High Speed Thermal Printhead (300 dots/inch)

NB3004-VB10A

The NB3004-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.

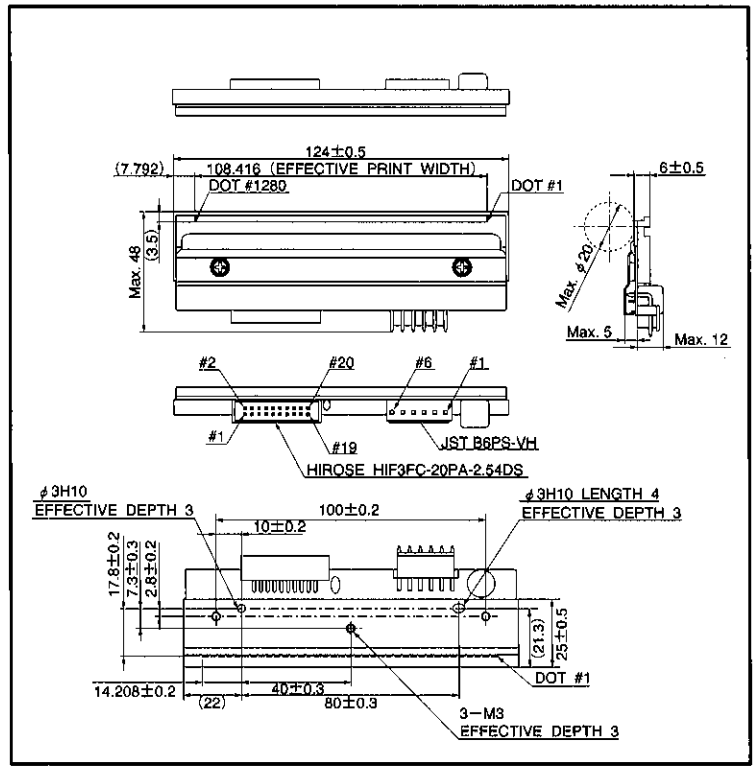
●Applications

Bar code label printers
Ticket printers
General purpose compact printers

●Features

1) High resolution 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 NB2004-VB10A (8 dots/mm) 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		108.4	mm
Dot pitch		0.0847	mm
Total dot number		1280	dots
Average resistance value	Rave	850	Ω
Applied voltage	V_H	24	V
Applied power	P_O	0.604	dot
Print cycle	SLT	1.50	ms
Pulse width	T_{ON}	0.197	ms
Maximum number of dots energized simultaneously		1280	dots
Maximum clock frequency		10	MHz
Maximum roller diameter		20	mm
Running life/pulse life		500/1 billion	km/pulses
Operating temperature		60	℃

●Pin configuration

HIROSE

No.	Circuit	No.	Circuit
1	Vdd	2	BEO
3	GND	4	DI4
5	DI3	6	CLK
7	$\overline{LAT}$	8	GND
9	GND	10	DI2
11	DI1	12	GND
13	Vdd	14	$\overline{STB2}$
15	$\overline{STB1}$	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

