Compact high speed thick film thermal printhead (12 dots / mm)

KF3003-GD31A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KF3003-GD31A . 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.

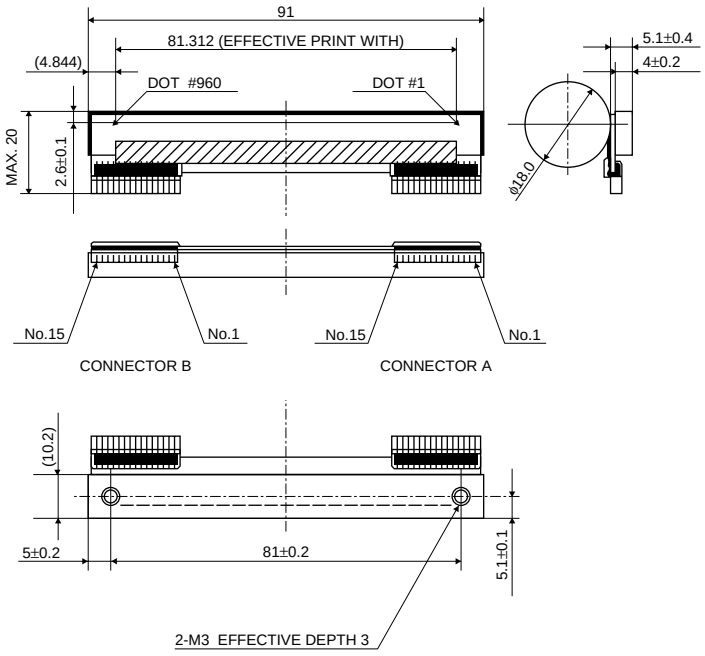
●Applications

Label printers
Ticket printers
Terminal printers

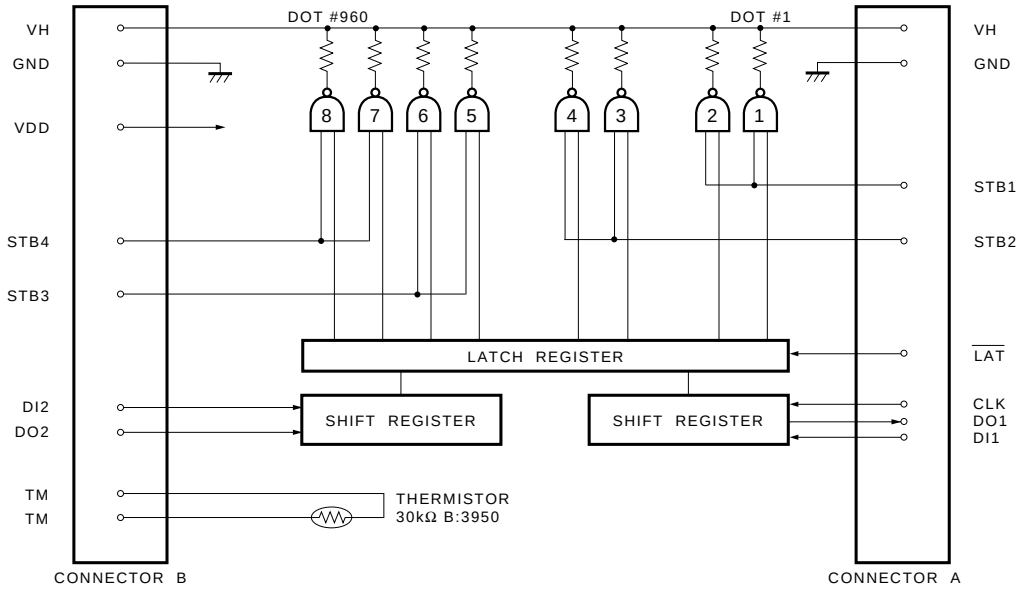
●Features

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 1250Ω ± 3% eliminates the inconvenience of rank selection.
3) 2-inch, 3-inch and 4-inch series are available.

●External dimensions (Units : mm)



●**Equivalent circuit**



STB No.	Dot No.	dots / STB
1	1 ~ 192	192
2	193 ~ 448	256
3	449 ~ 704	256
4	705 ~ 960	256

DI No.	Dot No.	dots / STB
1	1 ~ 448	448
2	449 ~ 960	512

Fig.1

●Pin assignments

CONNECTOR A

No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DI1
6	DO1
7	$\overline{LAT}$
8	CLK
9	STB1
10	STB2
11	GND
12	GND
13	GND
14	GND
15	GND

