◇Structure　Silicon monolithic integrated circuit
◇Product Series　Lens control LSI
◇Type　BU24026GU
◇Applications　Digital still cameras
◇Functions　Waveforming circuit (3 channels)
PI driving circuit (2 channels)
Driver block (1−6 channels)　: Constant voltage control type H−bridge
Driver block (7 channel)　: Constant current control type H−bridge

◇Absolute maximum ratings (Ta = 25°C)

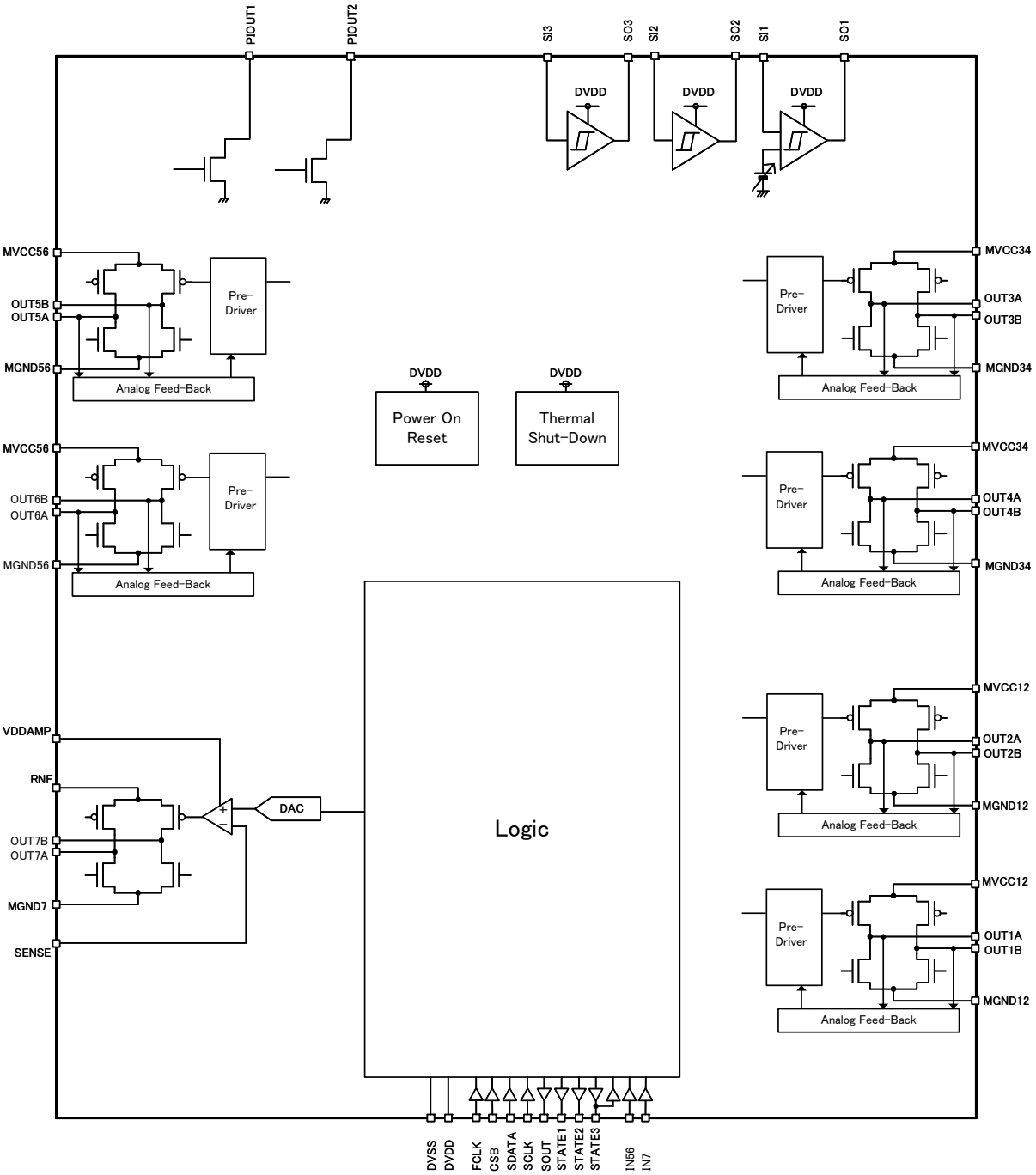
Parameter	Symbol	Limits	Unit	Remark
Power supply voltage	DVDD	−0.3～4.5	V	
	MVCC	−0.3～7.0	V	
	VDDAMP	−0.3～7.0	V	
Input voltage	VIN	−0.3～DVDD+0.3	V	
Input/output current	IIN	±500	mA	Driver block (by MVCC pin)
		＋100	mA	by PIOUT pin
Storage temperature range	TSTG	−55～125	℃	
Operating temperature range	TOPE	−20～85	℃	
Permissible dissipation	PD	1.37	W	*1

