

# Hight Speed Thermal Printhead (300DPI ; dots / inch)

## NF3004-VA20A

The NF3004-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.

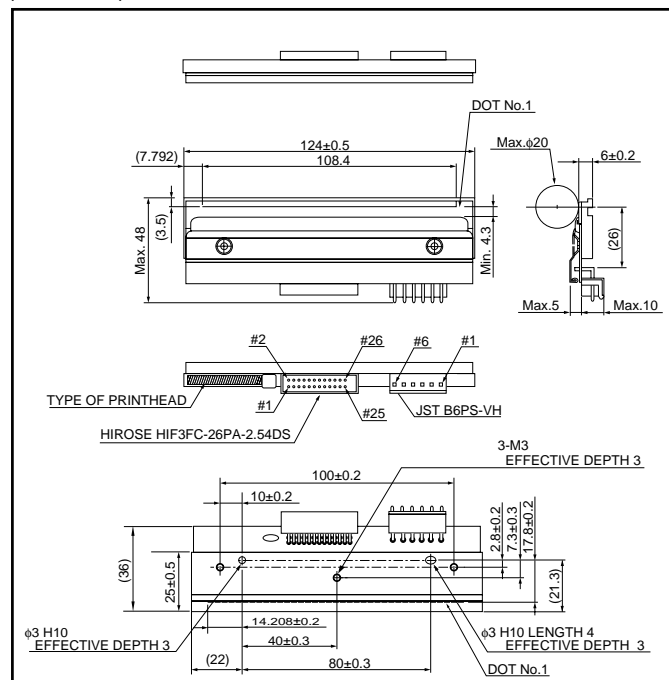
### ●Applications

High definition bar code label printers  
High definition ticket printers  
General purpose compact printers

### ●Features

- 1) High definition of 300 dots / inch.
- 2) Standard glazed components to accommodate thick paper.
- 3) High speed clock to facilitate external heat history control.
- 4) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.
- 5) Compatible with the NF2004-VA20A (8dots / mm) 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	-	108.4	mm
Dot pitch	-	0.0847	mm
Total dot number	-	1280	dots
Average resistance value	Rave	1250	$\Omega$
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>O</sub>	0.41	W / dot
Print cycle	SLT	0.83	ms
Pulse width	T <sub>ON</sub>	0.28	ms
Maximum number of dots energized simultaneously	-	1280	dots
Maximum clock frequency	-	10	MHz
Maximum roller diameter	-	20	mm
Running life / pulse life	-	50 / 10 <sup>8</sup>	km / pulses
Operating temperature	-	60	°C

### ●Pin configuration

#### HIROSE

No.	Circuit	No.	Circuit
1	GND	2	VDD
3	DI 2	4	CLK (CP)
5	/LAT	6	/STB 2
7	NC	8	DI 1
9	/STB 1	10	NC
11	TM	12	TM
13	SENS 3	14	SENS 2
15	SENS 1	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

