

# High Speed Thermal Printhead (8dots / mm)

## NF2004-VA20A

The NF2004-VA20A is a flat thin film thermal printhead that supports medium speed and high speed printing, suited for general purpose compact printers as well as label printers.

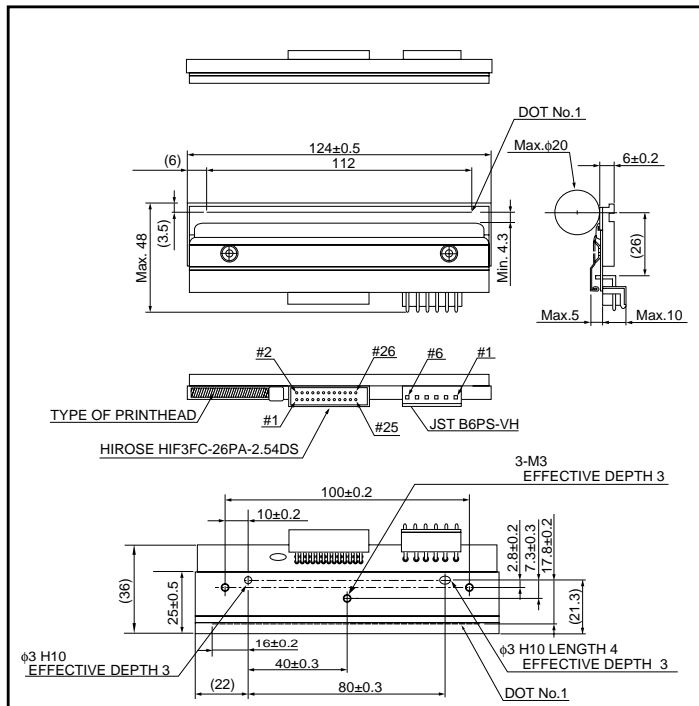
### ●Applications

Bar code label printers  
Ticket printers  
General purpose compact printers

### ●Features

- 1) Standard glazed components to accommodate thick paper.
- 2) High speed clock to facilitate external heat history control.
- 3) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.
- 4) Compatible with the NF3004-VA20A (300dpi) in mechanical specifications, to facilitate the making of a series of printers.

### ●External dimensions (Units : mm)



Note: No heat history control function inside the thermal printhead. External heat history control is required for high speed printing.

## Printheads

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### ●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width		112	mm
Dot pitch		0.125	mm
Total dot number		896	dots
Average resistance value	Rave	800	$\Omega$
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>o</sub>	0.61	dot
Print cycle	SLT	0.82	ms
Pulse width	T <sub>ON</sub>	0.388	ms
Maximum number of dots energized simultaneously		896	dots
Maximum clock frequency		10	MHz
Maximum roller diameter		20	mm
Running life / pulse life		50 / 1 billion	km / pulses
Operating temperature		60	°C

### ●Pin configuration

#### HIROSE

No.	Circuit	No.	Circuit
1	GND	2	VDD
3	DI2	4	CLK(CP)
5	/LAT	6	/STB2
7	NC	8	DI1
9	/STB1	10	NC
11	TM	12	TM
13	SENS3	14	SENS2
15	SENS1	16	BEO
17	NC	18	NC
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC

#### JST

No.	Circuit
1	COM
2	COM
3	COM
4	GND
5	GND
6	GND

Printheads

●Timing chart

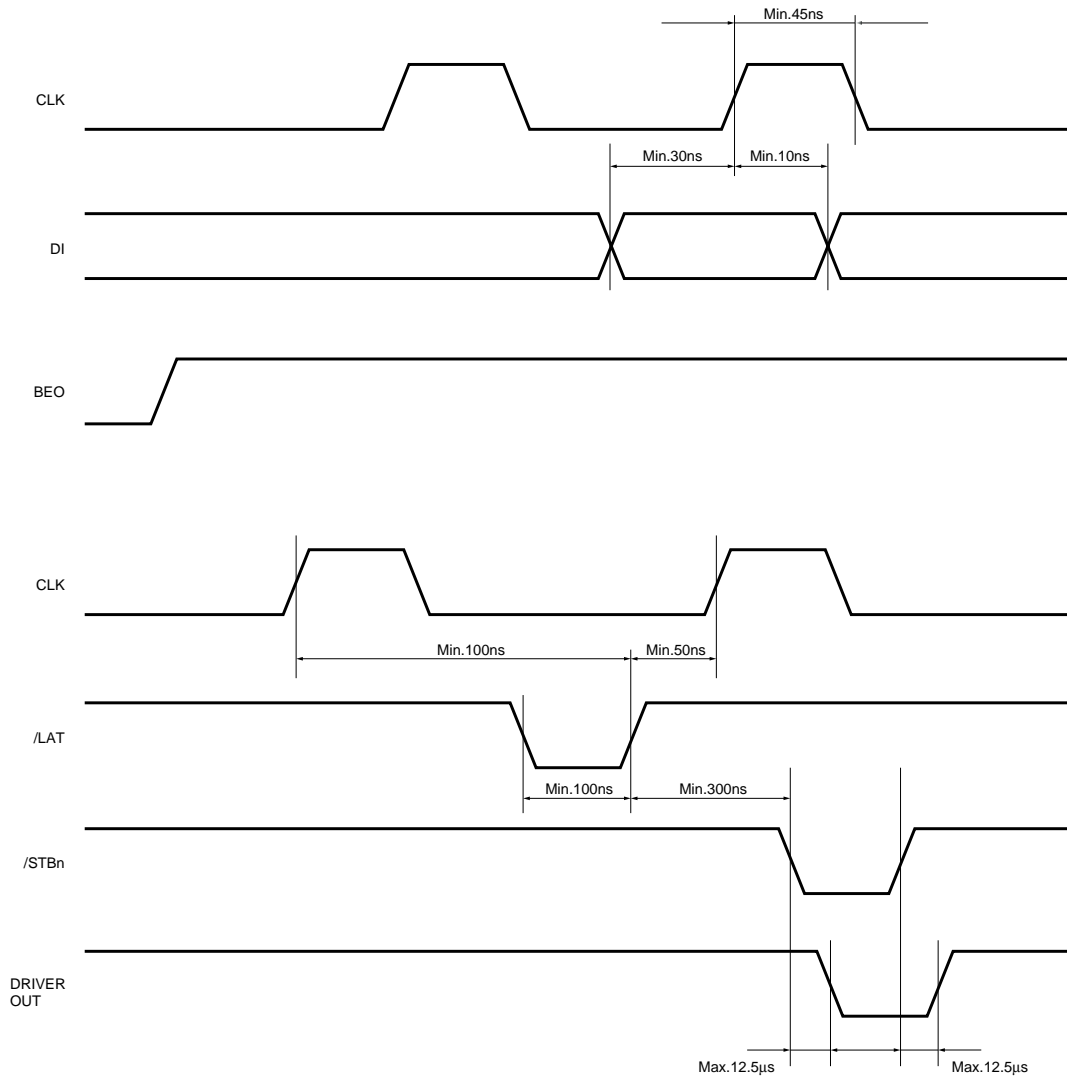
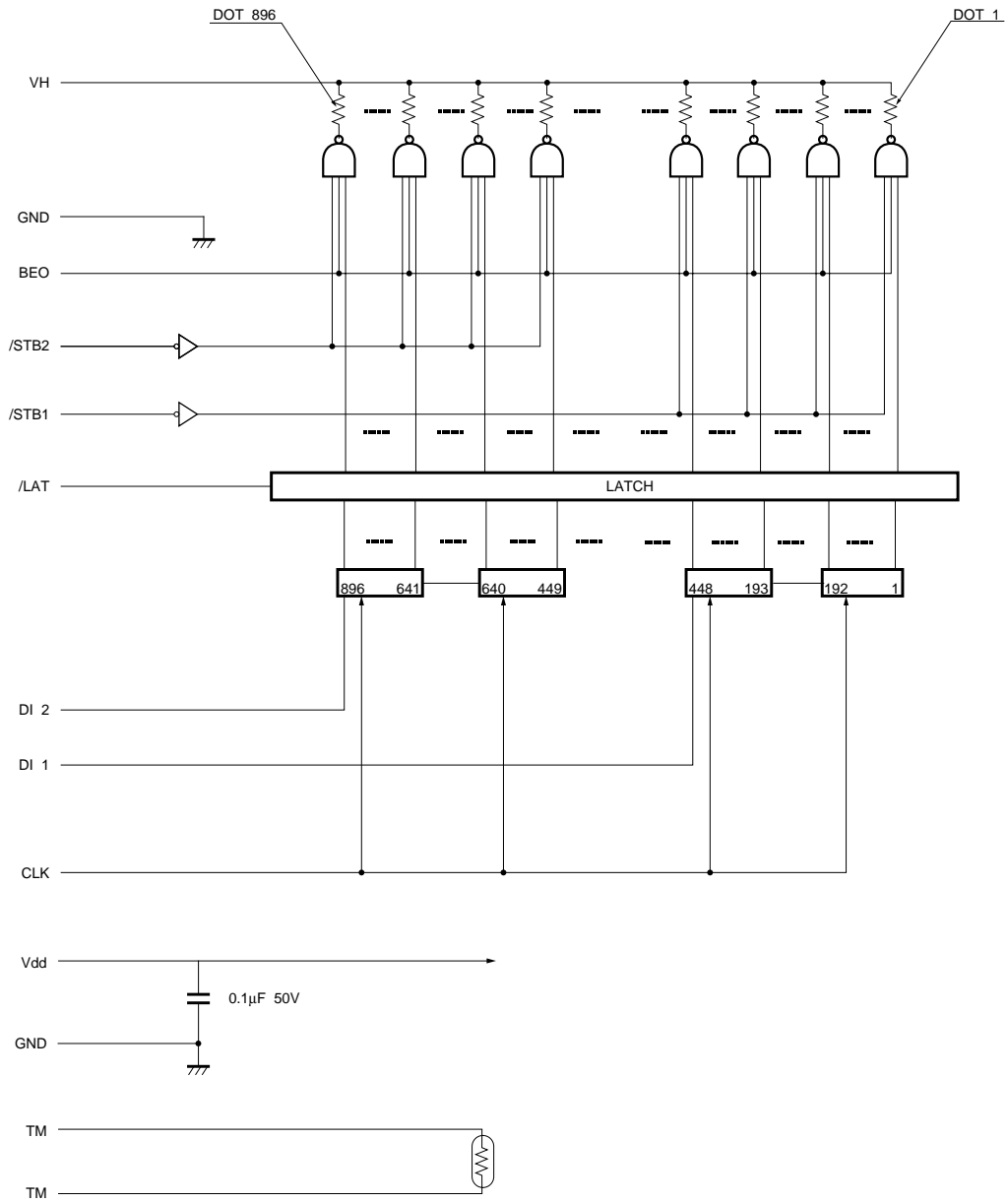


