

Near Edge High Speed Thermal Printhead (8 dots/mm)

NE2004-MA10A

The NE2004-MA10A is a near edge thin film thermal printhead with a built-in heat history control function, where the printing medium passes straight through. It is suited for high speed label printers.

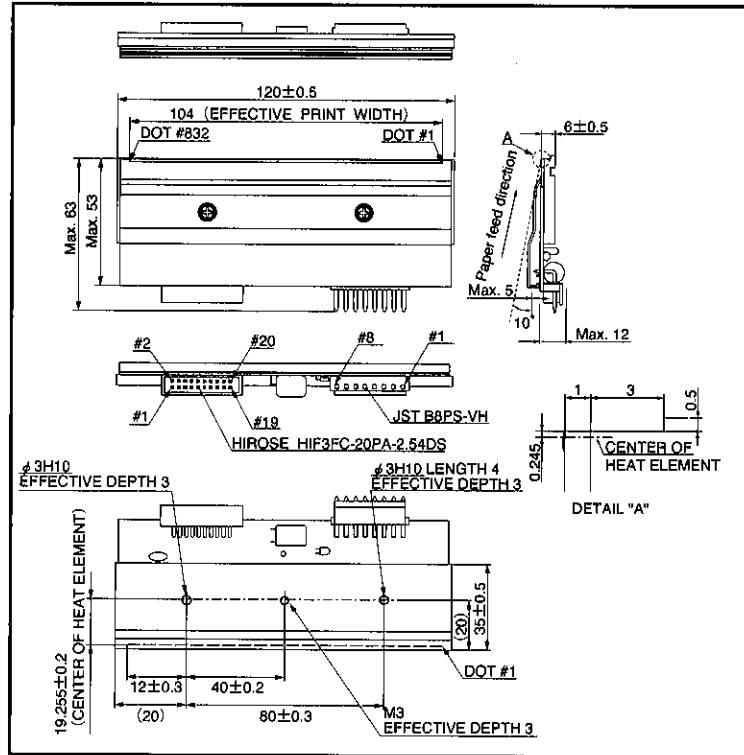
●Applications

- Bar code label printers
- Ticket printers
- General purpose compact printers

●Features

- 1) Inclined toward the printing surface to provide excellent printing quality even for cards and thick paper.
- 2) Prints directly on printing medium that cannot be bent.
- 3) Our heat history control circuit reduces the load on the printer to control heat history.
- 4) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.

●External dimensions (Unit: mm)



For Bar Code Label Printers

Thin Film

●Characteristics

Parameter	Symbol	Typical						Unit
Effective printing width		104						mm
Dot pitch		0.125						mm
Total dot number		832						dots
Average resistance value	Rave	845						Ω
Applied voltage	V _H	24						V
Applied power	P _o	0.573						W/dot
Print cycle	SLT	0.49						ms
Applied power	P _o	0.57						W/dot
Applied energy	LEVEL	1	2	3	4	5	6	
	E _o	0.30	0.27	0.22	0.19	0.19	0.16	mJ/dot
Pulse width	T _{on}	0.52	0.47	0.39	0.33	0.33	0.27	ms
Maximum number of dots energized simultaneously		832						dots
Maximum clock frequency		5						MHz
Maximum roller diameter		10~∞						mm
Running life/pulse life		500/1 billion						km/pulses
Operating temperature		60						°C

●Level Map

	Print Pattern	On Time	SLT=0.49ms
Level 1		Ton a	0.52 ms
Level 2		Ton b	0.47 ms
Level 3		Ton c	0.39 ms
Level 4		Ton d	0.33 ms
Level 5		Ton e	0.33 ms
Level 6		Ton f	0.27 ms

For Bar Code Label Printers

Thin Film

- : Heated dot.
- : Non-heated dot.
- : Dot to be printed.

This table shows a simple example. In actuality, the history of the previous level and the level before of the adjacent dots are included.

