

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

## KF2004-GD45A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KF2004-GD45A. 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. This high-speed and high-density printing answers the needs of POS, ATM, KIOSK and ticket printing devices, which are increasingly being called upon to produce graphical output.

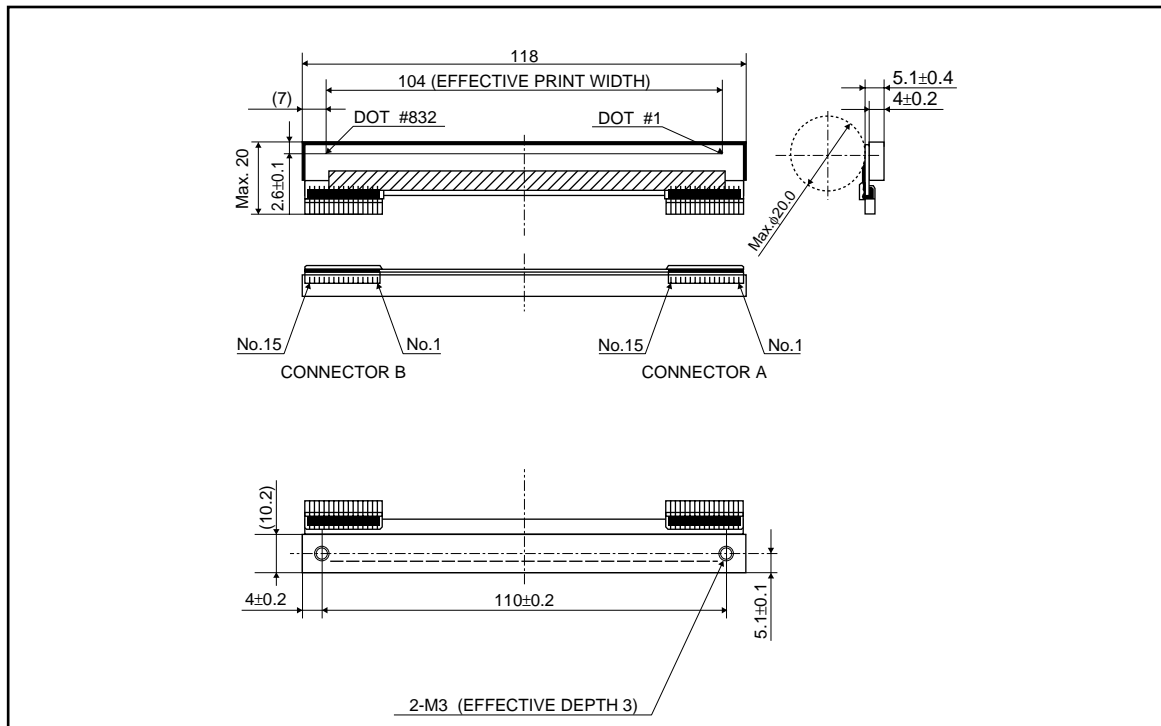
### ●Applications

POS printers  
ATM printers  
KIOSK printers  
Ticket 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) Standard printheads in the line up are capable of 203 or 300 dpi. They achieve the high resolution needed for graphics and other complex print patterns.
- 3) One rank resistance value of  $800\Omega \pm 3\%$  eliminates the inconvenience of rank selection.
- 4) 2-inch, 3-inch and 4-inch series are available.

### ●External dimensions (Units : mm)



Printheads

●Equivalent circuit

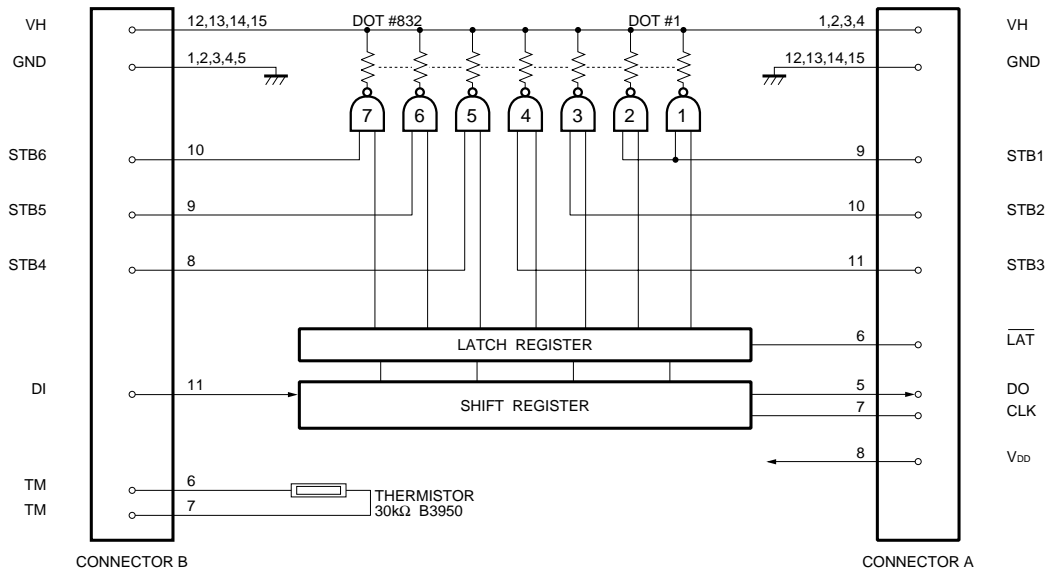


Fig.1

●Pin assignments

CONNECTOR B	
No.	Circuit
1	GND
2	GND
3	GND
4	GND
5	GND
6	TM
7	TM
8	STB4
9	STB5
10	STB6
11	DI
12	VH
13	VH
14	VH
15	VH

CONNECTOR A	
No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DO
6	LAT
7	CLK
8	V <sub>DD</sub>
9	STB1
10	STB2
11	STB3
12	GND
13	GND
14	GND
15	GND

