

# High Speed Thermal Printhead (8 dots/mm) NB2004-VB10A

The NB2004-VB10A 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.

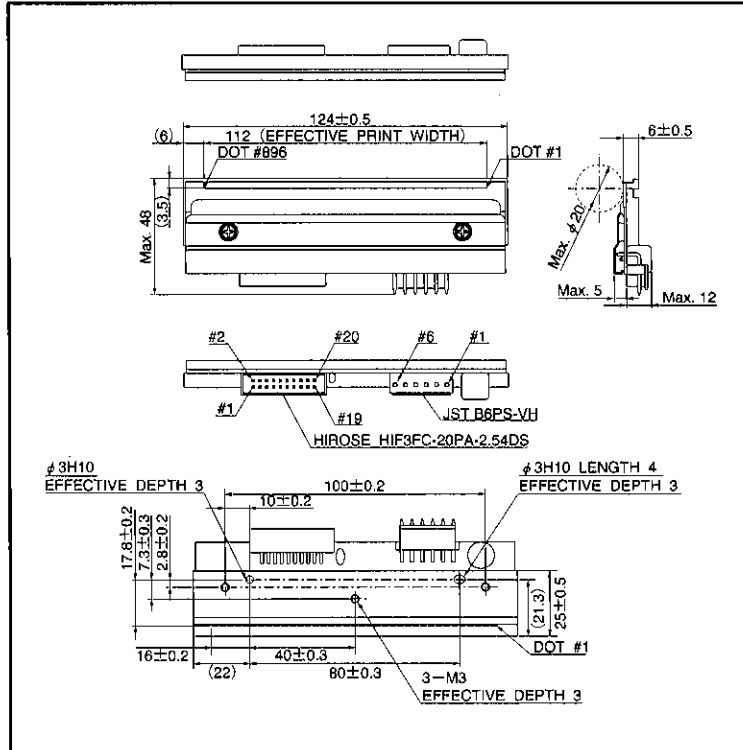
●Applications

- 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 NB3004-VB10A (300 dpi) in mechanical specifications, to facilitate the making of a series of printers.

●External dimensions (Unit: mm)



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

● Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width		80	mm
Dot pitch		0.125	mm
Total dot number		640	dots
Average resistance value	Rave	550	Ω
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>O</sub>	0.900	dot
Print cycle	SLT	1.64	ms
Pulse width	T <sub>ON</sub>	0.250	ms
Maximum number of dots energized simultaneously		896	dots
Maximum clock frequency		10	MHz
Maximum roller diameter		20	mm
Running life/pulse life		500/1 billion	km/pulses
Operating temperature		60	°C

● Pin configuration

HIROSE

No.	Circuit	No.	Circuit
1	Vdd	2	BEO
3	GND	4	DI4
5	DI3	6	CLK
7	LAT	8	GND
9	GND	10	DI2
11	DI1	12	GND
13	Vdd	14	STB2
15	STB1	16	TM
17	TM	18	SENS1
19	SENS2	20	SENS3

