

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

KD2004-CG10A

KD2004-CG10A is suitable for devices, such as high-speed POS and label printer applications, that require thermal printheads capable of higher printing rates. Improved power circuit design means that with heavier current it is possible to print at speeds as high as 150 mm/s. The GK Series is thus ideal for label printers that need high printing rates.

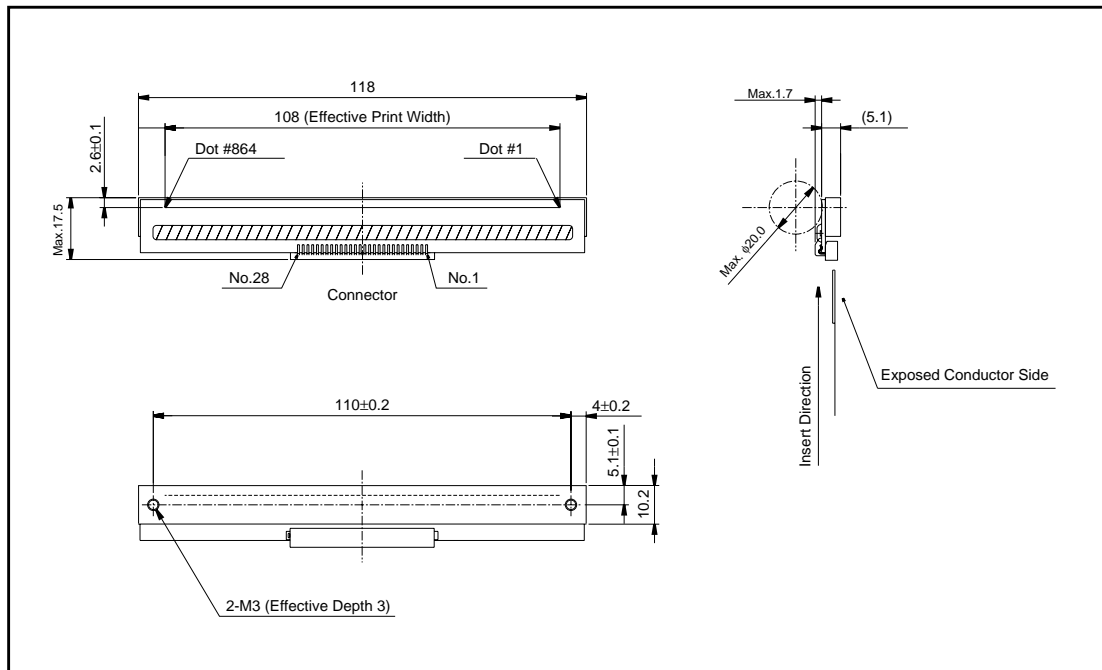
●Applications

POS terminals, Label printers, CAT terminals, Multi-purpose small-sized printers

●Features

- 1) Using a special compact partial glaze and new heating element structure, achieves high-speed printing at 150 mm/s.
- 2) The use of the newly developed highly-durable conductive protective film has improved countermeasures against static electricity.
- 3) The VH and GND sections of the power circuitry have been strengthened so that heavier current can be applied.
- 4) Ultra small connectors, designed to conform with FFCs, and miniature driver chips have been used. Although the resulting printheads are surprisingly compact and lightweight, they can be used with large platens of up to 20 mm in diameter.
- 5) One rank resistance value of $800\Omega \pm 3\%$ eliminates the inconvenience of rank selection.
- 6) 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.
- 7) 2-inch, 3-inch and 4-inch series are available.

●External dimensions (Unit : mm)



Printheads

●Equivalent circuit

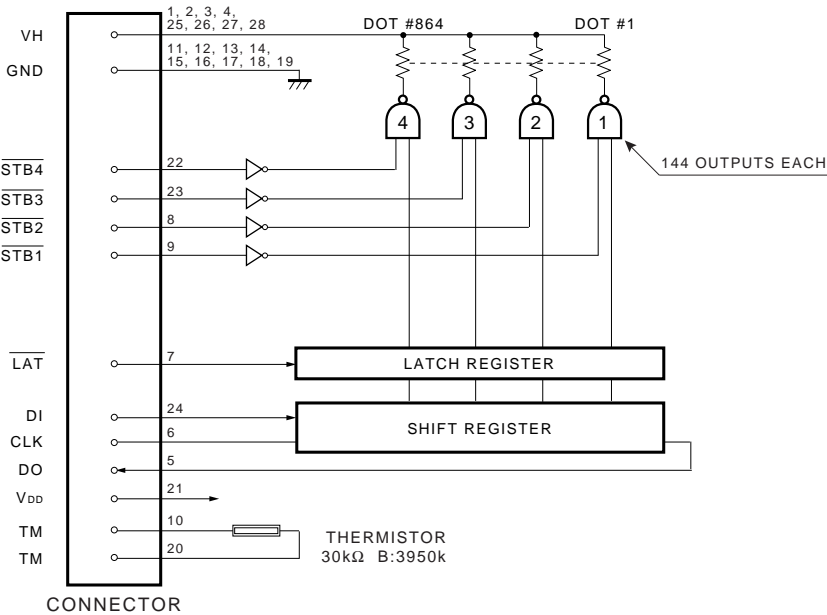


Fig.1

●Pin assignments

No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DO
6	CLK
7	LAT
8	STB2
9	STB1
10	TM
11	GND
12	GND
13	GND
14	GND

