

# High Speed Thermal Printhead (8 dots/mm) NB2002-VB10A

The NB2002-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.

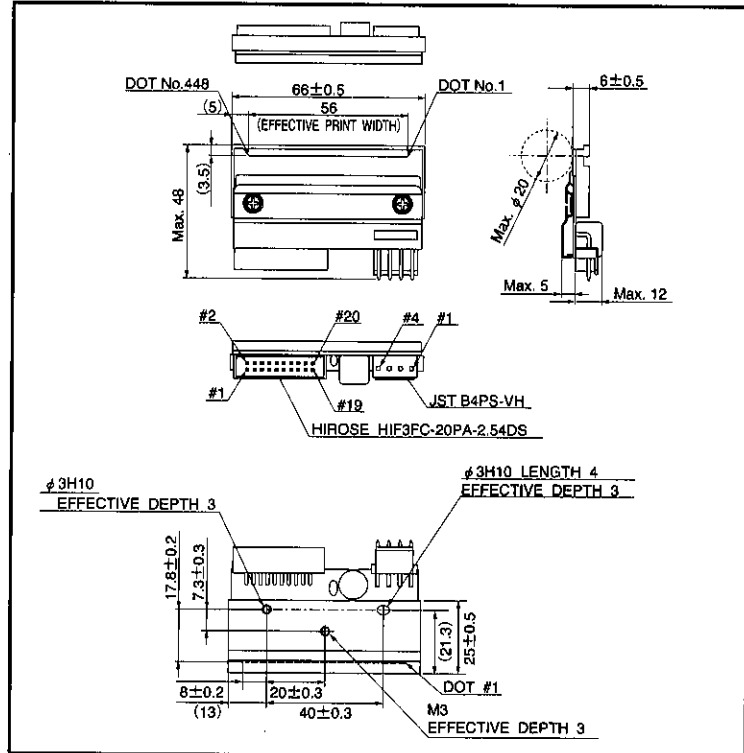
●Applications

- 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 NB3002-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.

For Bar Code Label Printers

Thin Film

● Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width		56	mm
Dot pitch		0.125	mm
Total dot number		448	dots
Average resistance value	Rave	550	Ω
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>O</sub>	0.918	W/dot
Print cycle	SLT	1.64	ms
Pulse width	T <sub>ON</sub>	0.245	ms
Maximum number of dots energized simultaneously		448	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	DI2
5	NC	6	CLK
7	$\overline{\text{LAT}}$	8	GND
9	GND	10	DI1
11	NC	12	GND
13	Vdd	14	STB2
15	$\overline{\text{STB1}}$	16	TM
17	TM	18	SENS1
19	SENS2	20	SENS3

