

Thick film thermal printhead (with thermal historical control)

KF3006-GM50A

GM50 series is the new product that newly added the future history control and driver LSI which has the function of thermal historical control, to GL50 series which is employing the conventional thick-film fast response thermal element.

●Applications

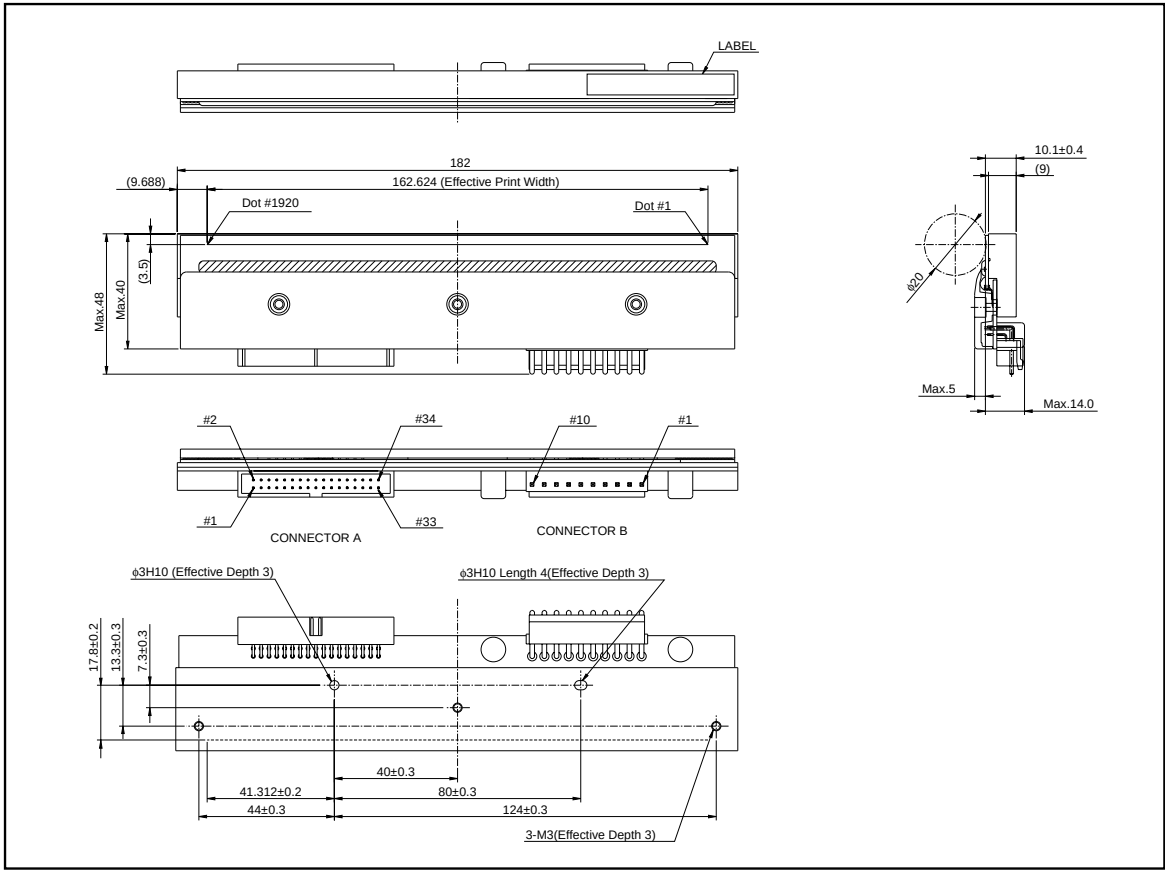
High speed label printer
High speed bar code printer
High speed ticket printer
Various high speed terminal printers

●Features

- 1) Newly developed thick-film fast response thermal element and driver LSI with the function of thermal history control which is added the future history control are employed for this series. It is possible to print with super high speed of 10 inches / s or 250 mm / s.
- 2) 150km life realized by attributing durable new protection film.
- 3) New partial glaze construction makes it compatible with the thermal transfer application.
- 4) Market-proven G-series printhead construction ensures high reliability.

