

# Compact high speed thick film thermal printhead (8dots / mm)

## KF2003-GF41A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KF2003-GF41A. Capable of being employed for both thermal and thermal transfer printing, with a print speed of 200mm/s, the resulting printheads 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.

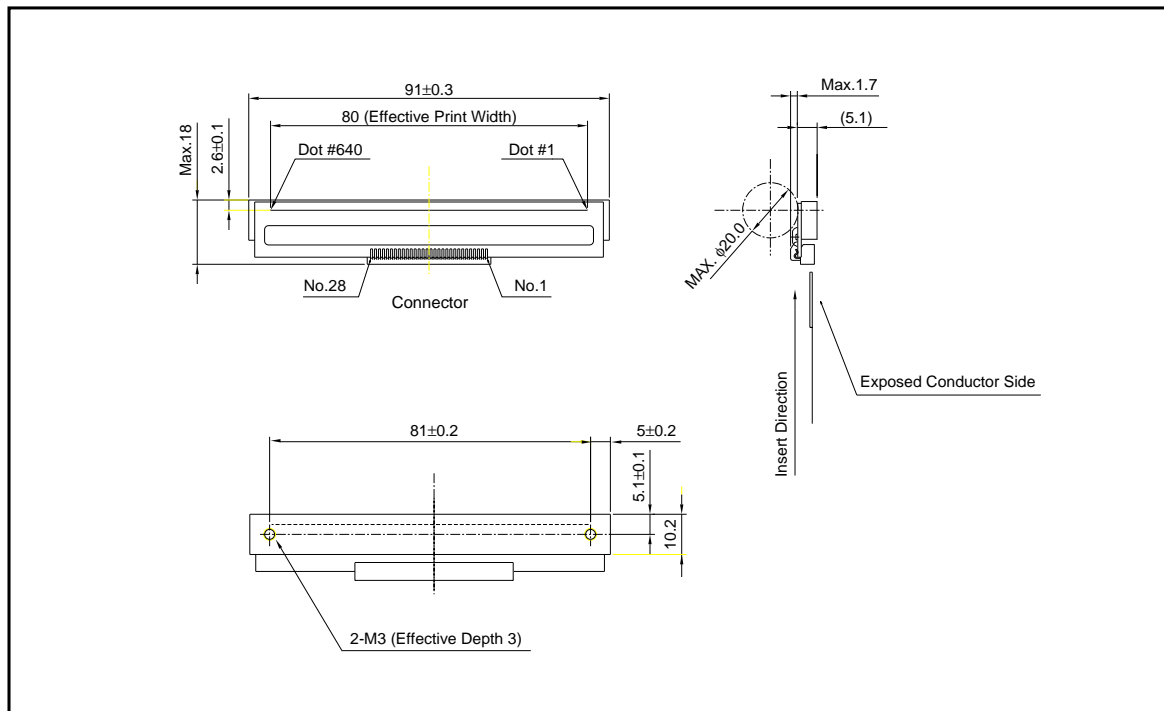
### ●Applications

Label printers  
Ticket printers  
POS printers  
ATM printers  
KIOSK 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, the fastest in its class.
- 2) One rank resistance value of  $650\Omega \pm 3\%$  eliminates the inconvenience of rank selection.
- 3) 2-inch, 3-inch and 4-inch series are available.