JST

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

For Bar Code Label Printers

Thin Film

●Timing chart

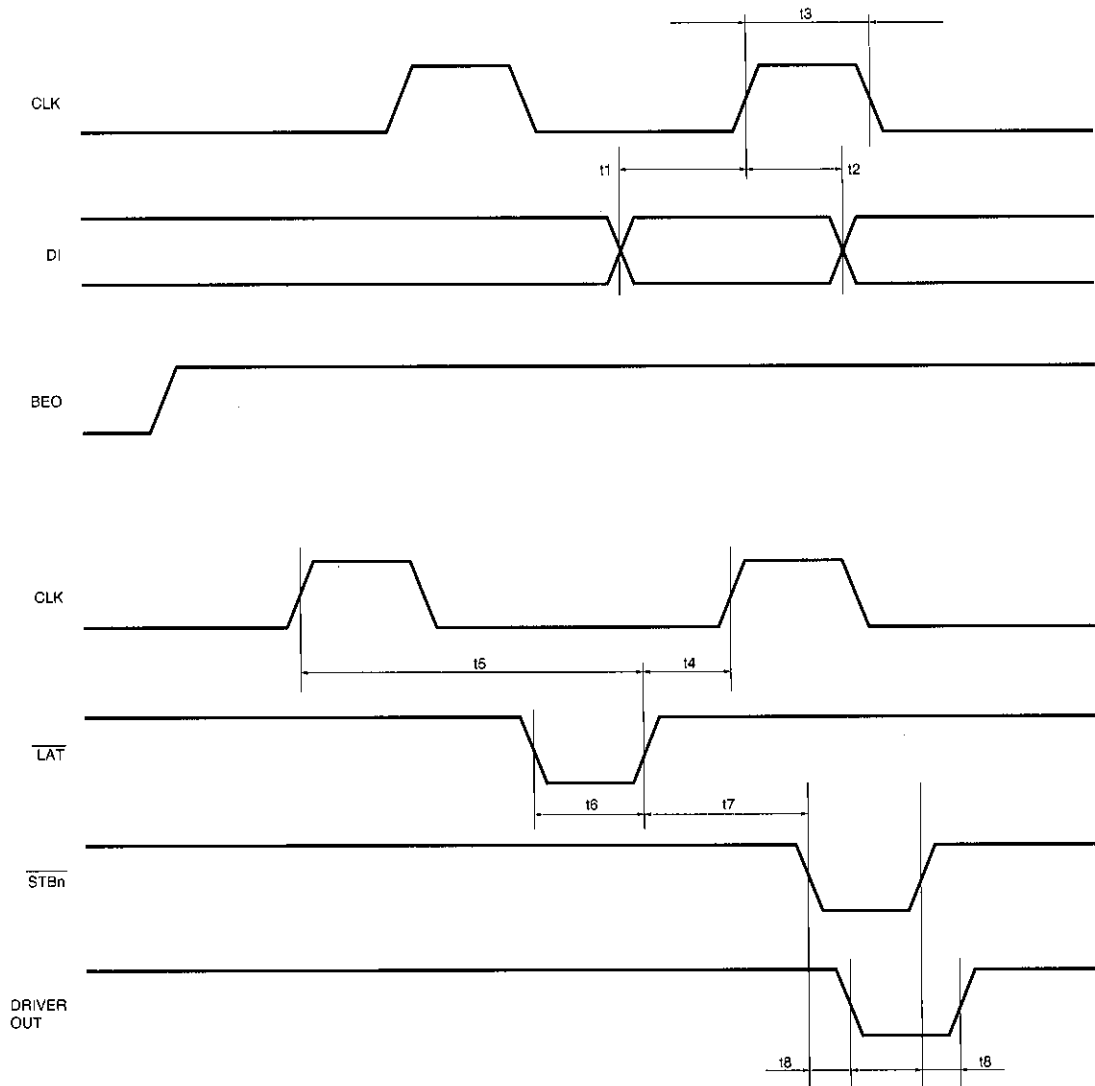
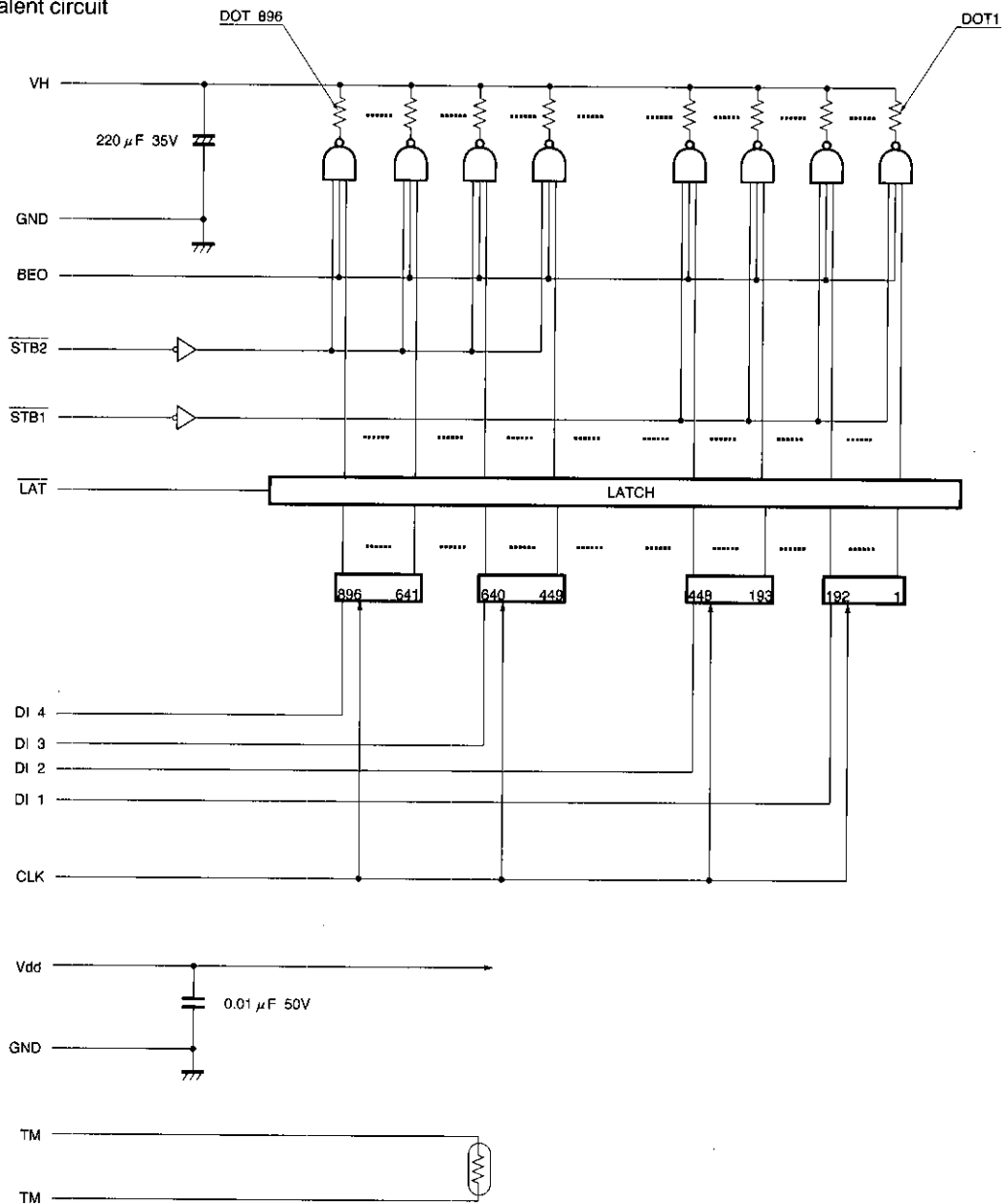