Printheads

●Timing chart

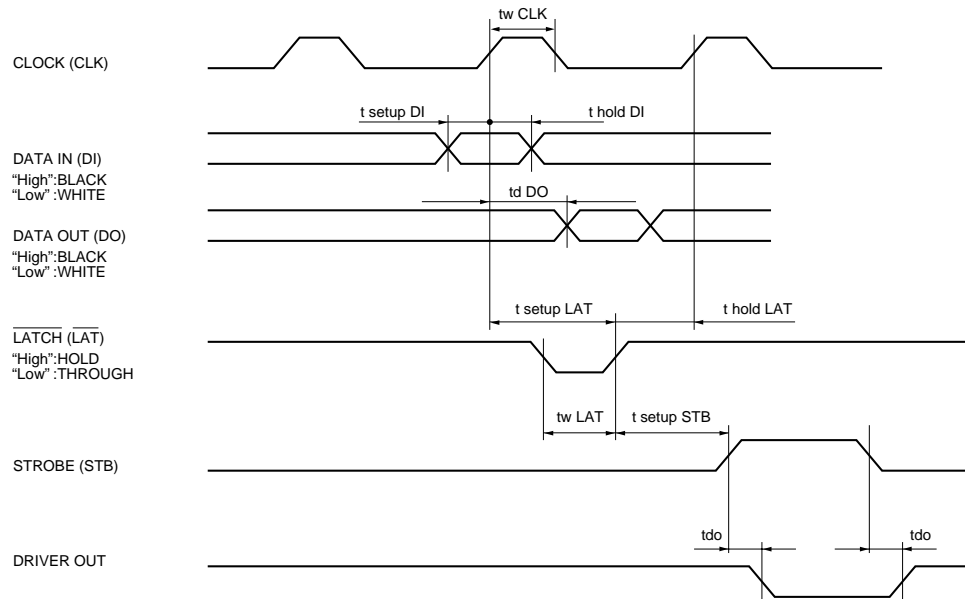


Fig.2

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	-	104	mm
Dot pitch	-	0.125	mm
Total dot number	-	832	dots
Average resistance value	Rave	800	$\Omega$
Applied voltage	$V_H$	24	V
Applied power	$P_o$	0.61	W/dot
Print cycle	SLT	1.25	ms
Pulse width	$T_{ON}$	0.275	ms
Maximum number of dots energized simultaneously	-	448	dots
Maximum clock frequency	-	8	MHz
Maximum roller diameter	-	$\phi 20.0$	mm
Running life / pulse life	-	$50/5 \times 10^7$	km/pulses
Operating temperature	-	5~45	$^{\circ}\text{C}$

Printheads

● Electrical characteristic curves

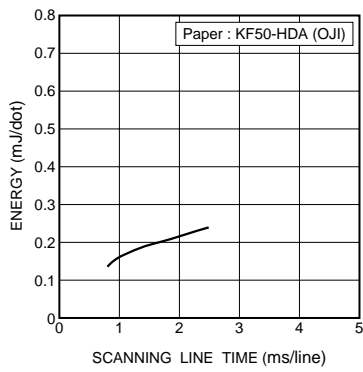


Fig.3 Adaptive speed chart

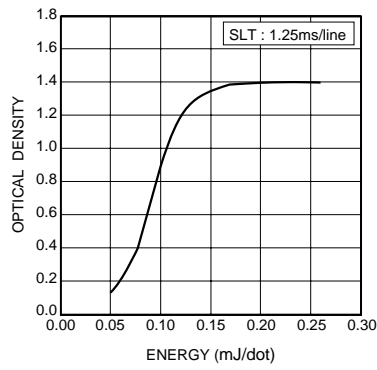


Fig.4 Representative density curve

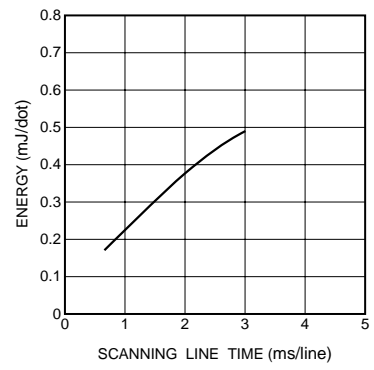


Fig.5 Maximum energy curve

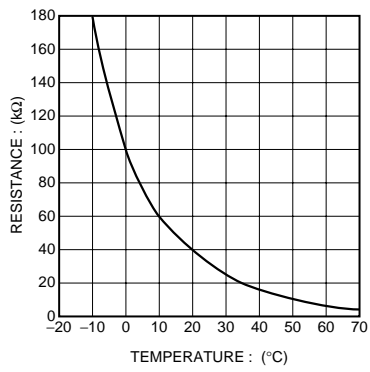


Fig.6 Thermistor curve