

NF3004-VC20A

Printheads

For Color Photo Printers (300DPI ; dots / inch)

NF3004-VC20A

The NF3004-VC20 Series are suitable for small photo printers which can make direct print out from digital still cameras and mobile phones. ROHM's energy saving technology enables battery drive, and high resolution printing quality.

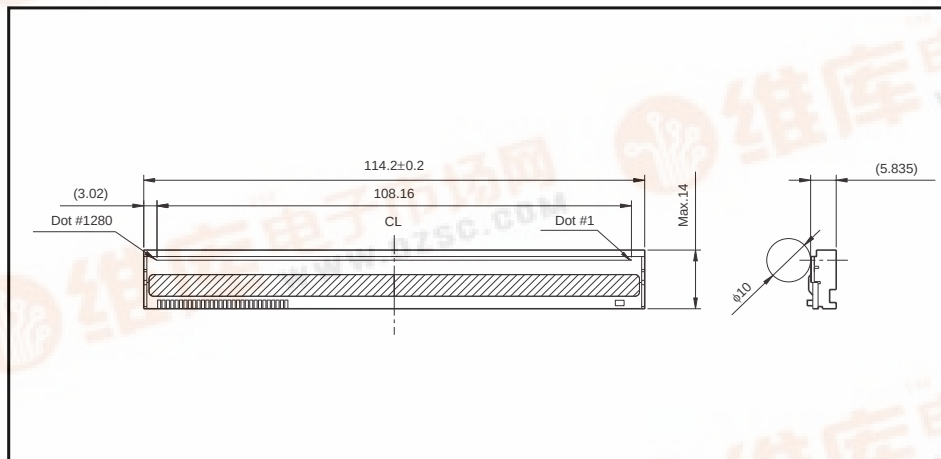
●Applications

Home printers
Mobile Photo printers
Photo kiosk terminals
"Print club" (color photo printer) terminals

●Features

- 1) NF3004-VC20 is drivable with batteries, thanks to its low energy consumption.
- 2) NF3004-VC20 enables full color printing by keeping the adjacent resistance variation less than $\pm 1.5\%$.
- 3) Employing of the driver IC capable of high-speed data transfer at 3.3 circuit supply voltage makes the gradation printing control easier.

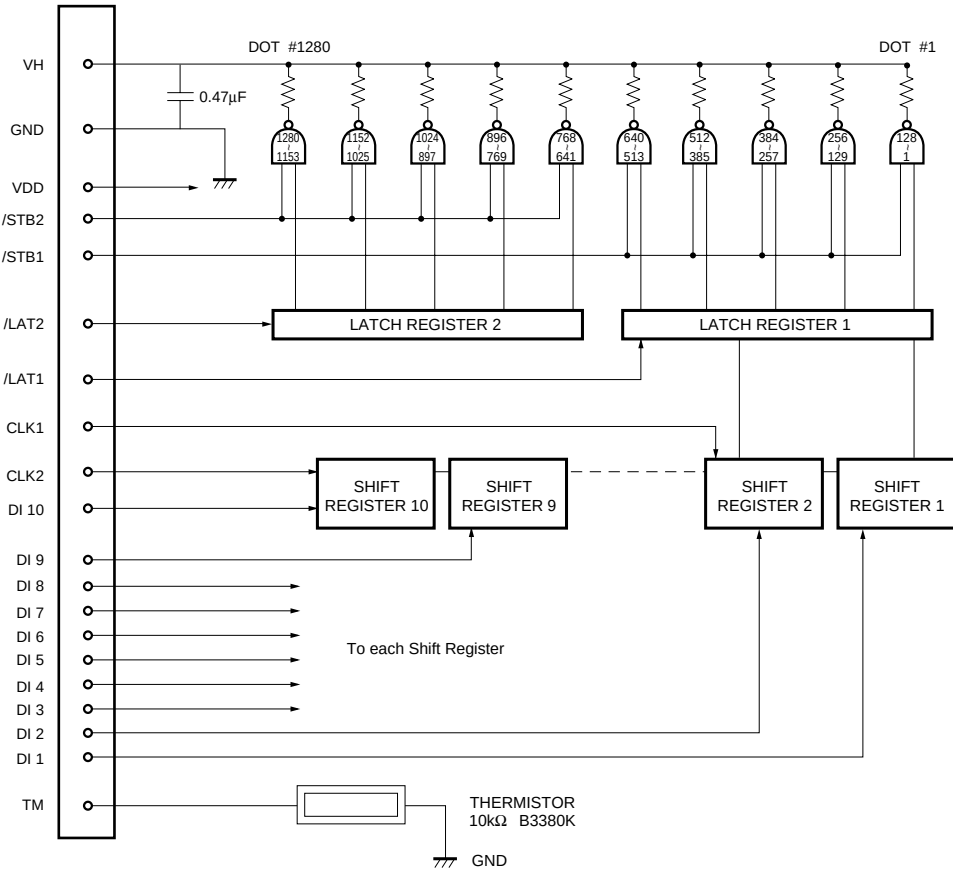
●External dimensions (Unit : mm)



Note: No heat control function inside the thermal printhead. External heat history control is required for high speed printing.