This product is not designed for anti−radiation applications.
*1To use at a temperature higher than Ta=25℃, derate 13.7mW per 1℃.
(At mounting 50 mm × 58 mm × 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	
Constant current control amplifier power	VDDAMP	2.7～5.5	V	
clock operating frequency	FCLK	1～27.5	MHz	Reference clock

◇Block Diagram

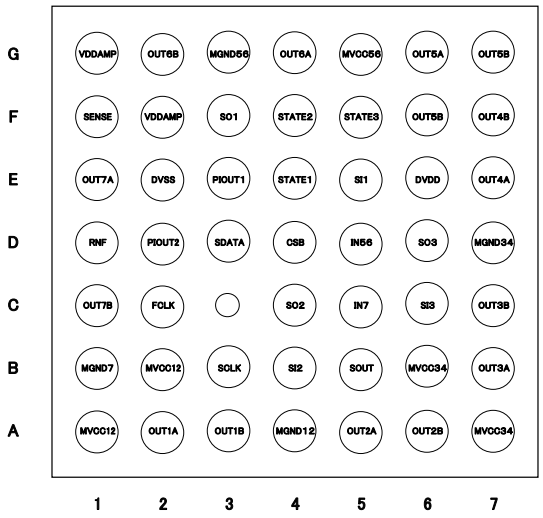


◇Pin functions

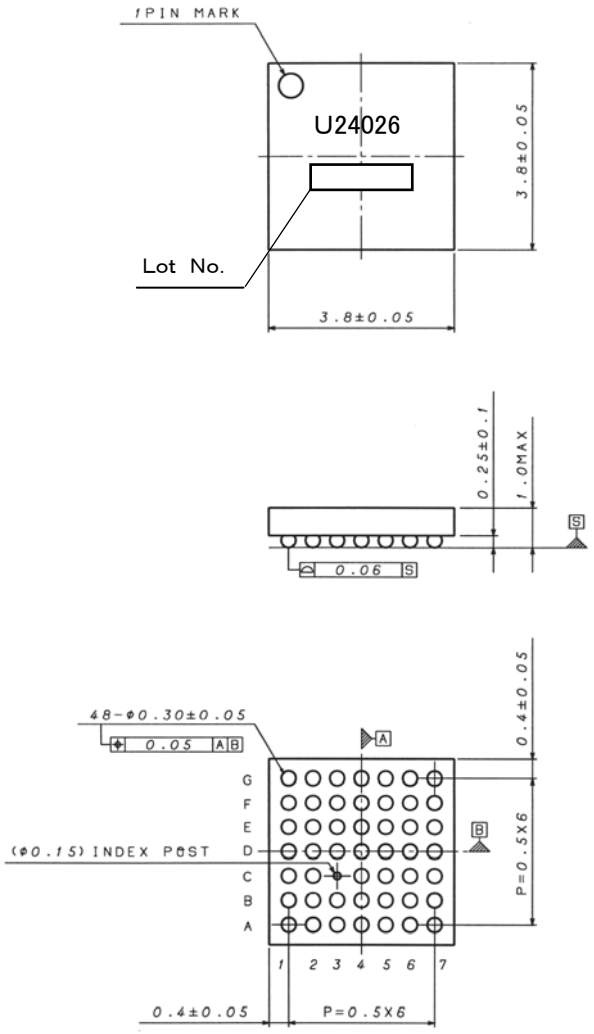
Land	Pin name	Power	Function	I/O	Handling of unused pins
E6	DVDD	–	Digital power supply	Power supply	–
E2	DVSS	–	Ground	GND	–
C2	FCLK	DVDD	main clock logic input	I	pull down(DVSS)
D4	CSB	DVDD	Serial control chip select input	I	pull up(DVDD)
B3	SCLK	DVDD	Serial control clock input	I	pull down(DVSS)
D3	SDATA	DVDD	Serial control data input	I	pull down(DVSS)
B5	SOUT	DVDD	Serial control data output	O	open
E4	STATE1	DVDD	STATE1 1,2ch condition logic output	O	open
F4	STATE2	DVDD	STATE2 3,4ch condition logic output	O	open
F5	STATE3	DVDD	STATE 3 5,6ch condition logic output / 5,6ch control logic input	I／O(initial condition：O)	open
D5	IN56	DVDD	5,6ch control logic input	I	pull down(DVSS)
C5	IN7	DVDD	7ch control logic input	I	pull down(DVSS)
E3	PIOUT1	DVDD	PI driving output1	O	open
D2	PIOUT2	DVDD	PI driving output2	O	open
E5	SI1	DVDD	1ch waveforming input(With adjustment function of threshold voltage)	I	pull down(DVSS)
B4	SI2	DVDD	2ch waveforming input	I	pull down(DVSS)
C6	SI3	DVDD	3ch waveforming input	I	pull down(DVSS)
F3	SO1	DVDD	1ch waveforming output	O	open
C4	SO2	DVDD	2ch waveforming output	O	open
D6	SO3	DVDD	3ch waveforming output	O	open
A1, B2※	MVCC12	–	1-2channel driver power supply	Power supply	–