● Pin configuration

HIROSE			
No.	Circuit	No.	Circuit
1	GND	2	NC
3	NC	4	NC
5	Vdd	6	Vdd
7	INC	8	SET
9	E-OUT	10	OR-ON
11	CLK	12	DI
13	START	14	LOAD
15	RESET	16	DO
17	STB2	18	STB1
19	TM	20	TM

JST	
No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	GND
6	GND
7	GND
8	GND

● Timing chart

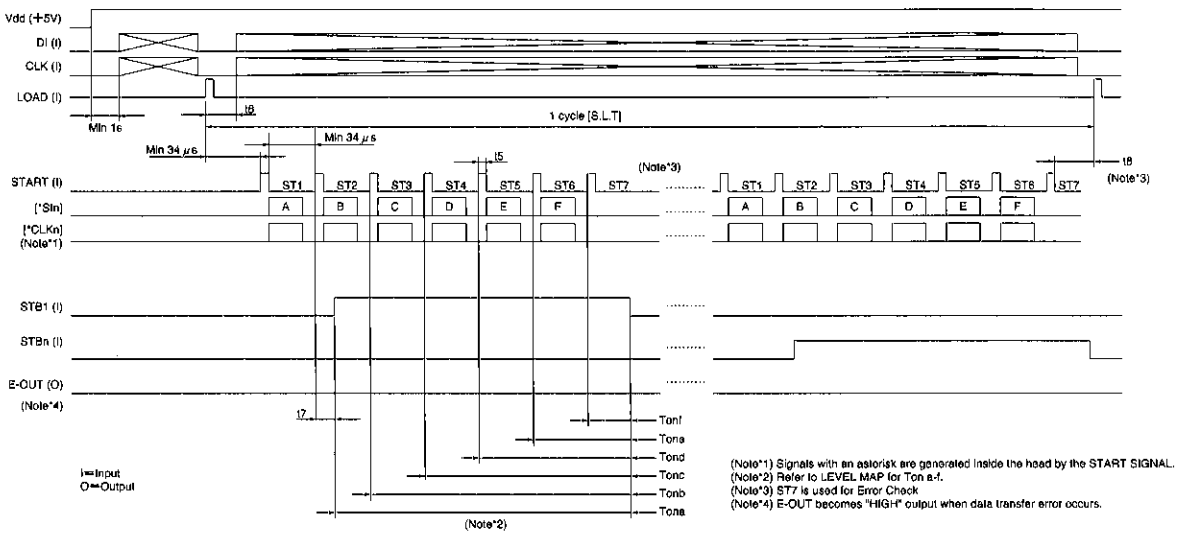
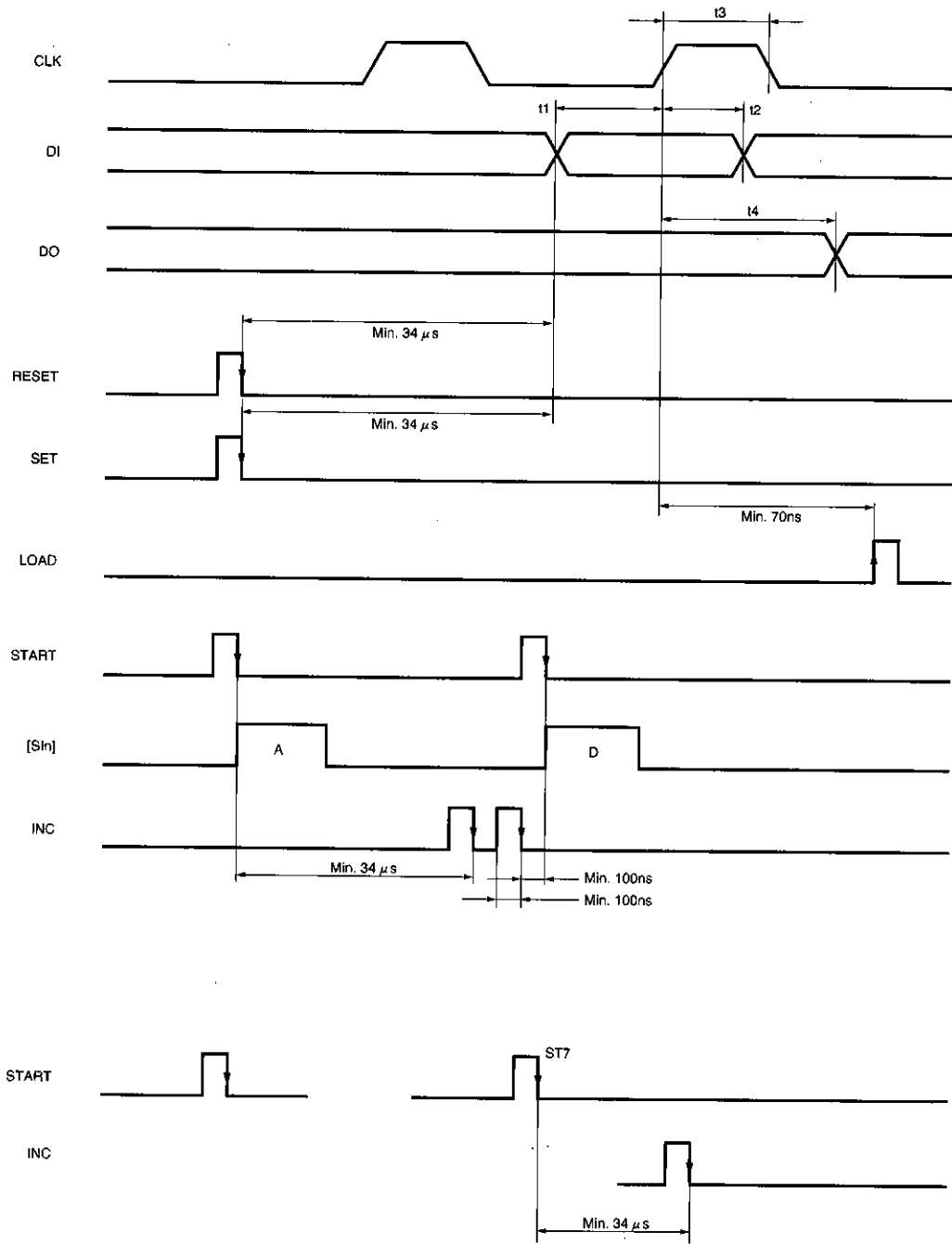


