

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

## KD2004-DG10A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KD2004-DG10A. Capable of being employed for both thermal and thermal transfer printing, with a print speed of 250mm/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.

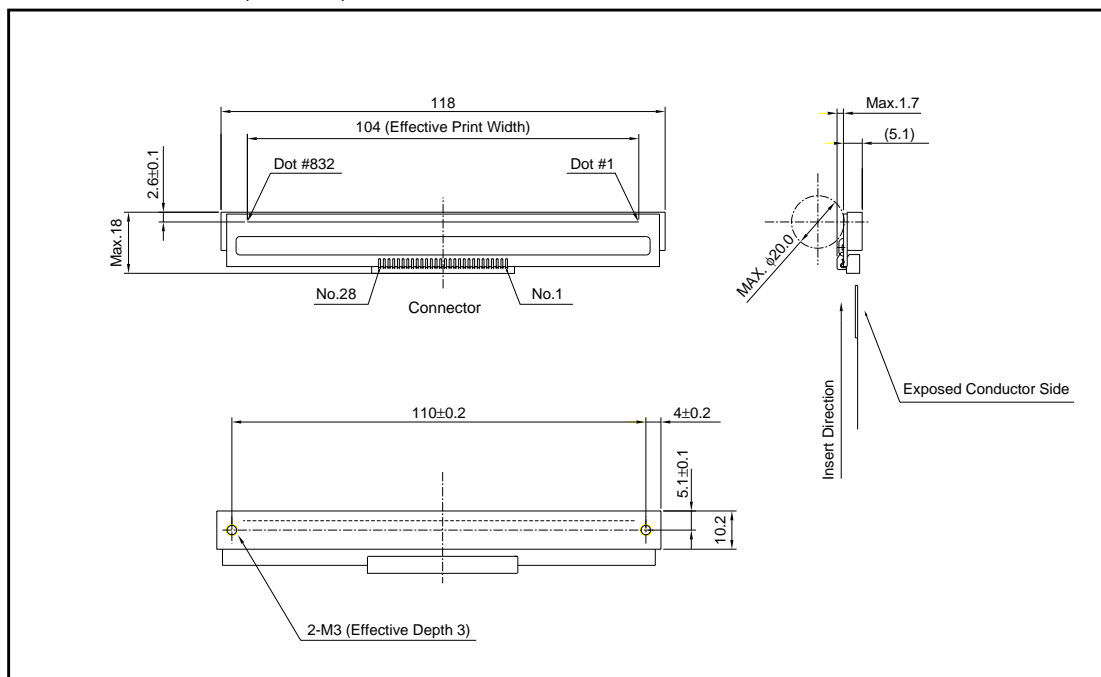
### ●Applications

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 250mm/s, the fastest in its class.
- 2) One rank resistance value of  $650\Omega \pm 3\%$  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 and 4-inch series are available.

### ●External dimensions (Unit : mm)



Printheads

●Equivalent circuit

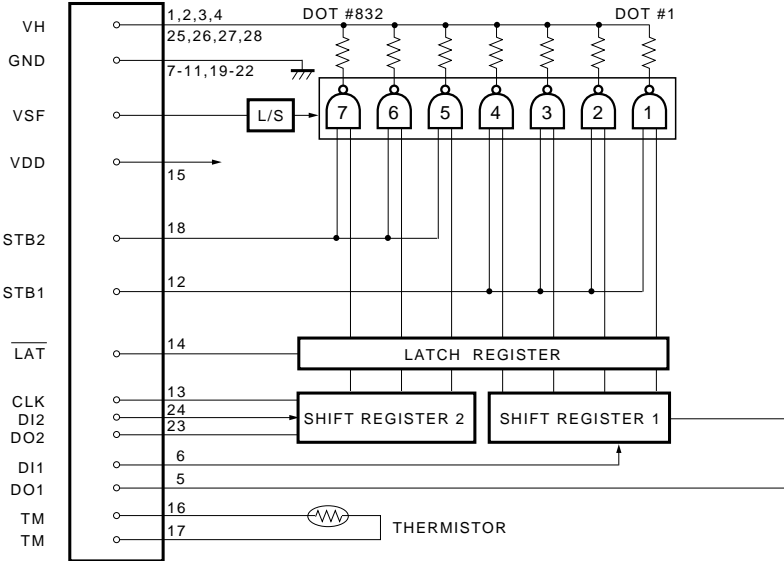


Fig.1

●Pin assignments

No.	Circuit	No.	Circuit
1	VH	15	V <sub>DD</sub>
2	VH	16	TM
3	VH	17	TM
4	VH	18	STB2
5	DI1	19	GND
6	DO1	20	GND
7	GND	21	GND
8	GND	22	GND
9	GND	23	DO2
10	GND	24	DI2
11	GND	25	VSF
12	STB1	26	VH
13	CLK	27	VH
14	LAT	28	VH

