

# High Speed Thermal Printhead (8 dots/mm) NB2002-VA10A

The NB2002-VA10A is a flat thin film thermal printhead that supports high speed and ultra high speed printing, suited for general purpose compact printers as well as label printers.

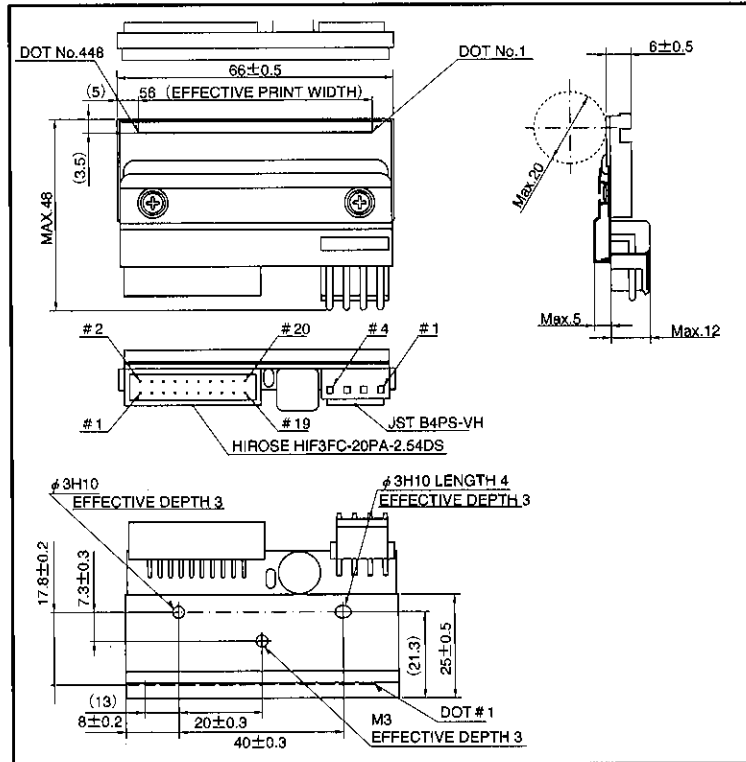
●Applications

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

●Features

- 1) Special glazed components for high speed, high quality printing.
- 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-VA10A (300 dpi) in mechanical specifications, which facilitates to offer 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		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>	0.923	W/dot
Print cycle	SLT	0.98	ms
Pulse width	T <sub>ON</sub>	0.26	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	LAT	8	GND
9	GND	10	DI1
11	NC	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	GND
4	GND