JST

No.	Circuit
1	VH
2	VH
3	GND
4	GND

● Timing chart

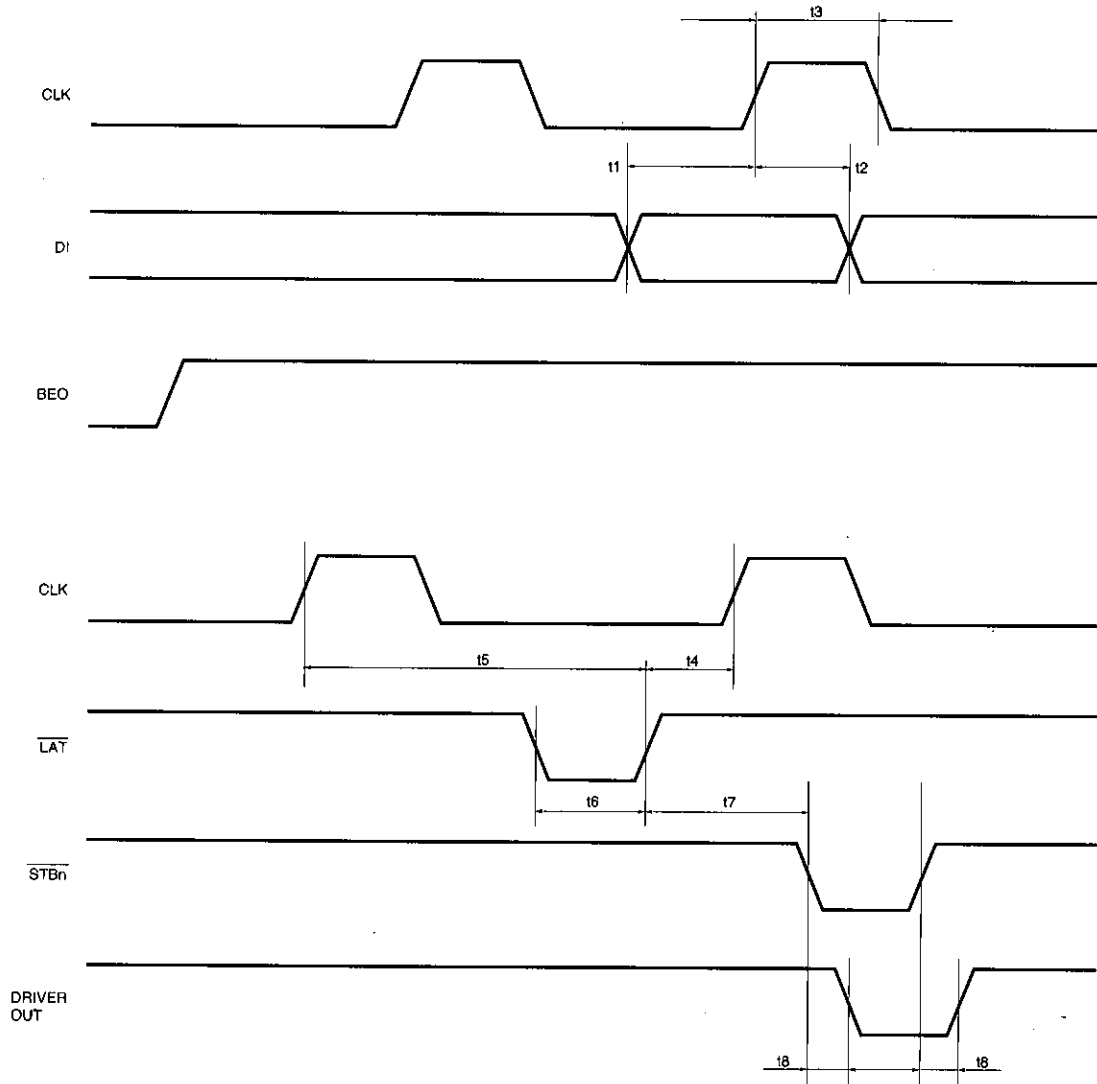
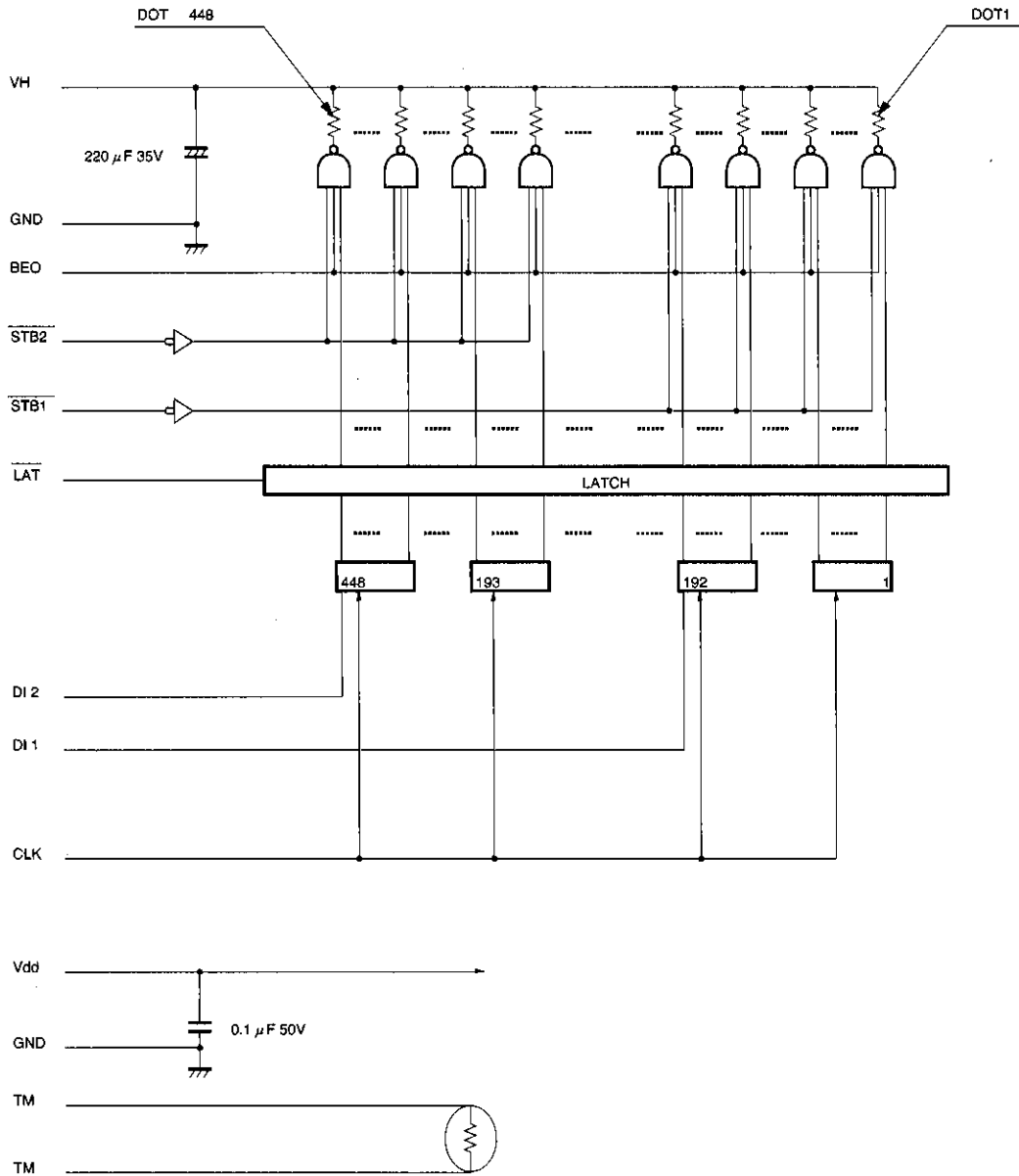