## Printheads

### ●Timing chart

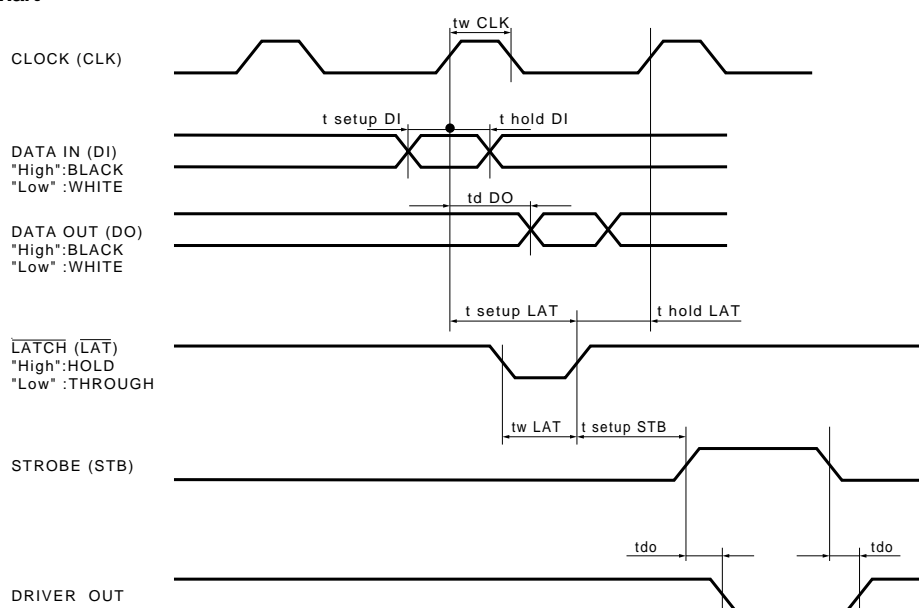


Fig.2

### ●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	104	mm
Dot pitch	—	0.125	mm
Total dot number	—	832	dots
Average resistance value	Rave	650	$\Omega$
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>O</sub>	0.74	W/dot
Print cycle	SLT	0.5	ms
Pulse width	T <sub>ON</sub>	0.20	ms
Maximum number of dots energized simultaneously	—	448	dots
Maximum clock frequency	—	16	MHz
Maximum roller diameter	—	$\phi$ 20.0	mm
Running life / pulse life	—	50/5 $\times$ 10 <sup>7</sup>	km/pulses
Operating temperature	—	5 to 45	$^{\circ}$ C

Printheads

●Electrical characteristic curves

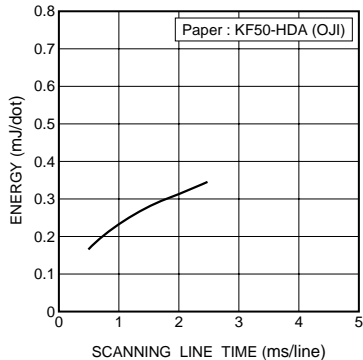


Fig.3 Adaptive speed chart

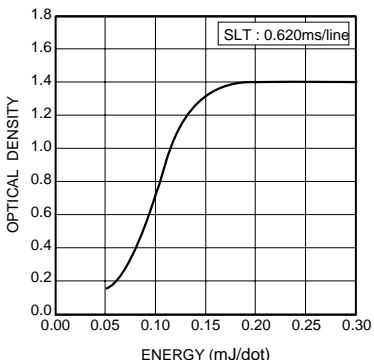


Fig.4 Representative density curve

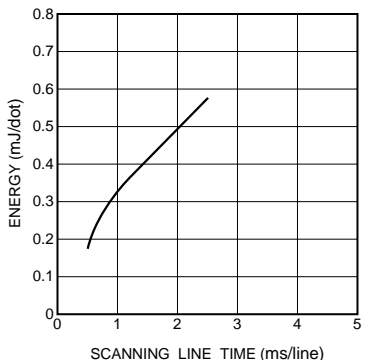


Fig.5 Maximum energy curve

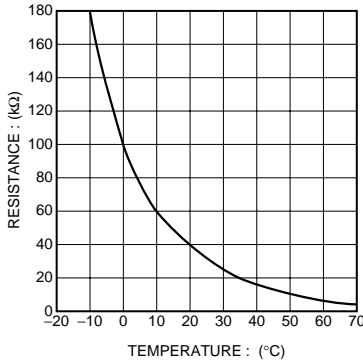


Fig.6 Thermistor curve

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