For Bar Code Label Printers

Thin Film

●Timing chart

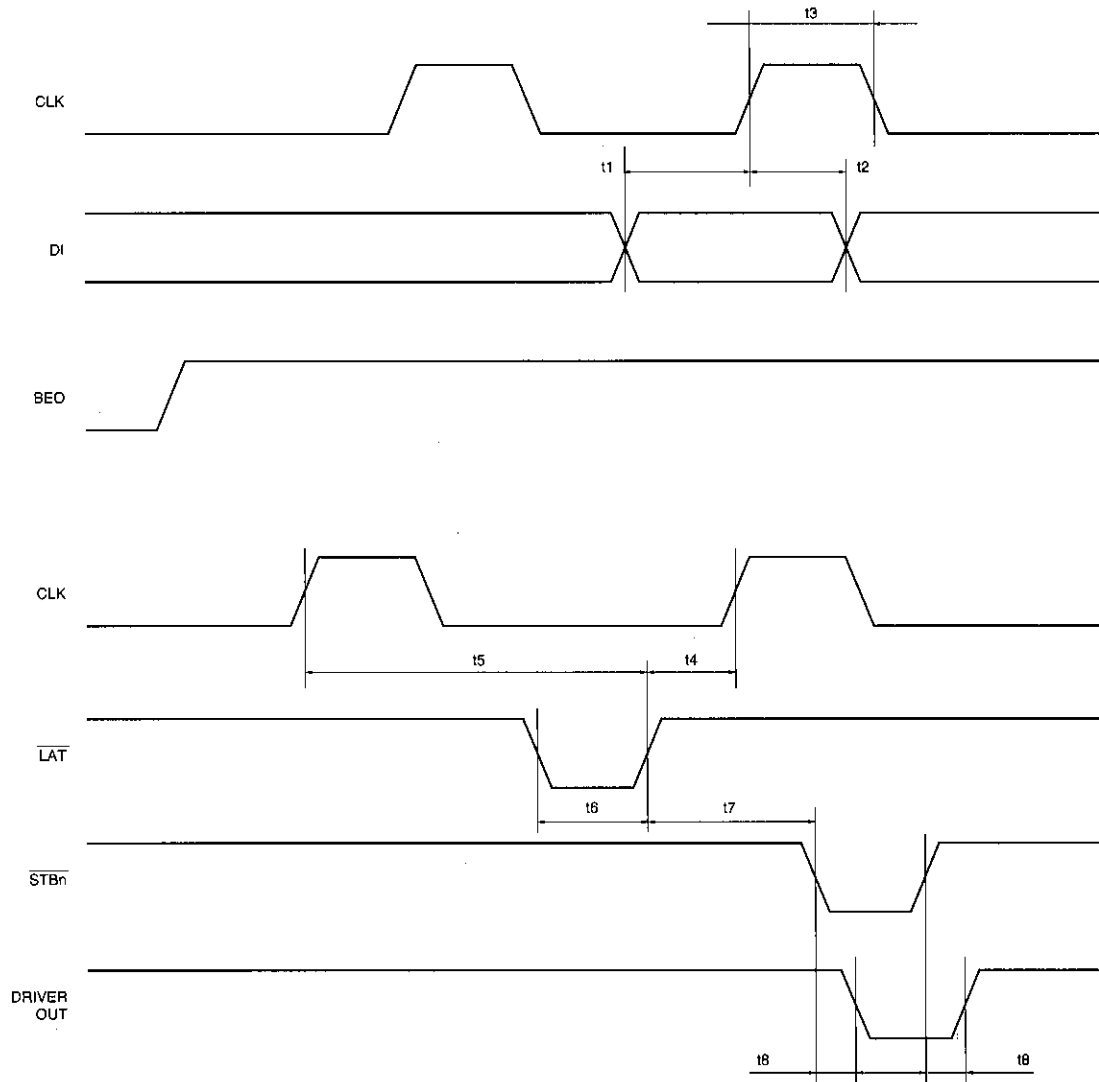
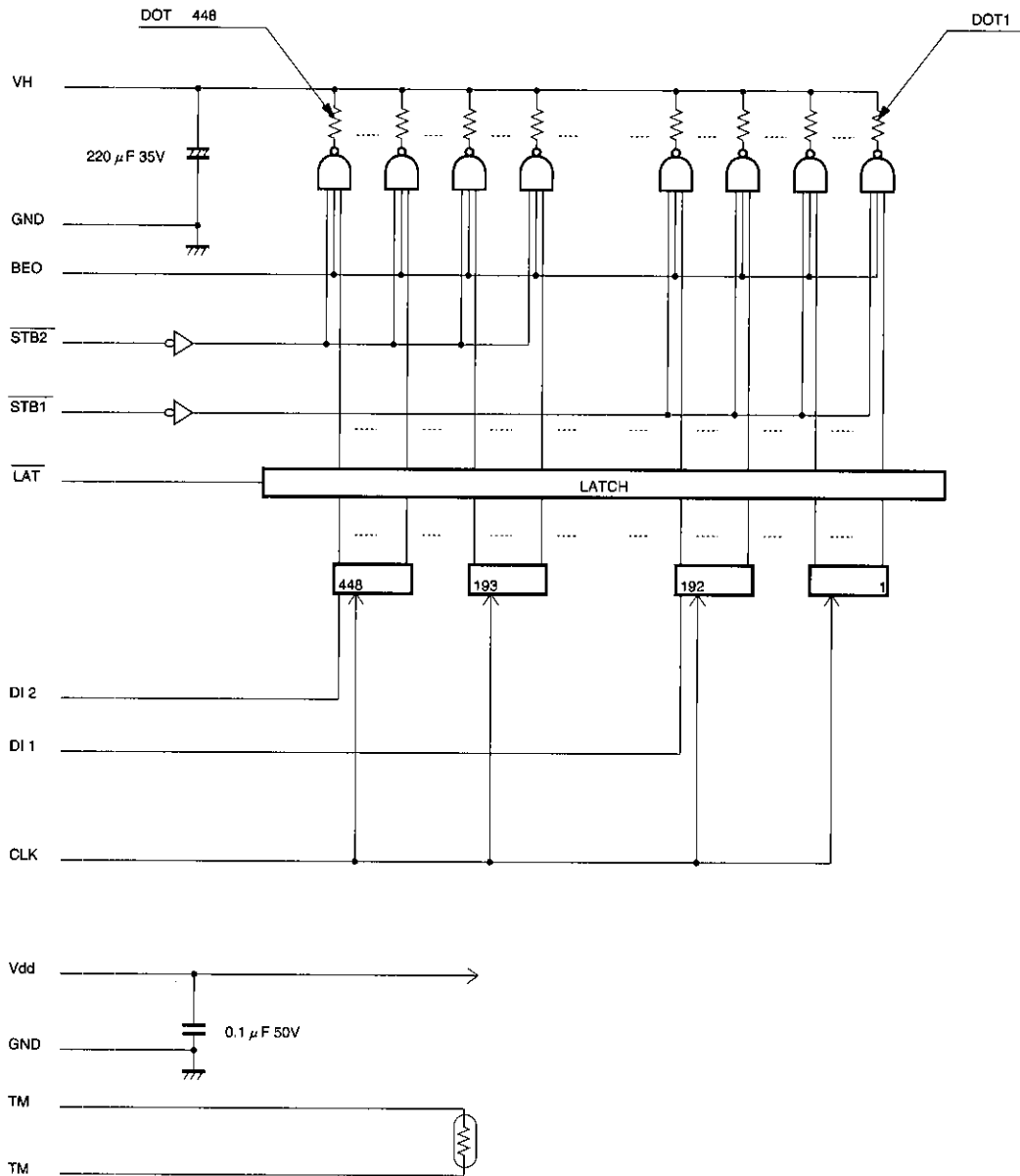


