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

KD2003-DF10A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KD2003-DF10A . Capable of being employed for both thermal and thermal transfer printing, with a print speed of 250mm/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.

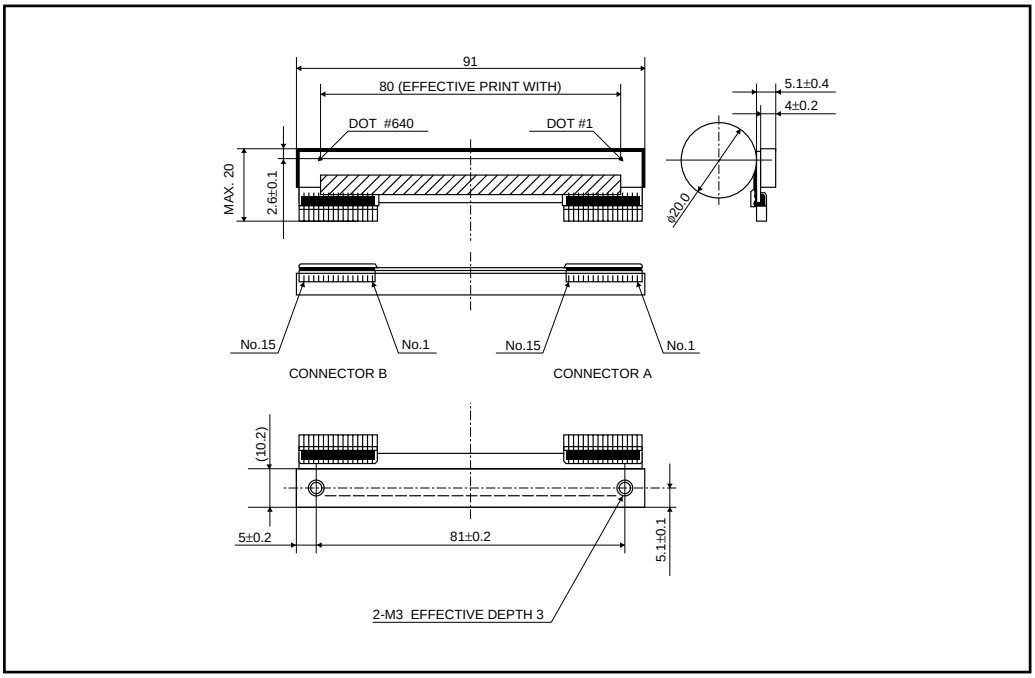
●Applications

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 250mm/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 650Ω ± 3% eliminates the inconvenience of rank selection.
4) 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.
5) 2-inch, 3-inch and 4-inch series are available.

●External dimensions (Unit : mm)



●**Equivalent circuit**

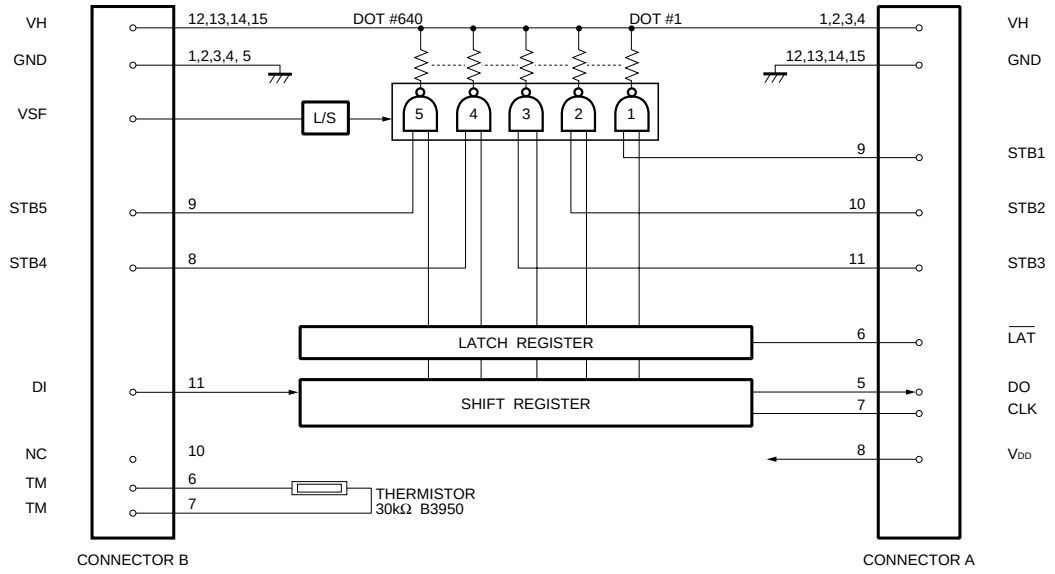


Fig.1

●**Pin assignments**

CONNECTOR A

No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DO
6	$\overline{LAT}$
7	CLK
8	V_{DD}
9	STB1
10	STB2
11	STB3
12	GND
13	GND
14	GND
15	GND