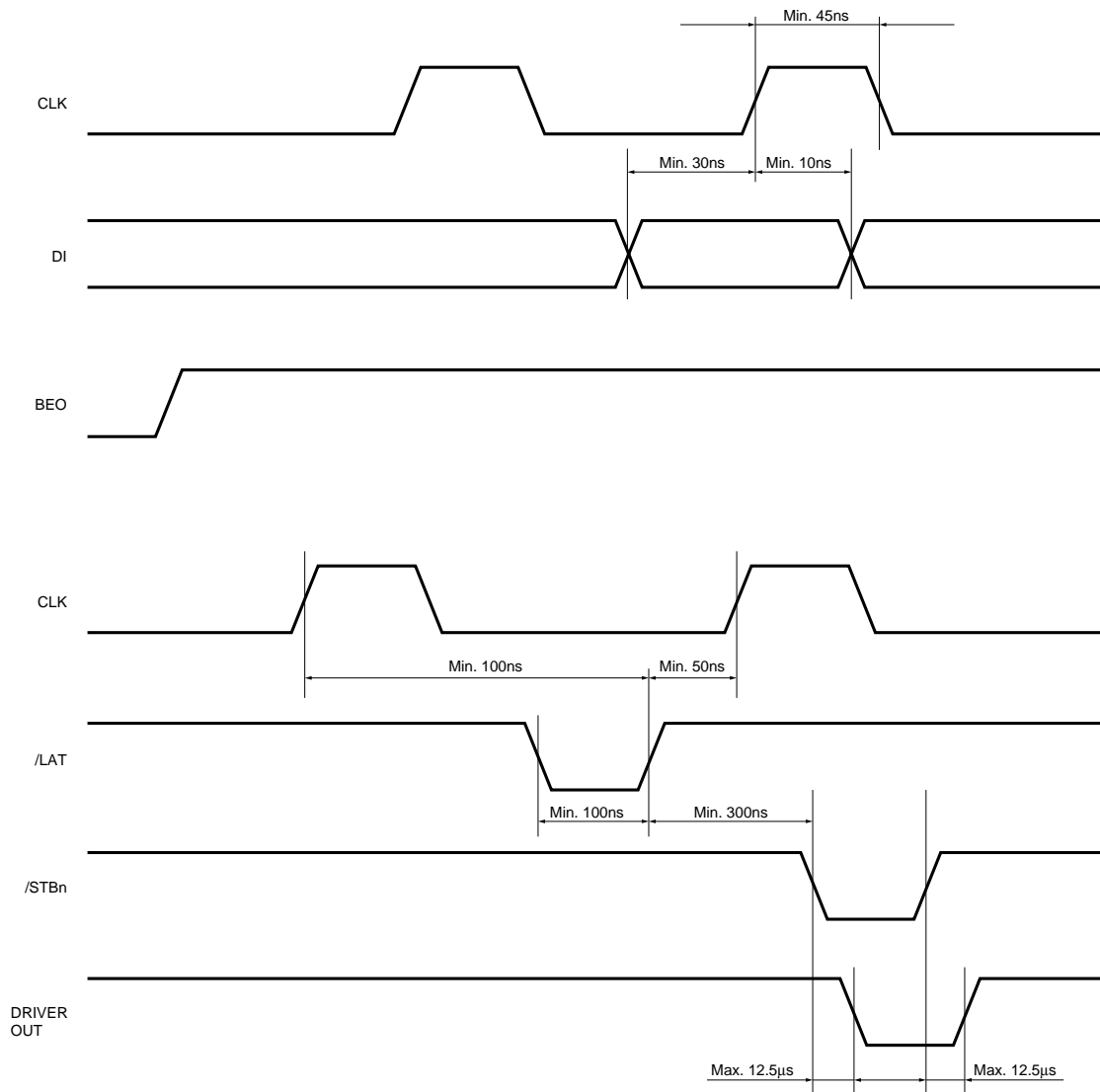
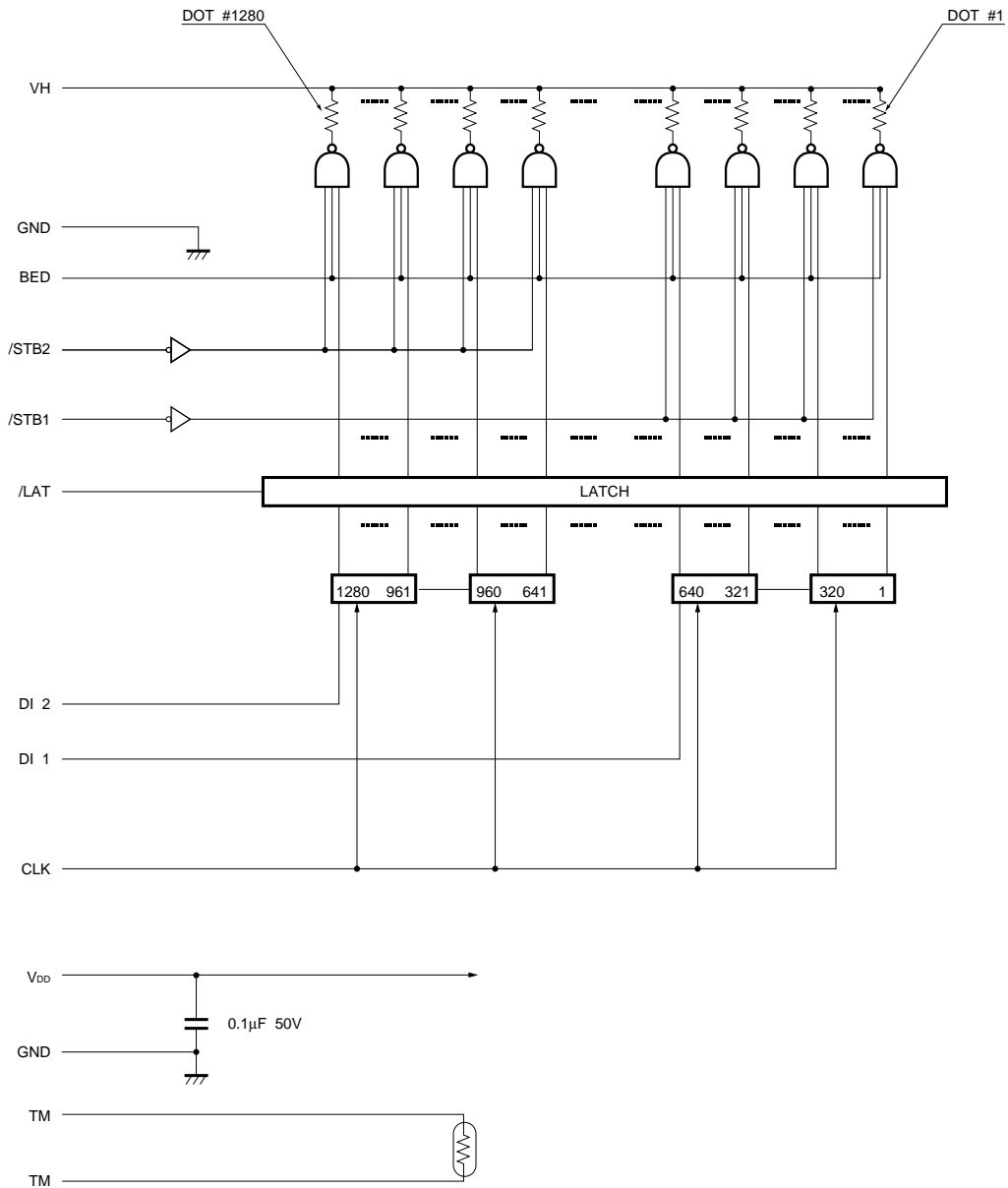