### ●External dimensions (Units : mm)



Printheads

●Equivalent circuit

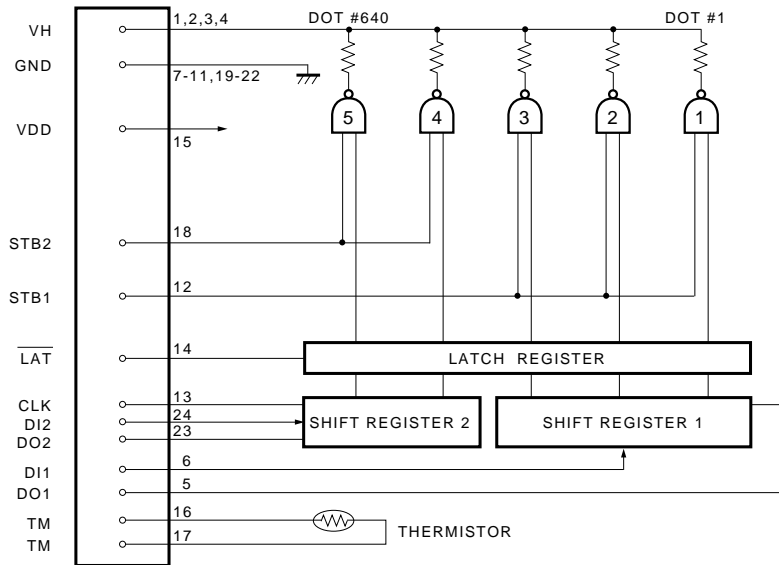


Fig.1

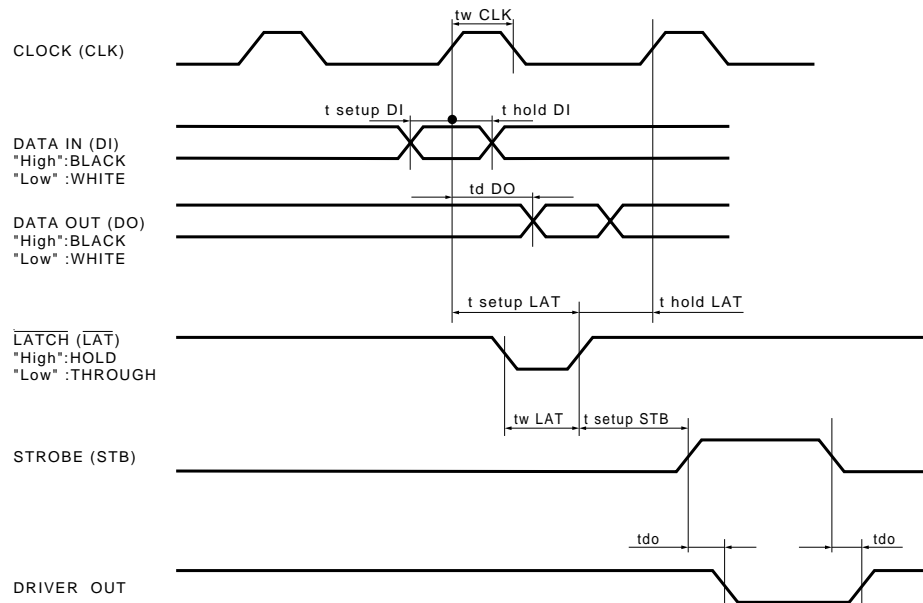
●Pin assignments

No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DO1
6	DI1
7	GND
8	GND
9	GND
10	GND
11	GND
12	STB1
13	CLK
14	LAT

No.	Circuit
15	V <sub>DD</sub>
16	TM
17	TM
18	STB2
19	GND
20	GND
21	GND
22	GND
23	DO2
24	DI2
25	VH
26	VH
27	VH
28	VH

## Printheads

### ●Timing chart



### ●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	80	mm
Dot pitch	—	0.125	mm
Total dot number	—	640	dots
Average resistance value	Rave	650	$\Omega$
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>O</sub>	0.76	W/dot
Print cycle	SLT	0.625	ms
Pulse width	T <sub>ON</sub>	0.234	ms
Maximum number of dots energized simultaneously	—	640	dots
Maximum clock frequency	—	8	MHz
Maximum roller diameter	—	$\phi$ 20.0	mm
Running life / pulse life	—	50/5 $\times$ 10 <sup>7</sup>	km/pulses
Operating temperature	—	5~45	$^{\circ}$ C

Printheads

●Electrical characteristic curves

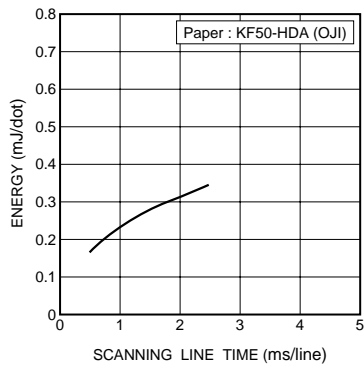


Fig.3 Adaptive speed chart

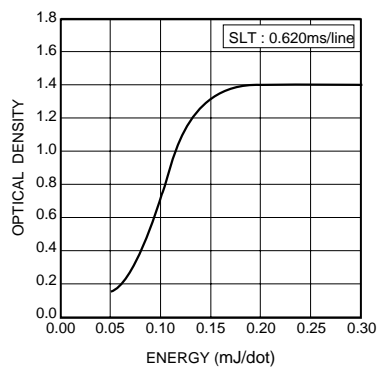


Fig.4 Representative density curve

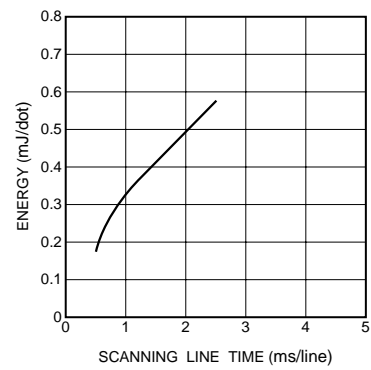


Fig.5 Maximum energy curve

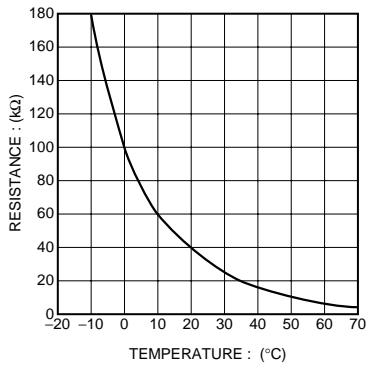


Fig.6 Thermistor curve