●Timing chart

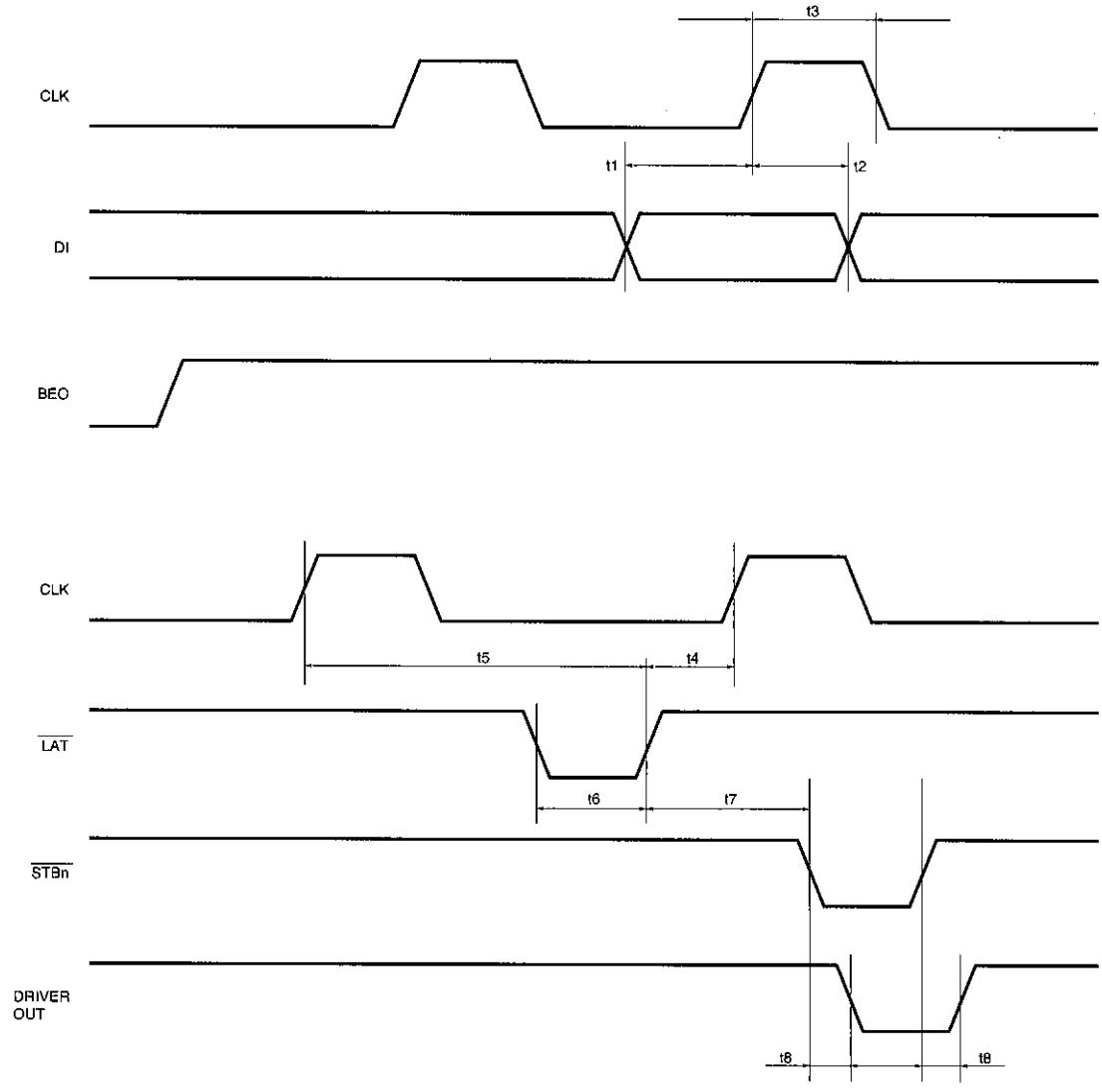
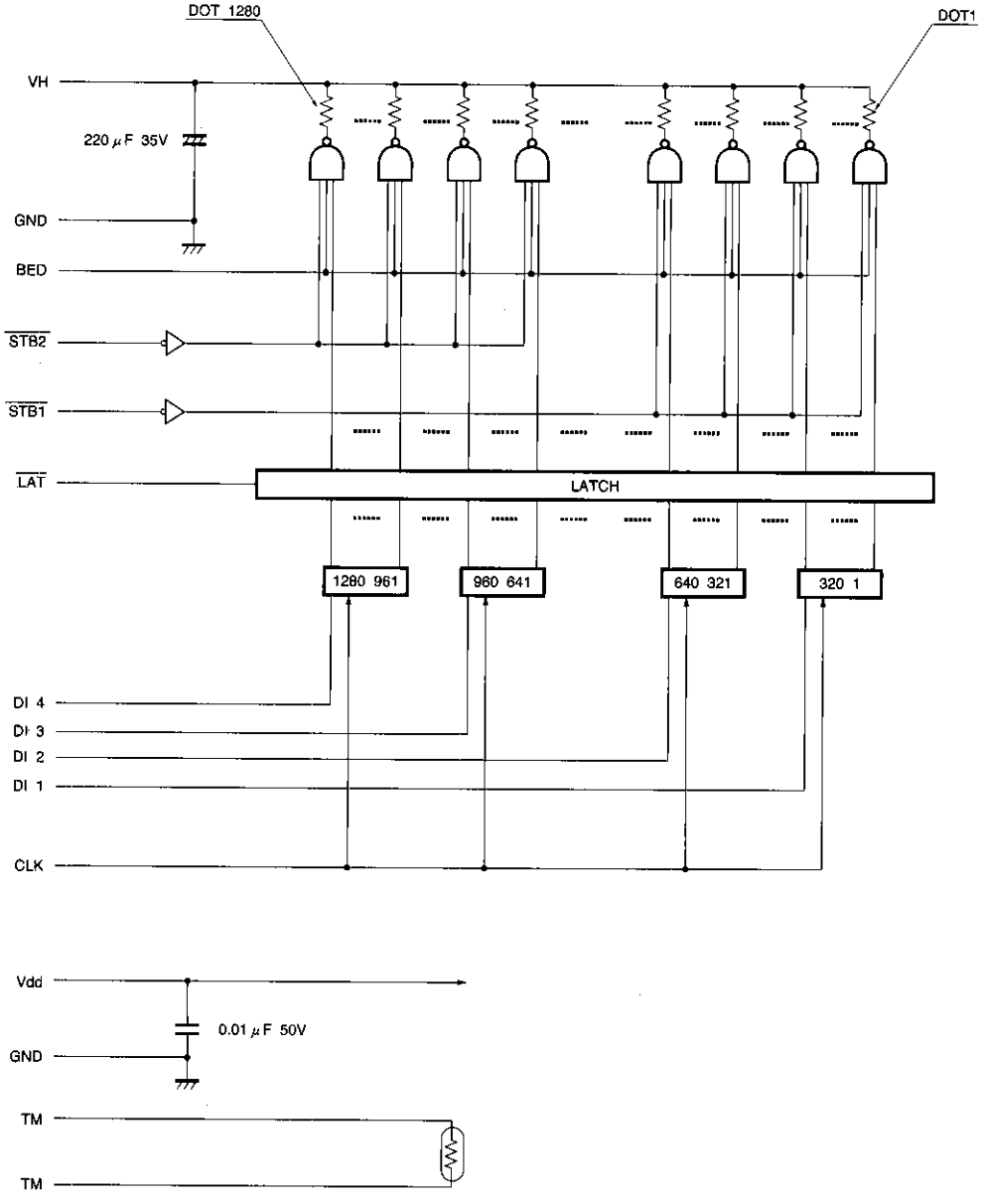


