

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

KD2003-DG12A

KD2003-DG12A built in new and high density driver IC developed by the cutting edge technologies realizes the highest speed in the same class (250mm/s) at both Thermal Transfer and Direct Thermal.

This Thermal Printhead is suitable for POS, ATM, KIOSK and TICKET industries which require High Speed / High Density and Graphic printing.

By the implementation of highly durable protective coat, it achieves 150km as the standard abrasion life.

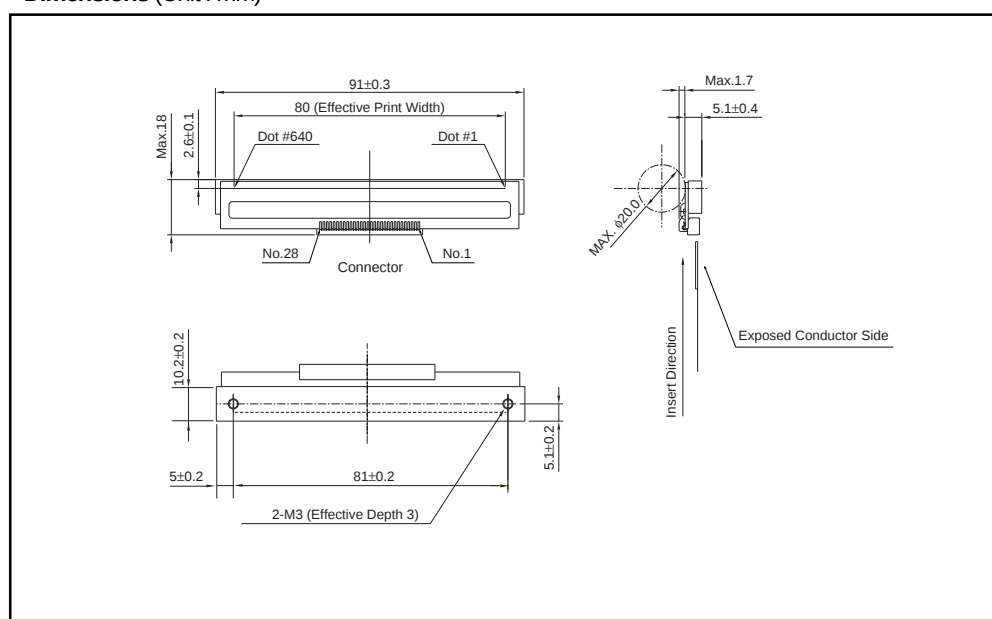
●Applications

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 (with historical control).
- 2) One rank resistance value of $650\Omega \pm 3\%$ eliminates the inconvenience of rank selection.
- 3) The required driving voltage of 3.13 to 5.25V allows wide range of power supply voltage setting. This also allows multiple choice of electronic components for printers.
- 4) With the standard abrasion life of 150km, long life is achieved against the largely abrasive thermal paper.

●Dimensions (Unit : mm)



Printheads

●Equivalent circuit

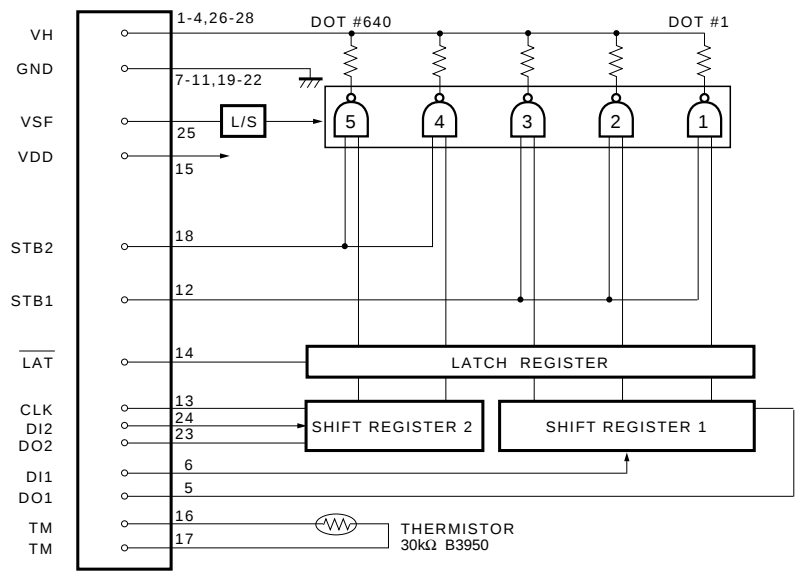


Fig.1

●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 _{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