Fig.1

●Equivalent circuit



DI No.	DOT No.
DI 4	896~641
DI 3	640~449
DI 2	448~193
DI 1	192~ 1

STR No.	DOT No.
STB 2	896~449
STB 1	448~ 1

Fig. 2 Circuit diagram

For Bar Code Label Printers

Thin Film

● Data sheet

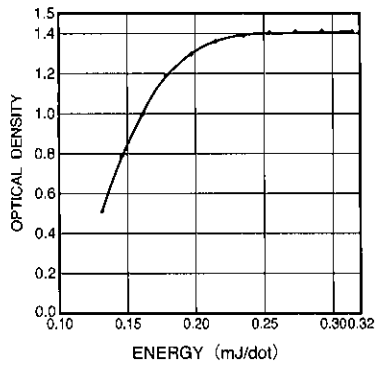


Fig. 3 Representative density curve

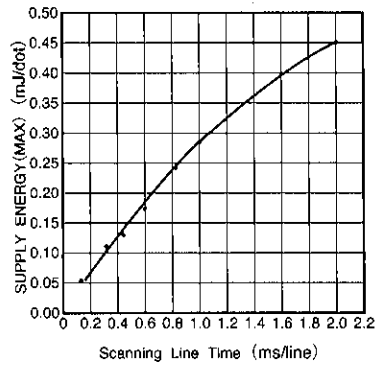


Fig. 4 Maximum energy curve

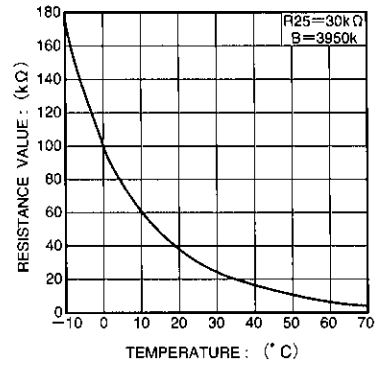


Fig. 5 Thermistor curve

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