Fig.1

●Equivalent circuit



DI No.	DOT No.
DI 4	1280~961
DI 3	960~641
DI 2	640~321
DI 1	320~ 1

STR No.	DOT No.
STB 2	1280~641
STB 1	640~ 1

Fig. 2 Circuit diagram

●Data sheet

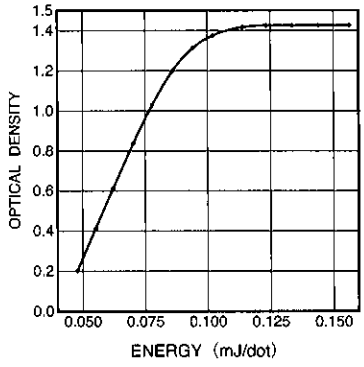


Fig. 3 Representative density curve

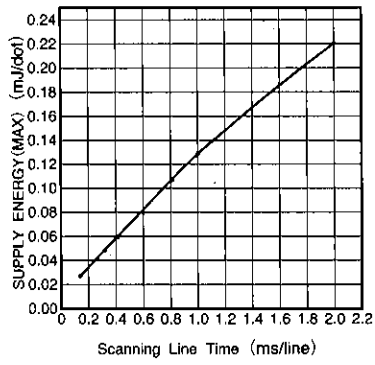


Fig. 4 Maximum energy curve

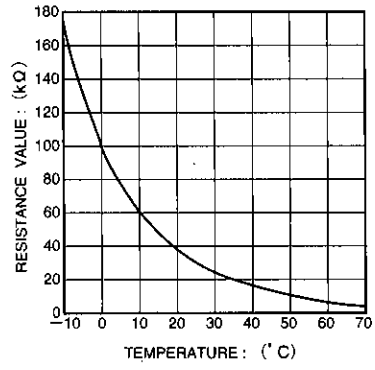


Fig. 5 Thermistor curve

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