Fig. 1

For Bar Code Label Printers

Thin Film

●Equivalent circuit



DI No.	DOT No.	STB No.	DOT No.
DI 2	448~193	STB 2	448~193
DI 1	192~ 1	STB 1	192~ 1

Fig. 2 Circuit diagram

● Data sheet

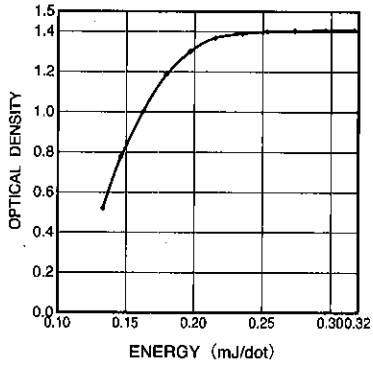


Fig. 3 Representative density curve

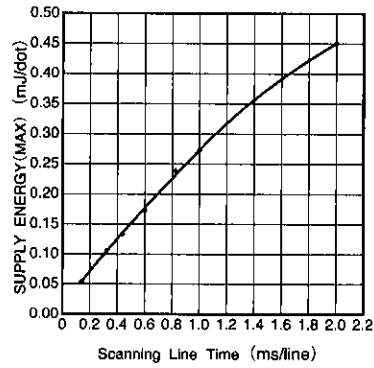


Fig. 4 Maximum energy curve

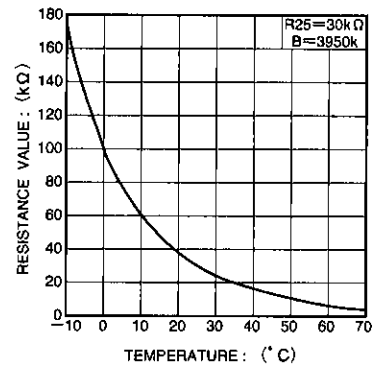


Fig. 5 Thermistor curve

For Bar Code Label Printers

Thin Film

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