

Thick film thermal printhead (11.8 dots / mm) KD3008-DF10A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KD3008-DF10A. Capable of being employed for both thermal and thermal transfer printing, with a print speed of 200mm/s, the resulting print heads are the fastest in their class. The high-speed and high-density printing answers the needs of ATM, kiosk and ticket printing devices, which are increasingly being called upon to produce graphical output.

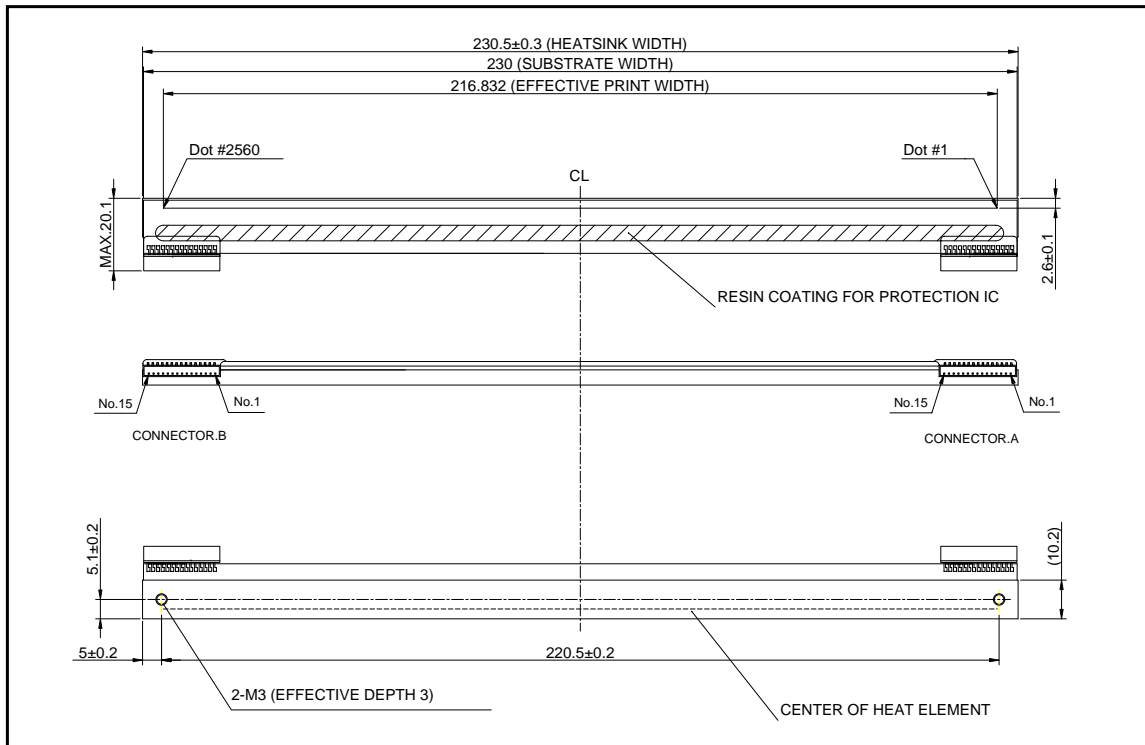
●Applications

Label printers
Ticket printers
Terminal printers

●Features

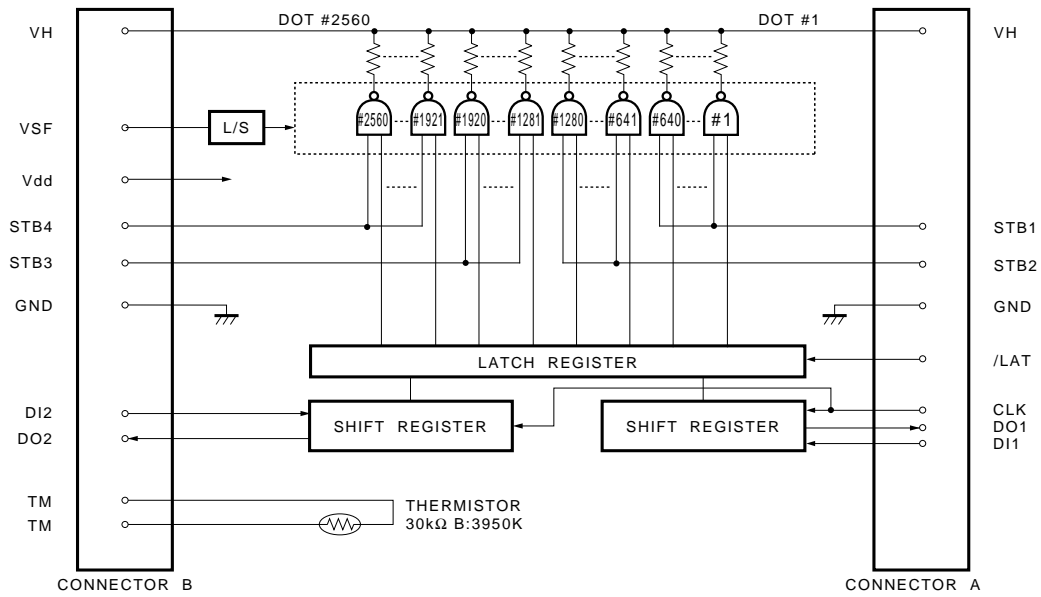
- 1) The use of a special partial glaze and the latest heating element structure, along with new high-density driver chips that can accept big current, has allowed ROHM to achieve print speeds of 200mm/s with using thermal history control, the fastest in its class.
- 2) One rank resistance value of $1000\Omega \pm 3\%$ eliminates the inconvenience of rank selection.
- 3) The required driving voltage of 3.15 to 5.25V allows wide range of power supply voltage setting. This also allows multiple choice of electronic components for printers.
- 4) 2-inch, 3-inch, 4-inch and 8-inch series are available.