Fig.1

Printheads

●Equivalent circuit

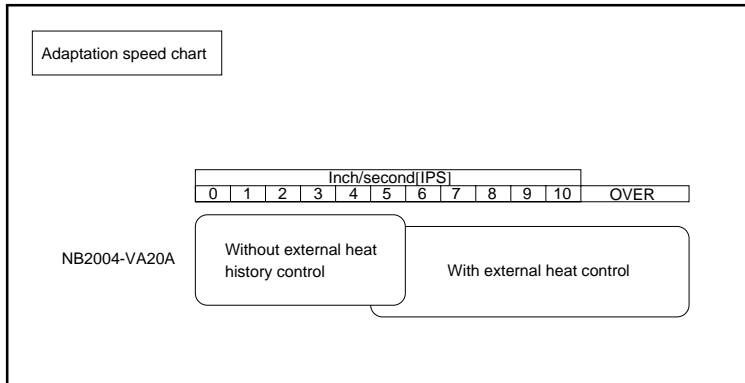


DI No.	DOT No.	/STR No.	DOT No.
DI 2	896~449	/STB2	896~449
DI 1	448~ 1	/STB1	448~ 1

Fig.2

Printheads

●Adaptation speed chart



●Data sheet

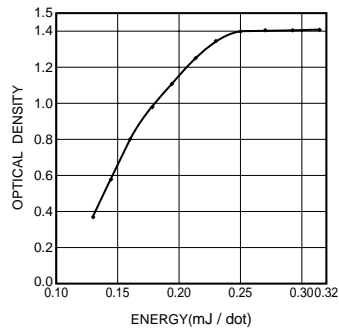


Fig. 3 Representative density curve

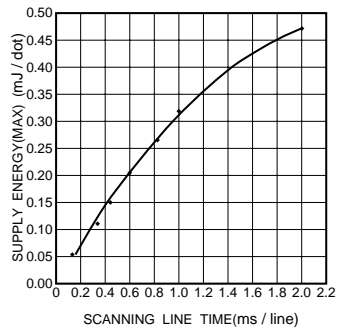


Fig. 4 Maximum energy curve

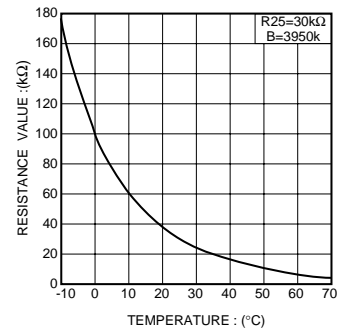


Fig. 5 Thermistor curve