No.	Circuit
15	GND
16	GND
17	GND
18	GND
19	GND
20	TM
21	V _{DD}
22	STB4
23	STB3
24	DI
25	VH
26	VH
27	VH
28	VH

Printheads

●Timing chart

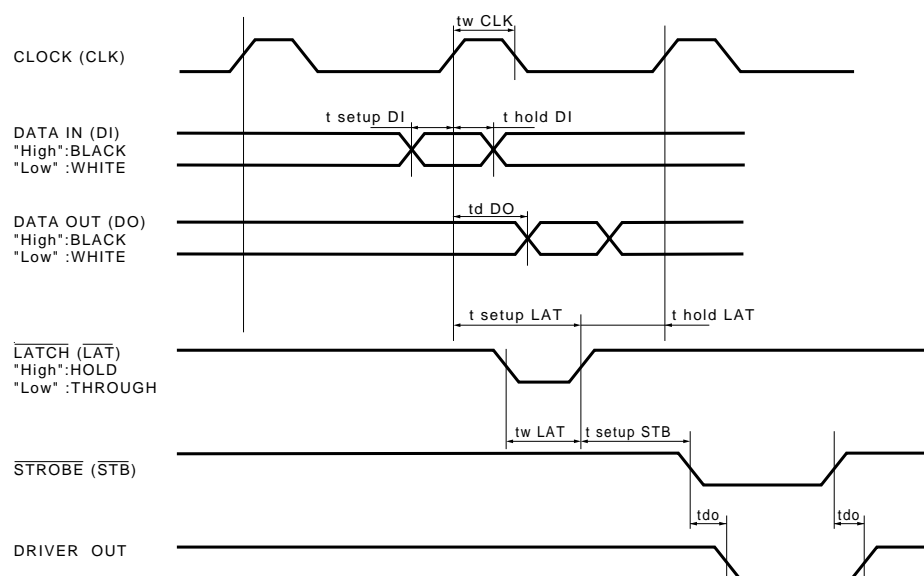


Fig.2

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	–	108	mm
Dot pitch	–	0.125	mm
Total dot number	–	864	dots
Average resistance value	Rave	800	Ω
Applied voltage	V _H	24.0	V
Applied power	P _O	0.59	W/dot
Print cycle	SLT	1.0	ms
Pulse width	T _{ON}	0.34	ms
Maximum number of dots energized simultaneously	–	432	dots
Maximum clock frequency	–	16	MHz
Maximum roller diameter	–	ϕ 20.0	mm
Running life / pulse life	–	50/5 \times 10 ⁷	km/pulses
Operating temperature	–	5 to 45	$^{\circ}\text{C}$

Printheads

●Electrical characteristic curves

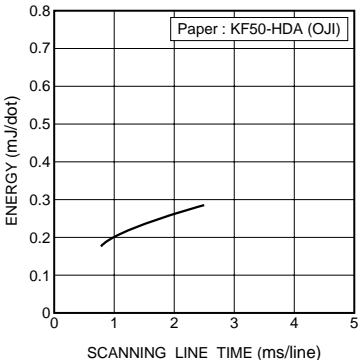


Fig.3 Adaptive speed chart

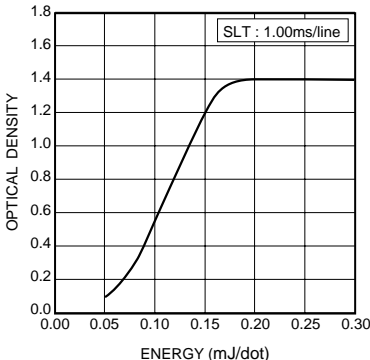


Fig.4 Representative density curve

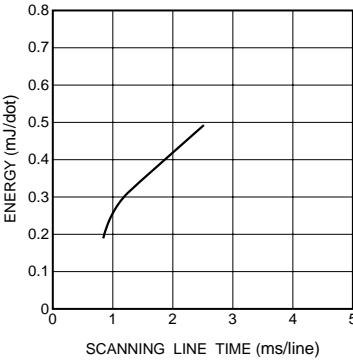


Fig.5 Maximum energy curve

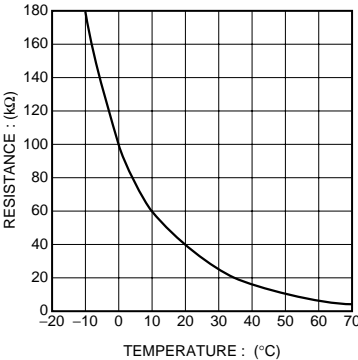


Fig.6 Thermistor curve

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