CONNECTOR B

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

●Timing chart

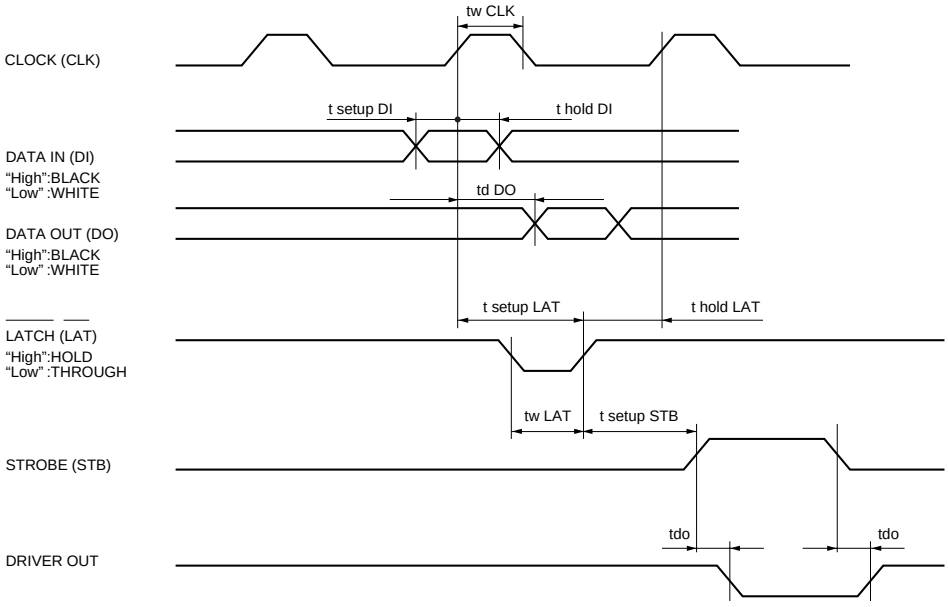


Fig.2

●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	0.78	W/dot
Print cycle	SLT	0.5	ms
Pulse width	T_{ON}	0.19	ms
Maximum number of dots energized simultaneously	–	384	dots
Maximum clock frequency	–	16	MHz
Maximum roller diameter	–	ϕ20	mm
Running life / pulse life	–	$50/5\times10^7$	km/pulses
Operating temperature	–	5 to 45	°C

●**Electrical characteristic curves**

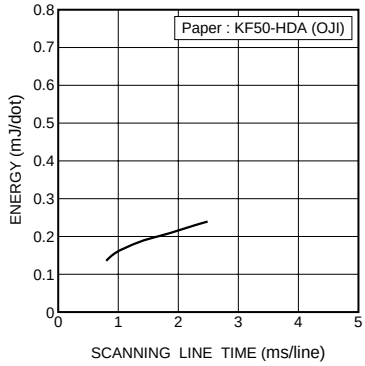


Fig.3 Adaptive speed chart

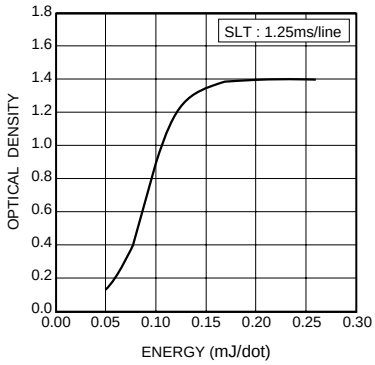


Fig.4 Representative density curve

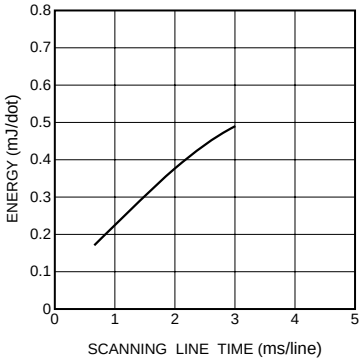


Fig.5 Maximum energy curve

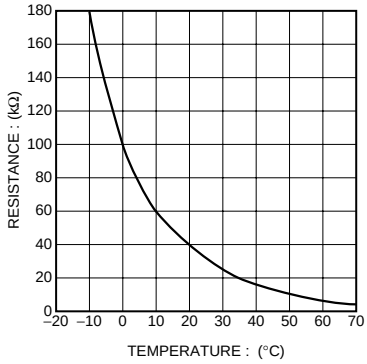


Fig.6 Thermistor curve

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