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.

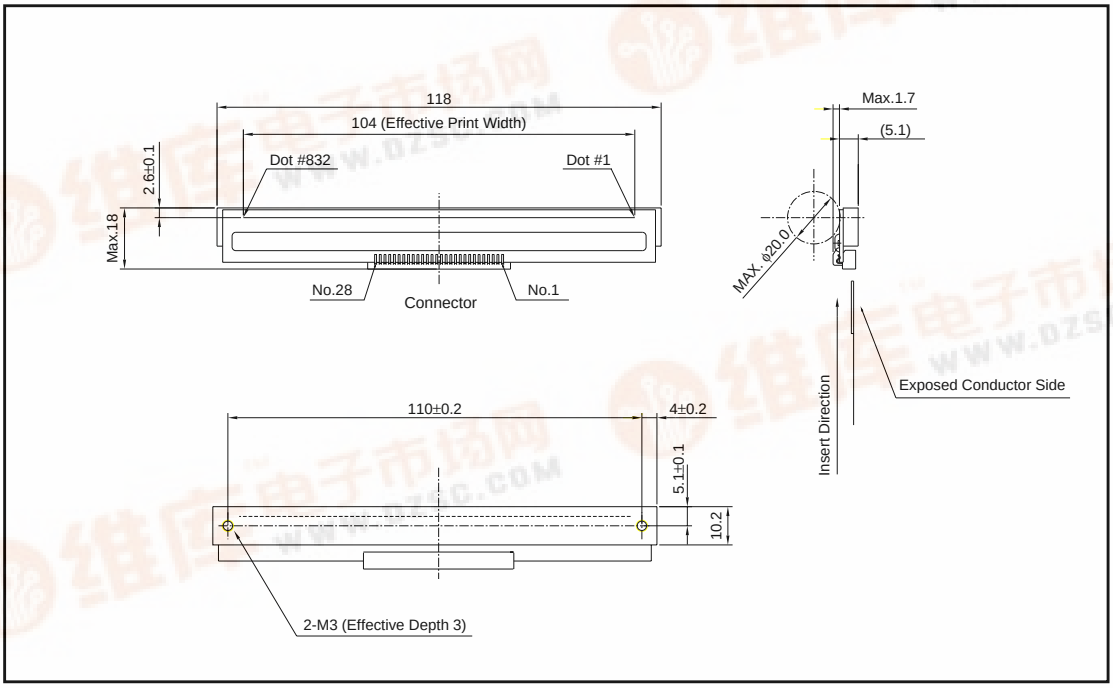
●Applications

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 650Ω ± 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)



