

- ◇Structure           Silicon monolithic integrated circuit
- ◇Product Series    Lens control LSI
- ◇Type                BU24020GU
- ◇Applications      Digital still cameras
- ◇Functions         •Built-in 4 channels Driver block : 1-4ch Voltage control type H-bridge(Adaptable to STM 2systems)  
                        •Built-in 2 channels PI driving circuit  
                        •Built-in PLL circuit

◇Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit	Remark
Power supply voltage	DVDD	-0.3~4.5	V	
	MVCC	-0.3~7.0	V	MVCC12,MVCC34
Input voltage	VIN	-0.3~DVDD+0.3	V	
Input/output current *1	IIN	±500	mA	MVCC12,MVCC34
		+50	mA	by PIOUT pin
Storage temperature range	TSTG	-55~125	°C	
Operating temperature range	TOPE	-20~85	°C	
Permissible dissipation *2	PD	800	mW	

This product is not designed for anti-radiation applications.

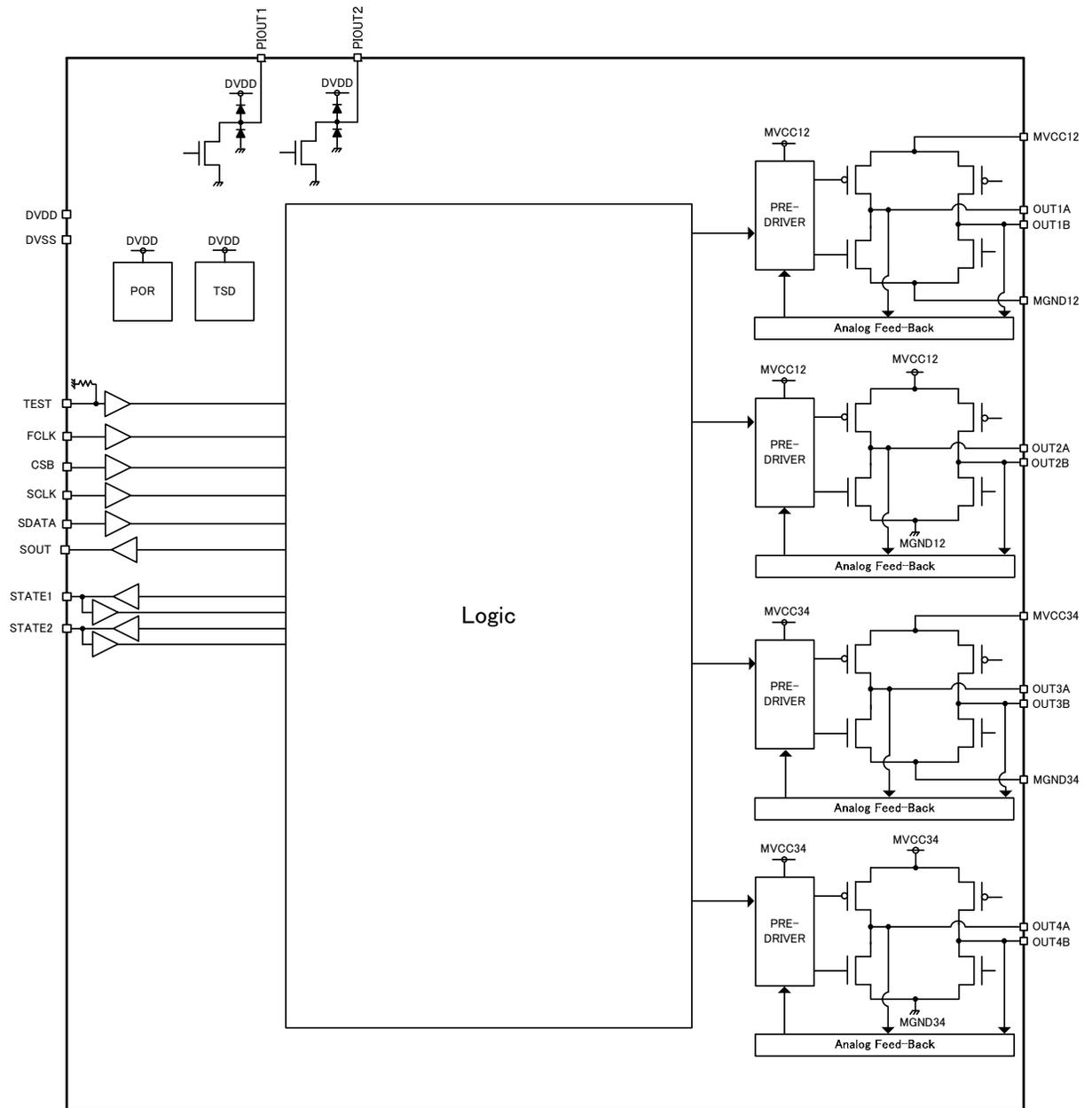
\*1 Must not exceed PD.

