

WY6005产品规格书

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万羿WY6005产品规格书

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1. Overview

WY6005 is a 64×8 pixel image sensor. It adopts dTOF (direct Time of Flight) technology, which can realize accurate ranging and imaging of objects of materials with different reflectivity in various environments, and then realize 3-D depth modeling of the scene. The sensor integrates single photon avalanche diode (SPAD) receiving arrays, and unique TOF acquisition and processing technology.

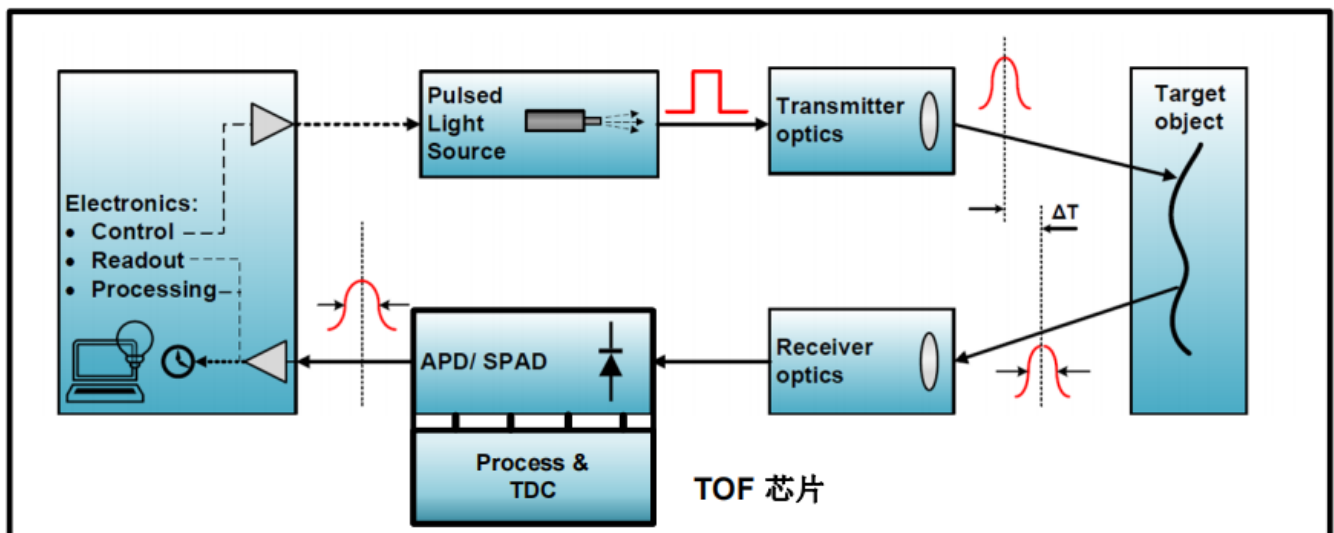
To achieve high data compression rate, on-chip histogram processing algorithm is adopted. Therefore, no high-speed interfaces are required. Measurement data and system configuration information are transmitted through the I2C communication interface, which can be conveniently used in various systems.

2. Technical Specifications

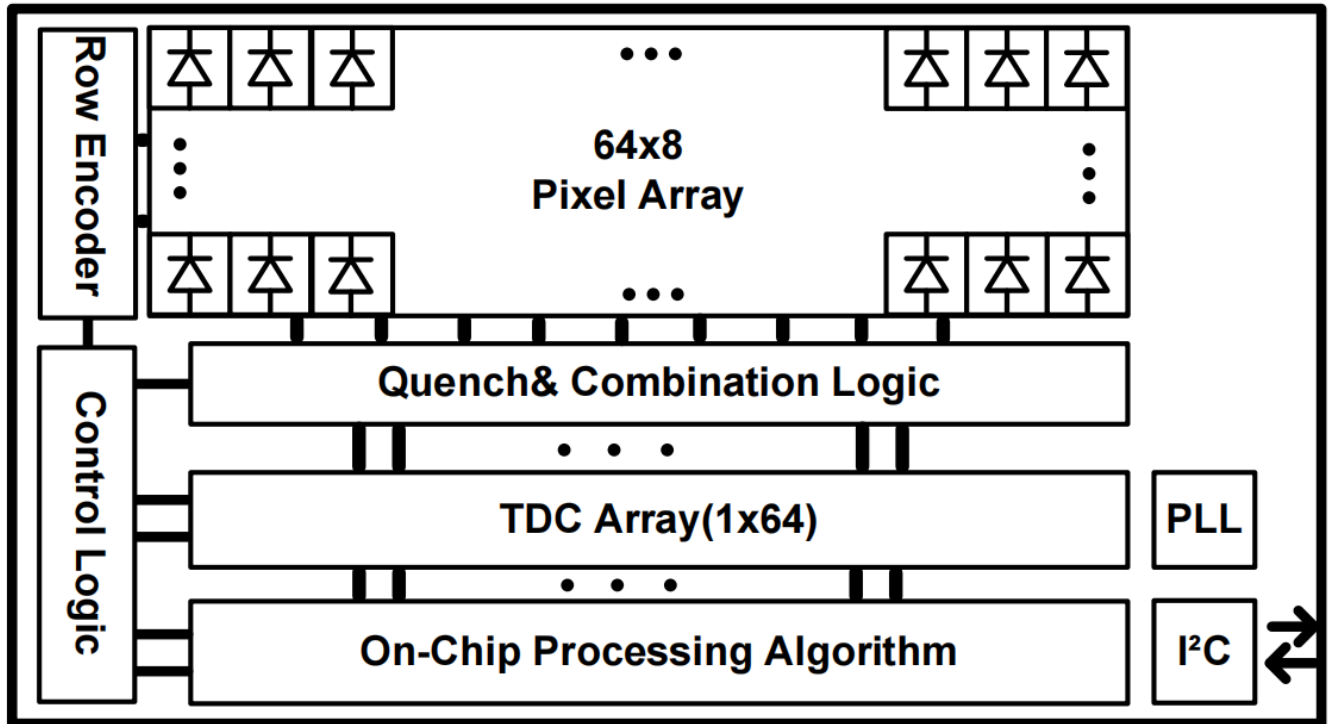
- High precision ranging
- SPAD-based dToF with high resolution TDC
- On-chip data processing
- Easy for integration
- Standard I2C data communication interface