●**Equivalent circuit**

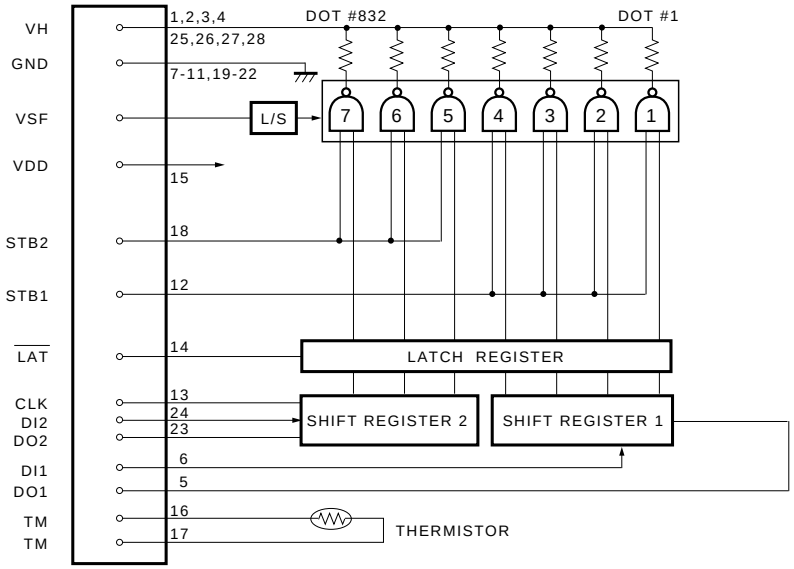


Fig.1

●**Pin assignments**

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

No.	Circuit
15	V_{DD}
16	TM
17	TM
18	STB2
19	GND
20	GND
21	GND
22	GND
23	DO2
24	DI2
25	VSF
26	VH
27	VH
28	VH

●**Timing chart**

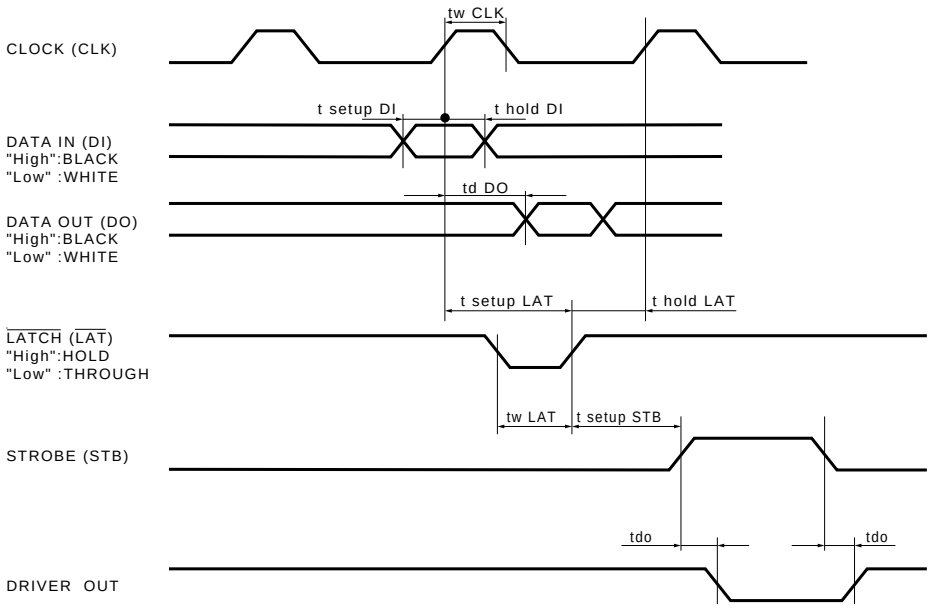


Fig.2

●**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	Ω
Applied voltage	V_H	24	V
Applied power	P_O	0.74	W/dot
Print cycle	SLT	0.5	ms
Pulse width	T_{ON}	0.20	ms
Maximum number of dots energized simultaneously	–	448	dots
Maximum clock frequency	–	16	MHz
Maximum roller diameter	–	ϕ20.0	mm
Running life / pulse life	–	$50/5\times10^7$	km/pulses
Operating temperature	–	5 to 45	°C

●**Electrical characteristic curves**

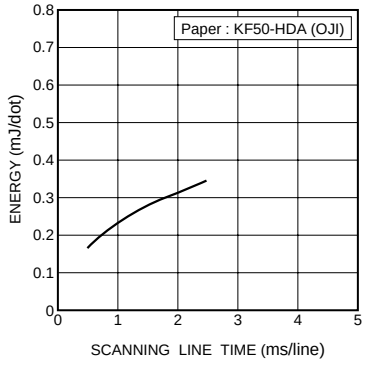


Fig.3 Adaptive speed chart

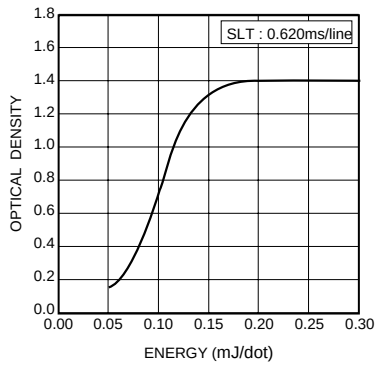


Fig.4 Representative density curve

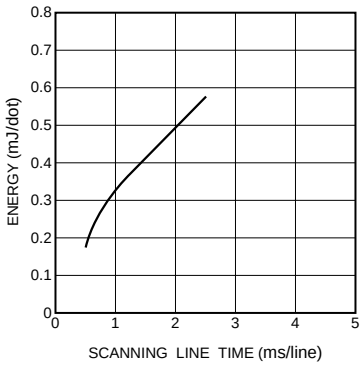


Fig.5 Maximum energy curve

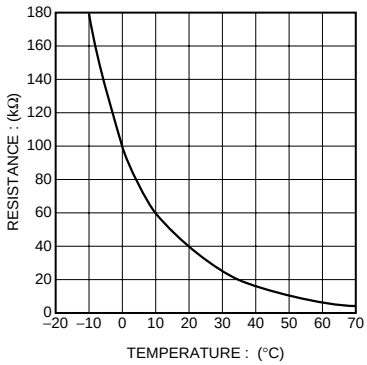


Fig.6 Thermistor curve

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