\*2 To use at a temperature higher than Ta=25 °C, derate 11mW per 1 °C  
 (At mounting 50mm x 58mm x 1.75mm glass epoxy board. )

◇Operating conditions (Ta = 25°C)

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	MVCC12,MVCC34
clock operating frequency	FCLK	1~28	MHz	Reference clock

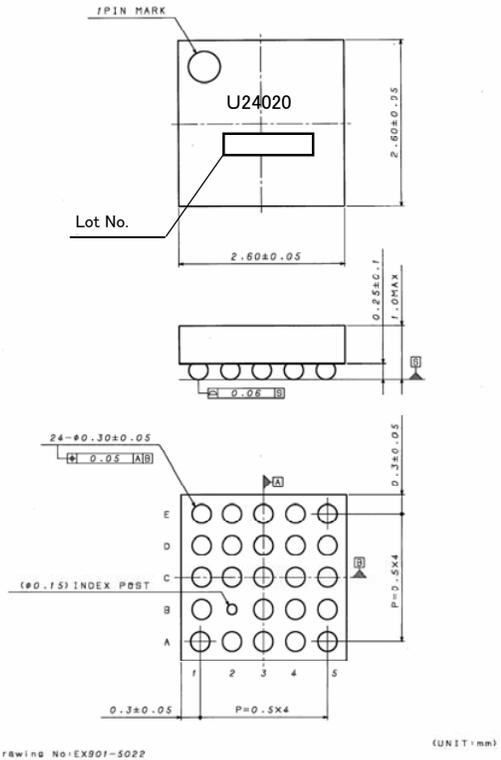
◇Block Diagram



◇ Pin functions

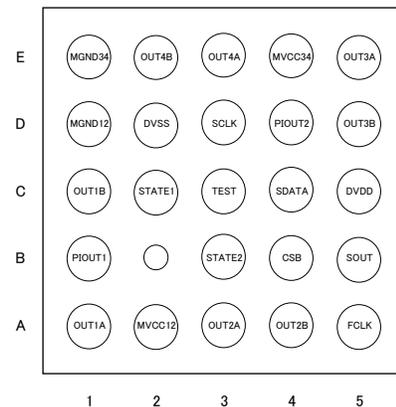
Land Matrix No.	Pin name	Power supply	Function
C5	DVDD	-	Digital power supply
D2	DVSS	-	ground
A5	FCLK	DVDD	FCLK logic input
B4	CSB	DVDD	CSB logic input
D3	SCLK	DVDD	SCLK logic input
C4	SDATA	DVDD	SDATA logic input
B5	SOUT	DVDD	SOUT logic output
C2	STATE1	DVDD	STATE1 logic input/output
B3	STATE2	DVDD	STATE2 logic input/output
C3	TEST	DVDD	TEST logic output
B1	PIOUT1	DVDD	PI driving output 1
D4	PIOUT2	DVDD	PI driving output 2
A2	MVCC12	-	1ch, 2ch Driver power supply
D1	MGND12	-	1ch, 2ch Driver ground
A1	OUT1A	MVCC12	1ch Driver A output
C1	OUT1B	MVCC12	1ch Driver B output
A3	OUT2A	MVCC12	2ch Driver A output
A4	OUT2B	MVCC12	2ch Driver B output
E4	MVCC34	-	3ch, 4ch Driver power supply
E1	MGND34	-	3ch, 4ch Driver ground
E5	OUT3A	MVCC34	3ch Driver A output
D5	OUT3B	MVCC34	3ch Driver B output
E3	OUT4A	MVCC34	4ch Driver A output
E2	OUT4B	MVCC34	4ch Driver B output

◇ Outline dimensions/Marking figure



VCSP85H2

◇ Pin assignment diagram (bottom view)



◇ 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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