Parameter	Specification
Size	3670 μ m×4370 μ m
Frame rate	30fps
Distance	10m
Precision	1.2cm
Lase wavelength	905nm
Interface Type	I2C

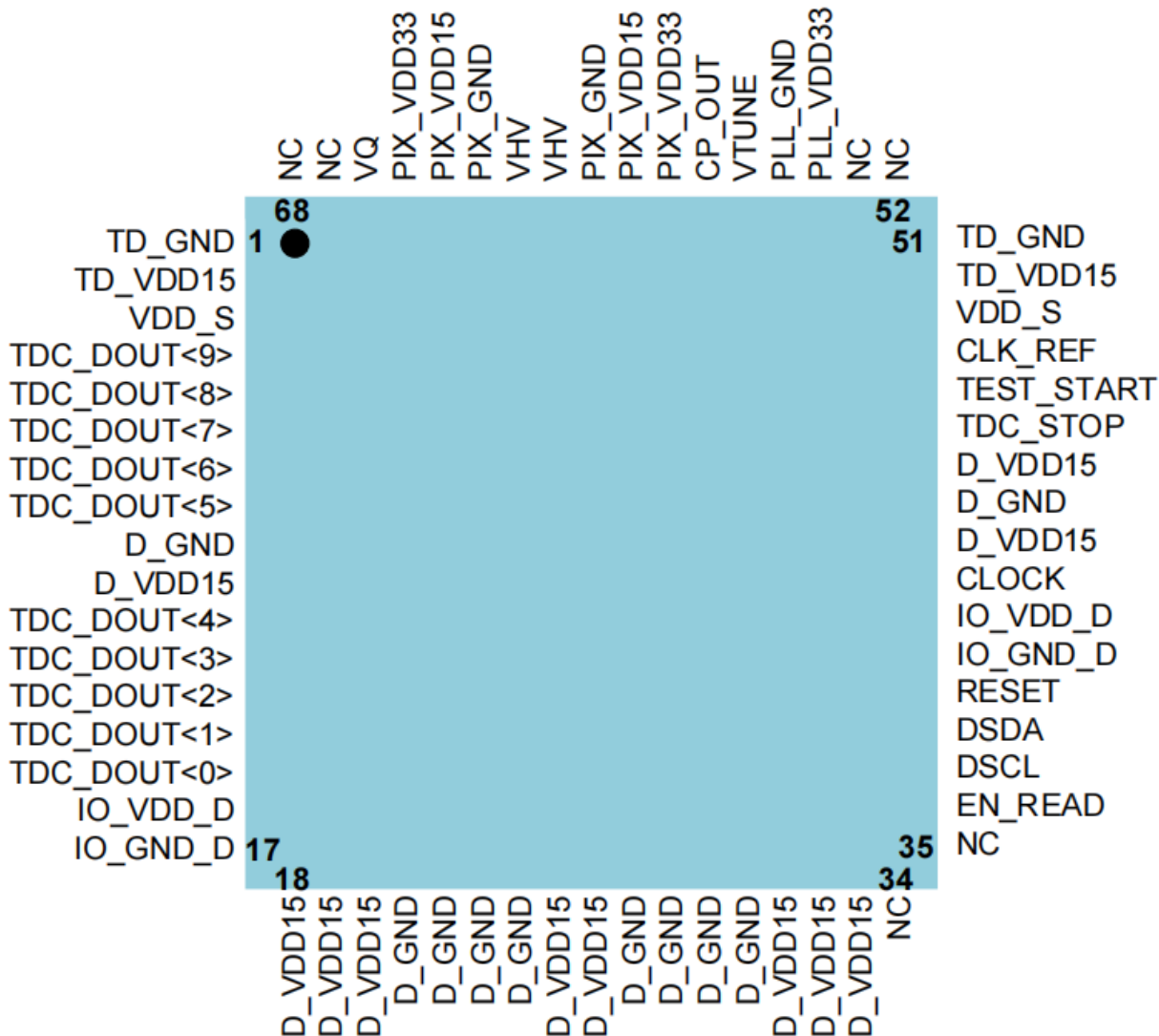
3. Block Diagram



4. Function Blocks



5. Pin Description



Pin No.	Pin Name	Type	Description
1	TD_GND	Power Supply	Ground for TDC
2	TD_VDD15	Power Supply	1.5V supply for TDC
3	VDD_S	Power Supply	1.5V-1.8V Supply for Oscillator in TDC
4	TDC_DOUT<9>	Output	TDC Output for test purpose
5	TDC_DOUT<8>	Output	TDC Output for test purpose
6	TDC_DOUT<7>	Output	TDC Output for test purpose
7	TDC_DOUT<6>	Output	TDC Output for test purpose
8	TDC_DOUT<5>	Output	TDC Output for test purpose
9	D_GND	Power Supply	Ground for digital units
10	D_VDD15	Power Supply	1.5V supply for digital units
11	TDC_DOUT<4>	Output	TDC Output for test purpose
12	TDC_DOUT<3>	Output	TDC Output for test purpose
13	TDC_DOUT<2>	Output	TDC Output for test purpose
14	TDC_DOUT<1>	Output	TDC Output for test purpose
15	TDC_DOUT<0>	Output	TDC Output for test purpose

16	IO_VDD_D	Power Supply	Supply for IO units
17	IO_VDD_D	Power Supply	Ground for IO units
18	D_VDD15	Power Supply	1.5V supply for digital units
19	D_VDD15	Power Supply	1.5V supply for digital units
20	D_VDD15	Power Supply	1.5V supply for digital units
21	D_GND	Power Supply	Ground for digital units
22	D_GND	Power Supply	Ground for digital units
23	D_GND	Power Supply	Ground for digital units
24	D_GND	Power Supply	Ground for digital units
25	D_VDD15	Power Supply	1.5V supply for digital units
26	D_VDD15	Power Supply	1.5V supply for digital units
27	D_GND	Power Supply	Ground for digital units
28	D_GND	Power Supply	Ground for digital units
29	D_GND	Power Supply	Ground for digital units
30	D_GND	Power Supply	Ground for digital units