Fig.1



For Bar Code Label Printers

Thin Film

Fig.2

●Equivalent circuit

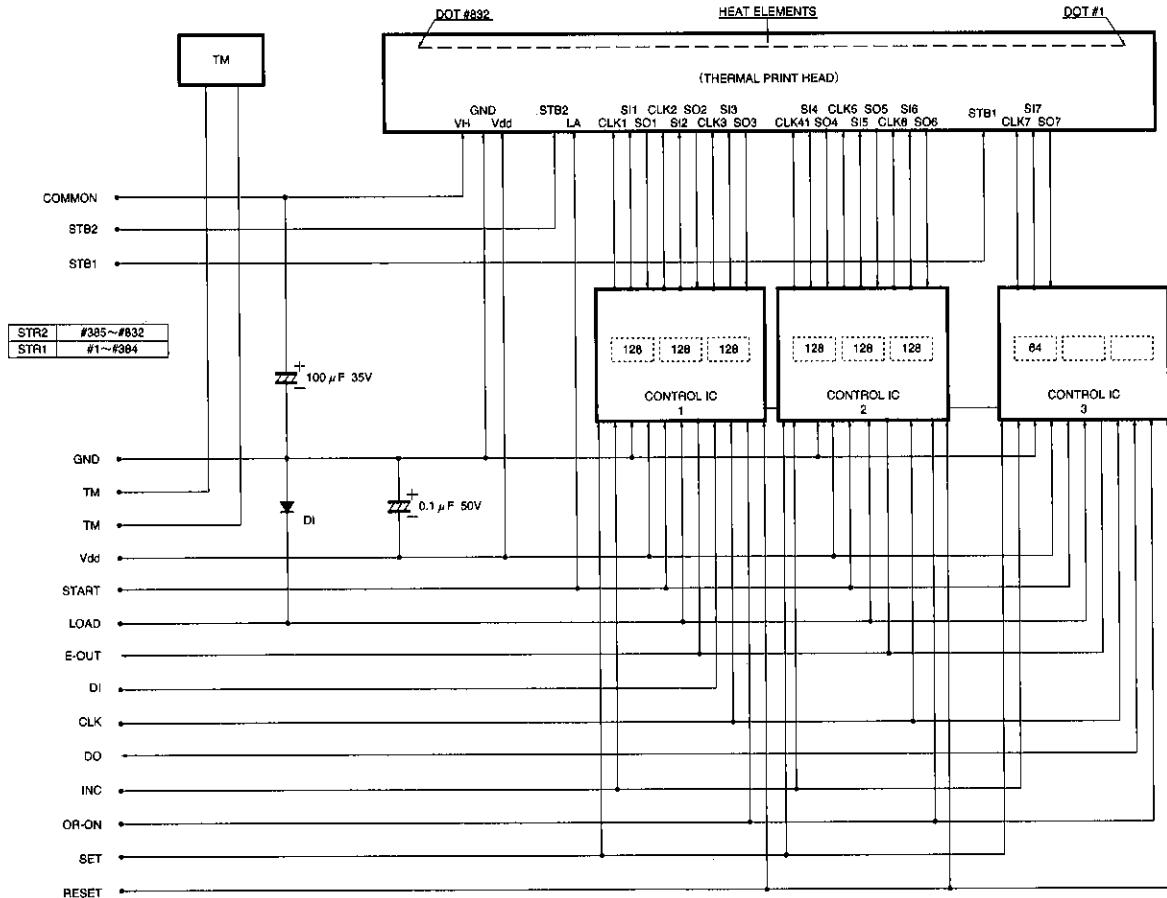


Fig. 3 Block diagram

●Data sheet

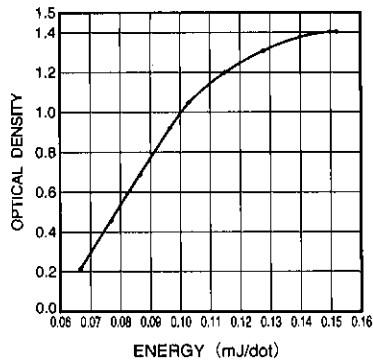


Fig. 4 Representative density curve

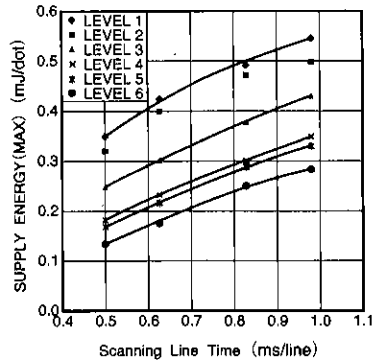


Fig. 5 Maximum energy curve

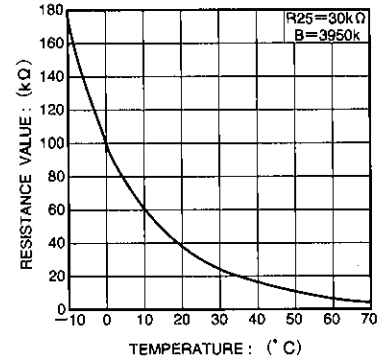


Fig. 6 Thermistor curve

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