Fig. 1

●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

For Bar Code Label Printers

Thin Film

● Data sheet

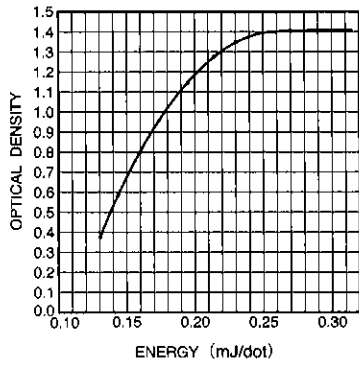


Fig. 3 Representative density curve

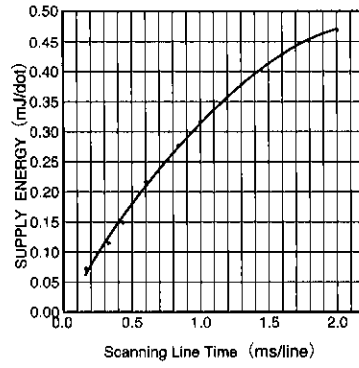


Fig. 4 Maximum energy curve

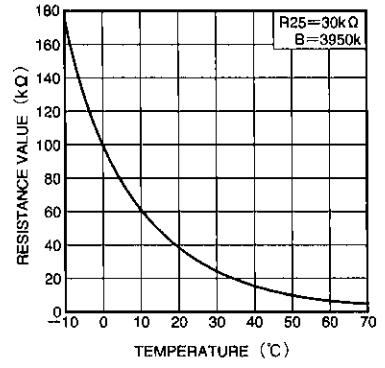


Fig. 5 Thermistor curve

## Notes

- The contents described in this catalogue are correct as of March 1997.
- No unauthorized transmission or reproduction of this book, either in whole or in part, is permitted.
- The contents of this book are subject to change without notice. Always verify before use that the contents are the latest specifications. If, by any chance, a defect should arise in the equipment as a result of use without verification of the specifications, ROHM CO., LTD., can bear no responsibility whatsoever.
- Application circuit diagrams and circuit constants contained in this data book are shown as examples of standard use and operation. When designing for mass production, please pay careful attention to peripheral conditions.
- Any and all data, including, but not limited to application circuit diagrams, information, and various data, described in this catalogue are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO., LTD., disclaims any warranty that any use of such device shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes absolutely no liability in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices; other than for the buyer's right to use such devices itself, resell or otherwise dispose of the same; no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by ROHM CO., LTD., is granted to any such buyer.

The products listed in this catalogue are designed to be used with ordinary electronic equipment or devices (such as audio-visual equipment, office-automation equipment, communications devices, electrical appliances, and electronic toys). Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers, or other safety devices) please be sure to consult with our sales representatives in advance.

- Notes when exporting
  - It is essential to obtain export permission when exporting any of the above products when it falls under the category of strategic material (or labor) as determined by foreign exchange or foreign trade control laws.
  - Please be sure to consult with our sales representatives to ascertain whether any product is classified as a strategic material.