CONNECTOR B

No.	Circuit
1	GND
2	GND
3	GND
4	GND
5	STB3
6	STB4
7	V_{DD}
8	TM
9	TM
10	DO2
11	DI2
12	VH
13	VH
14	VH
15	VH

●Timing chart

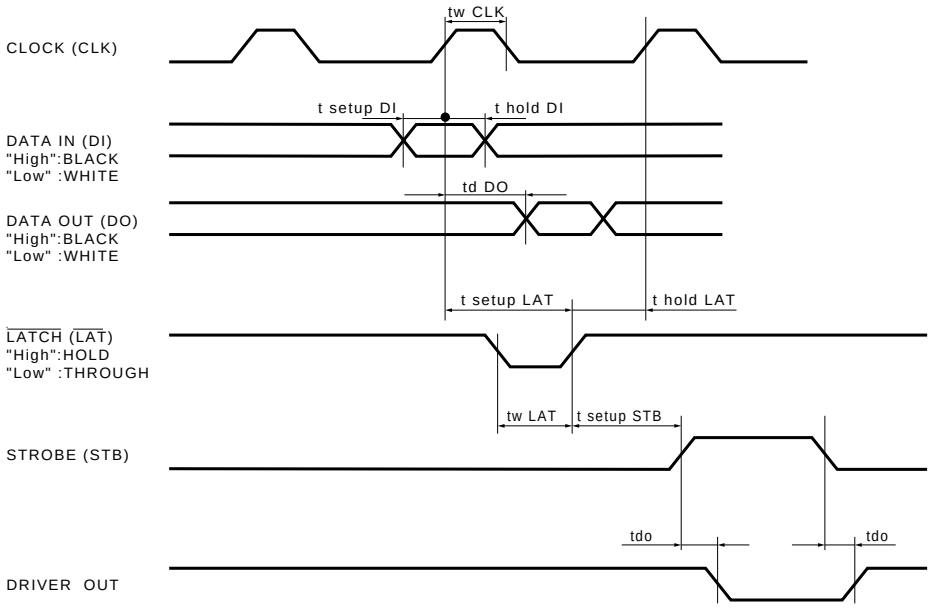


Fig.2

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	–	81.312	mm
Dot pitch	–	0.0847	mm
Total dot number	–	960	dots
Average resistance value	Rave	1250	Ω
Applied voltage	V_H	24	V
Applied power	P_O	0.42	W/dot
Print cycle	SLT	0.82	ms
Pulse width	T_{ON}	0.311	ms
Maximum number of dots energized simultaneously	–	512	dots
Maximum clock frequency	–	8	MHz
Maximum roller diameter	–	ϕ18.0	mm
Running life / pulse life	–	$50/5\times10^7$	km/pulses
Operating temperature	–	5~45	°C

●Electrical characteristic curves

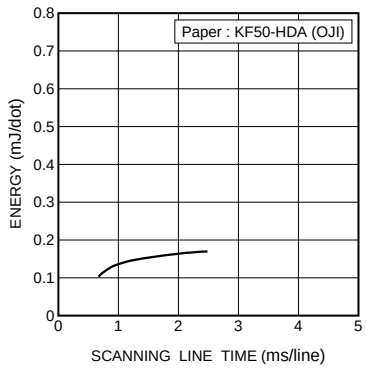


Fig.3 Adaptive speed chart

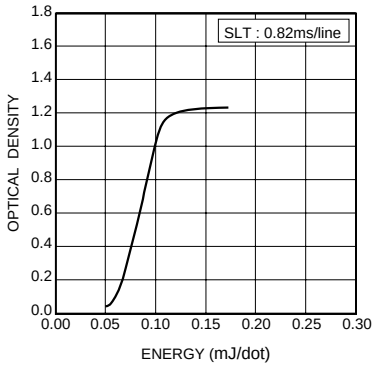


Fig.4 Representative density curve

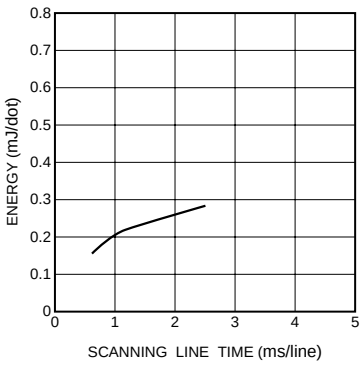


Fig.5 Maximum energy curve

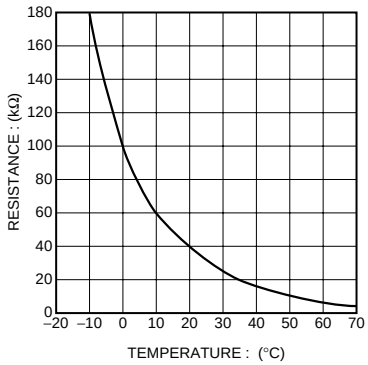


Fig.6 Thermistor curve

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