Printheads

●Equivalent circuit



DI No.	DOT No.	DI No.	DOT No.
10	1280 to 1153	5	640 to 513
9	1152 to 1025	4	512 to 385
8	1024 to 897	3	384 to 257
7	896 to 769	2	256 to 129
6	768 to 641	1	128 to 1

/STB No.	DOT No.
2	1280 to 641
1	640 to 1

Fig.1

Pintheads

●Pin assignments

No.	Circuit	No.	Circuit	No.	Circuit
1	GND	2	V _H	3	V _H
4	V _H	5	GND	6	CLK 2
7	GND	8	/LAT 2	9	/STB 2
10	TM	11	DI 10	12	DI 9
13	DI 8	14	DI 7	15	DI 6
16	DI 5	17	DI 4	18	DI 3
19	DI 2	20	DI 1	21	V _{DD}
22	/STB 1	23	/LAT 1	24	GND
25	CLK 1	26	GND	27	V _H
28	V _H	29	V _H	30	GND

●Timing chart

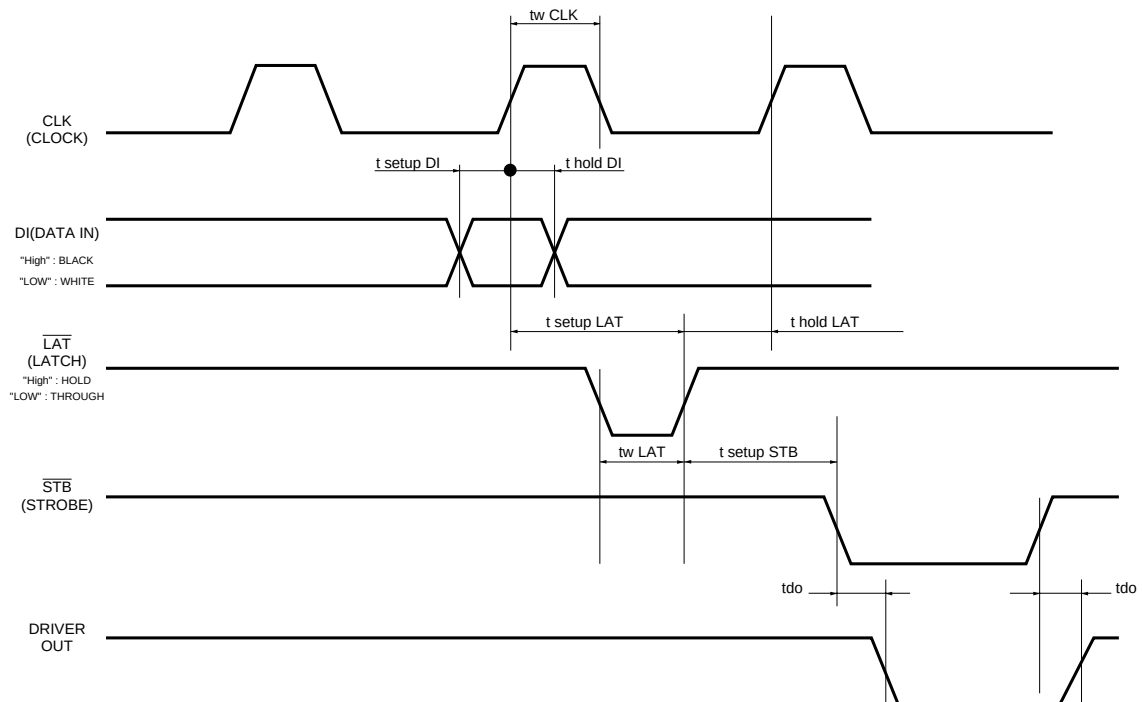


Fig.2

Printheads

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	108.16	mm
Dot pitch	—	0.0845	mm
Total dot number	—	1280	dots
Average resistance value	Rave	2800	Ω
Applied voltage	V _H	13.3	V
Applied power	P _O	0.061	W/dot
Print cycle	SLT	4.5	ms/line
Pulse width	T _{ON}	2.25	ms
Maximum number of dots energized simultaneously	—	640	dots
Maximum clock frequency	—	16	MHz
Maximum rolls diameter	—	10	mm
Running life / pulse life	—	2/5×10 ⁷	km/pulses
Operating temperature	—	5 to 45	°C

●Electrical characteristics

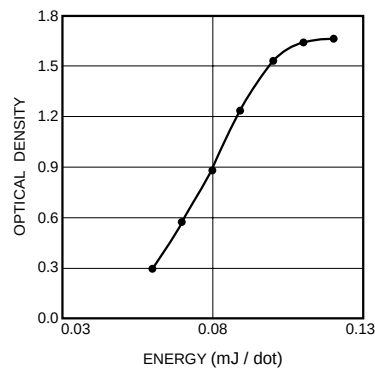


Fig. 3 Representative density curve

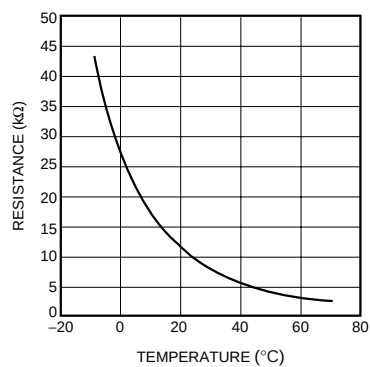


Fig. 4 Thermistor curve

Note) Direct Thermal Printing (KPT210 QJI)

Appendix

Notes

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