A4	MGND12	–	1-2channel driver ground	GND	–
A2	OUT1A	MVCC12	1-channel driver A output	O	open
A3	OUT1B	MVCC12	1-channel driver B output	O	open
A5	OUT2A	MVCC12	2-channel driver A output	O	open
A6	OUT2B	MVCC12	2-channel driver B output	O	open
A7, B6※	MVCC34	–	3-4channel driver power supply	Power supply	–
D7	MGND34	–	3-4channel driver ground	GND	–
B7	OUT3A	MVCC34	3-channel driver A output	O	open
C7	OUT3B	MVCC34	3-channel driver B output	O	open
E7	OUT4A	MVCC34	4-channel driver A output	O	open
F7	OUT4B	MVCC34	4-channel driver B output	O	open
G5	MVCC56	–	5-6channel driver power supply	Power supply	–
G3	MGND56	–	5-6channel driver ground	GND	–
G6	OUT5A	MVCC56	5-channel driver A output	O	open
F6, G7※	OUT5B	MVCC56	5-channel driver B output	O	open
G4	OUT6A	MVCC56	6-channel driver A output	O	open
G2	OUT6B	MVCC56	6-channel driver B output	O	open
D1	RNF	–	7-channel driver power supply	Power supply	–
B1	MGND7	–	7-channel driver ground	GND	–
F2, G1※	VDDAMP	–	Power supply of constant current driver control	Power supply	–
F1	SENSE	VDDAMP	Negative input for constant current driver control	I	pull down(MGND7)
E1	OUT7A	RNF	7-channel driver A output	O	open
C1	OUT7B	RNF	7-channel driver B output	O	open
C3	INDEX	–	Index pin	–	–

※It is not possible to use corner pin only. (Corner pins are A1, A7, G1, and G7.)
Please use A1-B2, A7-B6, F2-G1, F6-G7 pair respectively or using B2, B6, F2, F6 only.

◇Pin assignment diagram (reverse side)



◇Outline dimensions/Marking figure



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◇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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