram (bottom view)



◇Outline dimensions/Marking figure



VCSP85H3

(UNIT:mm)

Drawing No:EX902-5036

◇Cautions on use

(1) Absolute maximum ratings

If applied voltage, operating temperature range, or other absolute maximum ratings are exceeded, the LSI may be damaged. Do not apply voltages or temperatures that exceed the absolute maximum ratings. If you expect that any voltage or temperature could be exceeding the absolute maximum ratings, take physical safety measures such as fuses to prevent any conditions exceeding the absolute maximum ratings from being applied to the LSI.

(2) GND potential

Maintain the GND pin at the minimum voltage even under any operating conditions.
Actually check to be sure that none of the pins have voltage lower than that of GND pin, including transient phenomena.

(3) Thermal design

With consideration given to the permissible dissipation under actual use conditions, perform thermal design so that adequate margins will be provided.

(4) Short circuit between pins and malfunctions

To mount the LSI on a board, pay utmost attention to the orientation and displacement of the LSI. Faulty mounting to apply a voltage to the LSI may cause damage to the LSI. Furthermore, the LSI may also be damaged if any foreign matters enter between pins, between pin and power supply, or between pin and GND of the LSI.

(5) Operation in strong magnetic field

Make a thorough evaluation on use of the LSI in a strong magnetic field. Not doing so may malfunction the LSI.

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