●Dimensions (Unit : mm)



Printheads

●Equivalent circuit



STB No.	Dot No.	Dots / STB.
1	1 to 640	640
2	641 to 1280	640
3	1281 to 1920	640
4	1921 to 2560	640

DI No.	Dot No.	Dots / DI
1	1 to 1280	1280
2	1281 to 2560	1280

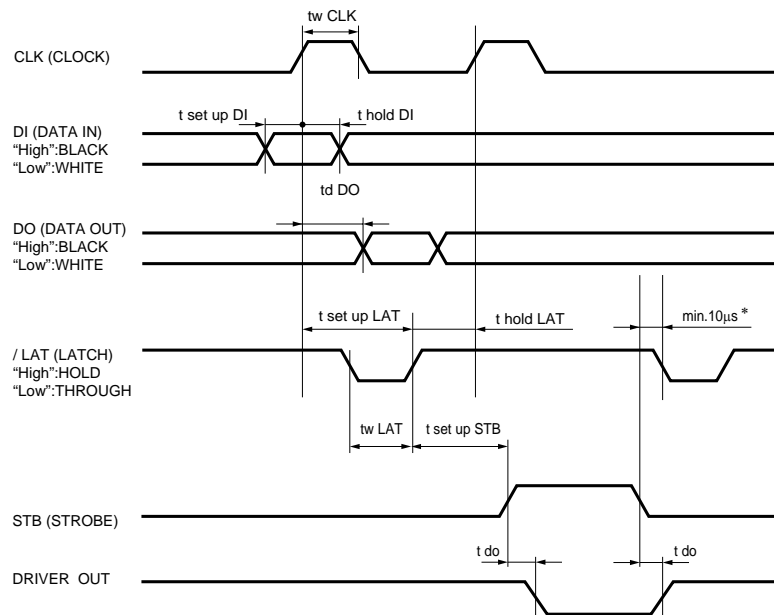
Fig.1

Printheads

●Pin assignments

CONNECTOR A		CONNECTOR B	
No.	Circuit	No.	Circuit
1	V _H	1	GND
2	V _H	2	GND
3	V _H	3	GND
4	V _H	4	GND
5	DI1	5	STB3
6	DO1	6	STB4
7	/LAT	7	V _{DD}
8	CLK	8	TM
9	STB1	9	TM
10	STB2	10	DO2
11	GND	11	DI2
12	GND	12	V _{SF}
13	GND	13	V _H
14	GND	14	V _H
15	GND	15	V _H

●Timing chart



* If delay time for Driver Out can not be secured enough, there is a possibility that V_H would fluctuate greatly. Please design the circuit so that V_H does not exceed peak voltage (V_p).

Fig.2

Printheads

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	216.832	mm
Dot pitch	—	0.0847	mm
Total dot number	—	2560	dots
Average resistance value	Rave	1000	Ω
Applied voltage	V _H	24.0	V
Applied power	P _O	0.36	W / dot
Print cycle	SLT	0.83	ms
Pulse width	T _{ON}	0.34	ms
Maximum number of dots energized simultaneously	—	1280	dots
Maximum clock frequency	—	16	MHz
Maximum roller diameter	—	φ20.0	mm
Running life / pulse life	—	50 / 1×10 ⁸	km / pulses
Operating temperature	—	5 to 45	°C

●Electrical characteristic curves

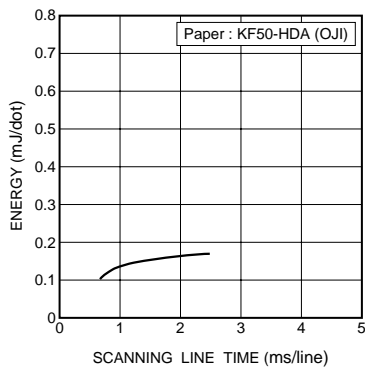


Fig.3 Adaptive speed chart

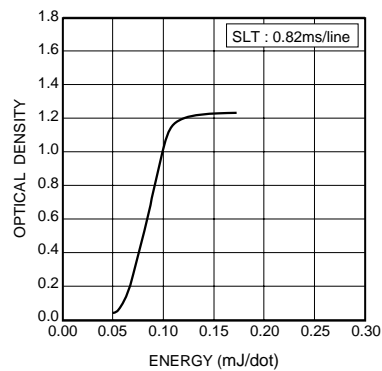


Fig.4 Representative density curve

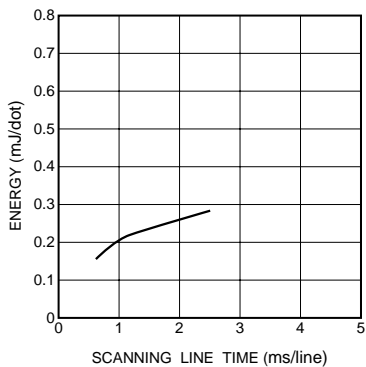


Fig.5 Maximum energy curve

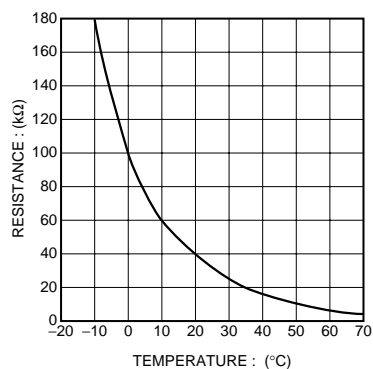


Fig.6 Thermistor curve

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