31	D_VDD15	Power Supply	1.5V supply for digital units
32	D_VDD15	Power Supply	1.5V supply for digital units
33	D_VDD15	Power Supply	1.5V supply for digital units
34	NC	NC	NC
35	NC	NC	NC
36	EN_READ	Output	Readout Enable
37	DSCL	Input	I2C Clock line
38	DSDA	Input/Output	I2C Data line
39	RESET	Input	Reset signal for digital units
40	IO_GND_D	Power Supply	Ground for IO units
41	IO_VDD_D	Power Supply	Supply for IO units
42	CLOCK	Input	Input clock for digital units
43	D_VDD15	Power Supply	1.5V supply for digital units
44	D_GND	Power Supply	Ground for digital units
45	D_VDD15	Power Supply	1.5V supply for digital units
46	TDC_STOP	Input	Global TDC STOP
47	TEST_START	Input	Global TDC START for test
48	CLK_REF	Input	PLL reference clock

49	VDD_S	Power Supply	1.5V-1.8V Supply for Oscillator
50	TD_VDD15	Power Supply	1.5V supply for TDC
51	TD_GND	Power Supply	Ground for TDC
52	NC	NC	NC
53	NC	NC	NC
54	PLL_VDD33	Power Supply	3.3V supply for PLL
55	PLL_GND	Power Supply	Ground for PLL
56	VTUNE	Power Supply	Oscillator control terminal
57	CP_OUT	Input	Charge pump output terminal
58	PIX_VDD33	Power Supply	3.3V supply for Pixel circuits
59	PIX_VDD15	Power Supply	1.5V supply for Pixel circuits
60	PIX_GND	Power Supply	Ground for Pixel circuits
61	VHV	Power Supply	16-20V supply for SPAD array
62	VHV	Power Supply	16-20V supply for SPAD array
63	PIX_GND	Power Supply	Ground for Pixel circuits
64	PIX_VDD15	Power Supply	1.5V supply for Pixel circuits
65	PIX_VDD33	Power Supply	3.3V supply for Pixel circuits
66	VQ	Power Supply	Quenching voltage tuning terminal
67	NC	NC	NC
68	NC	NC	NC

**Note: The two ports of CP_OUT and VTUNE need to be short, close to the chip pins, and the value of the passive component is the component closest to the recommended value in the sheet.