Printheads

●Timing chart

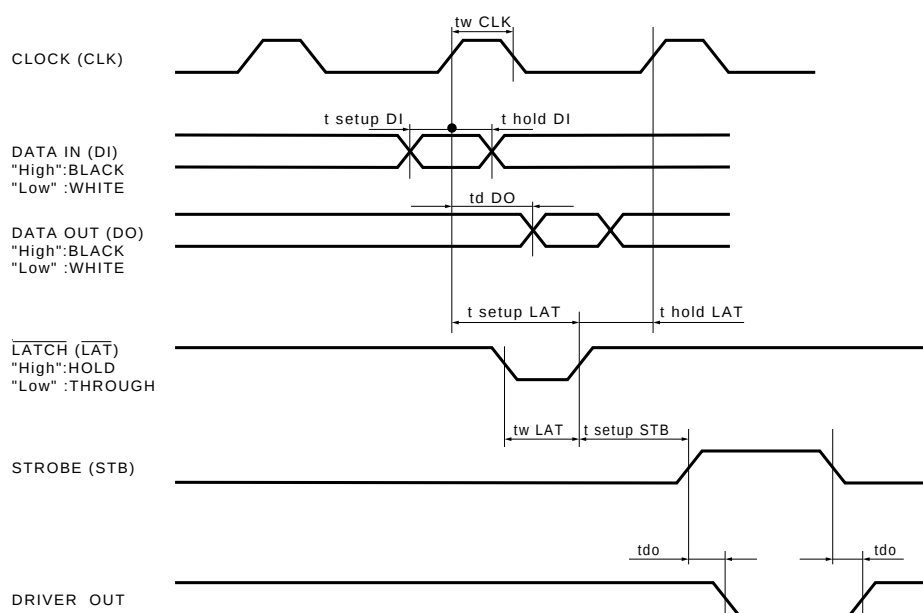


Fig.2

●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	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}	0.2	ms
Maximum number of dots energized simultaneously	—	640	dots
Maximum clock frequency	—	16	MHz
Maximum roller diameter	—	$\phi 20.0$	mm
Running life / pulse life	—	150/1 $\times 10^8$	km/pulses
Operating temperature	—	5 to 45	°C

Printheads

●Electrical characteristic curves

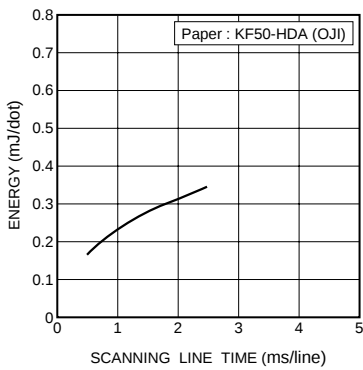


Fig.3 Adaptive speed chart

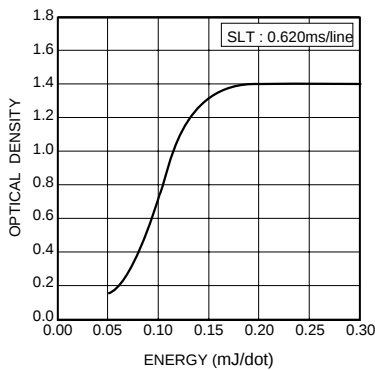


Fig.4 Representative density curve

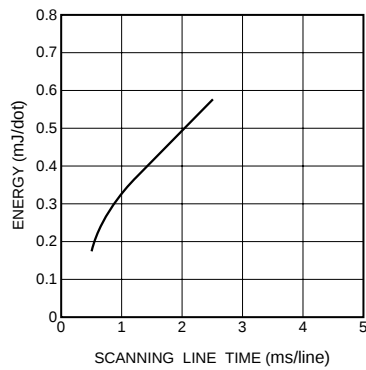


Fig.5 Maximum energy curve

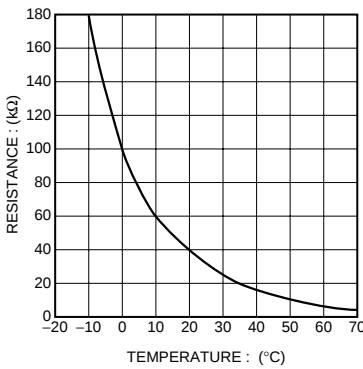


Fig.6 Thermistor curve

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