Printhead

●External dimensions (Units : mm)



The diagram illustrates the input and output connections for the LATCH REGISTER and four comparators. The power supply section includes $V_r(\text{COM})$, GND, and $V_{cc}(+5V)$ with decoupling capacitors of $200\mu\text{F}$ $35V$ and $0.1\mu\text{F}$ $50V$. The STB signals ($/\text{STB4}$ to $/\text{STB1}$) are connected through a series of inverters to the LATCH REGISTER. The LATCH REGISTER is connected to four comparators, which are in turn connected to various input signals (CLKIN4 to CLKIN1 , DO4 to DO1) and output signals ($/\text{LOAD}$, START , INC , SEL2 , SEL1). A thermistor ($30k\Omega$ B: 3950) is connected to the TM input.

DI,STB DIVISION DOT No. CORRESPONDENCE

DI No.	DOT No.	/ STB No.	DOT No.	CLK No.	DOT No.
DI4	1920~1409	/ STB4	1920~1409	CLKIN2	1920~1409
DI3	1408~ 879	/ STB3	1408~ 897	CLKIN1	1408~ 897
DI2	896~ 513	/ STB2	896~ 513	CLKIN2	896~ 513
DI1	512~ 1	/ STB1	512~ 1	CLKIN1	512~ 1

Fig.1

Printhead

●Pin assignments

CONNECTOR A				CONNECTOR B	
No.	Circuit	No.	Circuit	No.	Circuit
1	V _{DD}	18	/ LOAD	1	V _H (COM)
2	V _{DD}	19	/ RESET	2	V _H (COM)
3	NC	20	START	3	V _H (COM)
4	NC	21	TM	4	V _H (COM)
5	SEL2	22	TM	5	V _H (COM)
6	SEL1	23	DI2	6	GND
7	CLKIN4 (CP)	24	DO2	7	GND
8	CLKOUT4	25	DI1	8	GND
9	CLKIN3	26	DO1	9	GND
10	CLKOUT3	27	/ STB2	10	GND
11	DI4	28	/ STB1		
12	DO4	29	CLKIN2		
13	DI3	30	CLKOUT2		
14	DO3	31	CLKIN1		
15	/ STB4	32	NC		
16	/ STB3	33	NC		
17	INC	34	NC		

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	162.624	mm
Dot pitch	—	0.0847	mm
Total dot number	—	1920	dots
Average resistance value	R _{ave}	1000	Ω
Applied voltage	V _H	24	V
Applied power	P _o	0.489	W/dot
Print cycle	SLT	0.41	ms
Pulse width	T _{ON}	0.239	ms
Maximum number of dots energized simultaneously	—	1920	dots
Maximum clock frequency	—	8	MHz
Maximum roller diameter	—	φ20.0	mm
Running life / pulse life	—	150/(1×10 ⁸)	km/pulses
Operating temperature	—	5~45	°C

Printhead

●Data sheets

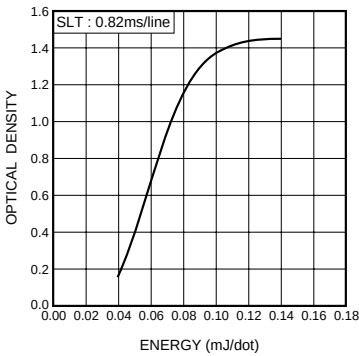


Fig.2 Representative density curve

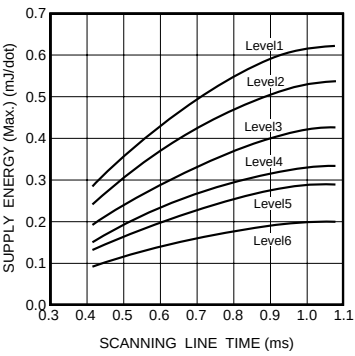


Fig.3 Maximum energy curve

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