Fig.1

Printheads

●Equivalent circuit



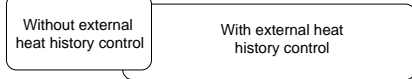
DI No.	DOT No.	/STB No.	DOT No.
DI 2	1280~641	/STB2	1280~641
DI 1	640~1	/STB1	640~1

Fig.2

Printheads

●Adaptation speed chart

Inch / second [IPS]											
0	1	2	3	4	5	6	7	8	9	10	OVER



●Data sheet

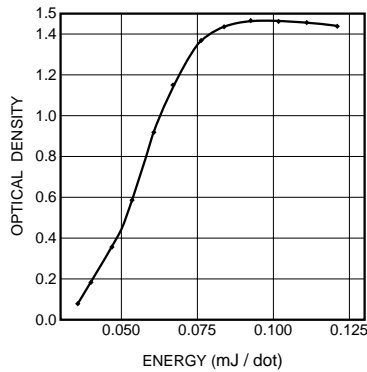


Fig. 3 Representative density curve

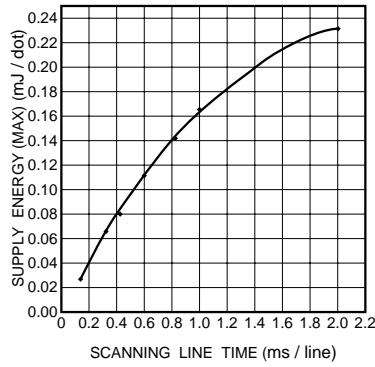


Fig. 4 Maximum energy curve

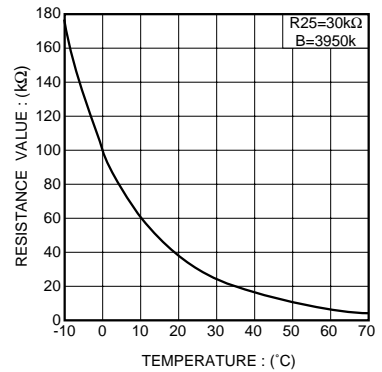


Fig. 5 Thermistor curve

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