# High speed thermal printhead (8 dots / mm)

# NF2002-VA10A

The NF2002-VA10A is a flat thin-film thermal printhead capable of printing speeds up to 12 inch / second, and suited for general purpose compact printers as well as label printers.

### Applications

Bar code label printers

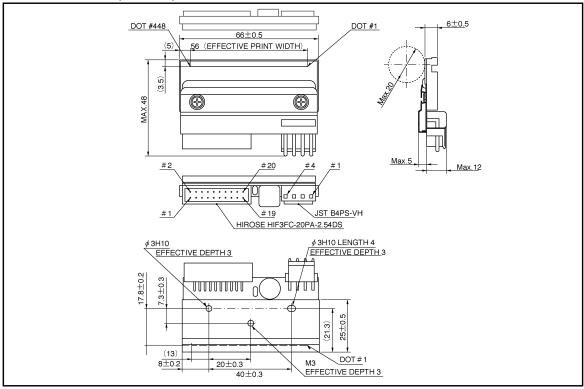
Ticket printers

General purpose compact printers

### Features

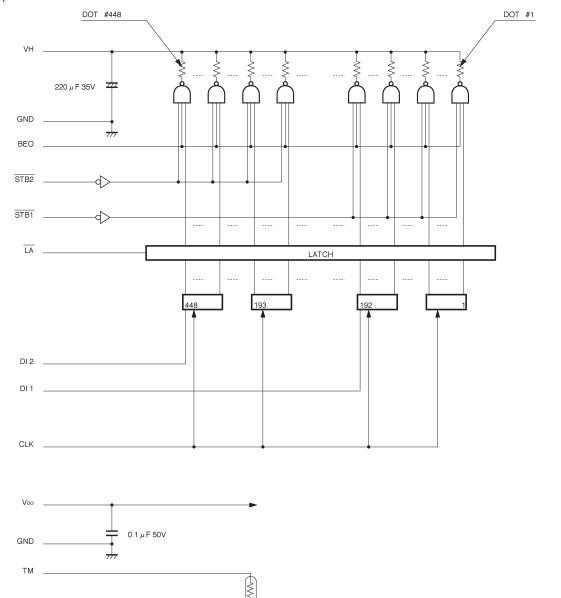
- 1) Special glazed components for high speed, high quality printing.
- 2) High speed clock to facilitate external heat history control.
- 3) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.
- 4) Compatible with the NF3002-VA10A (300 dpi) 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.

# ●Equivalent circuit



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

DOT No.
448~193
192~ 1

Fig. 1

TM

# ●Pin assignments

TIITOOL			
No.	Circuit	No.	Circuit
1	$V_{DD}$	2	BEO
3	GND	4	DI2
5	N.C.	6	CLK
7	LA	8	GND
9	GND	10	DI1
11	N.C.	12	GND
13	$V_{DD}$	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	

# ■Timing chart

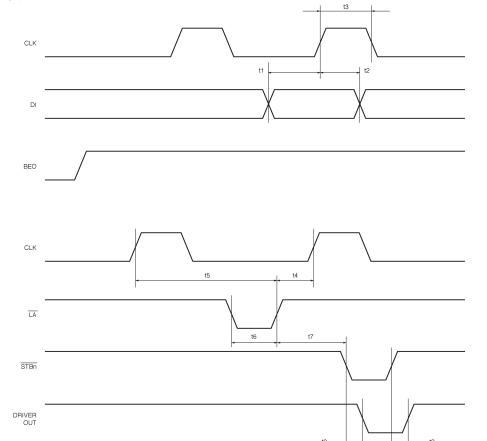


Fig. 2

**Printheads** 

NF2002-VA10A

# 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	Vн	24	V
Applied power	Po	0.923	W / dot
Print cycle	SLT	0.98	ms
Pulse width	Ton	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	_	50 / 10 <sup>8</sup>	km / pulses
Operating temperature	_	5~45	°C

Printheads NF2002-VA10A

### Supported speeds chart



### Electrical characteristic curves

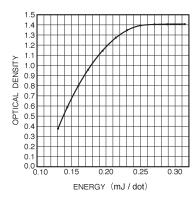


Fig. 3 Representative density curve

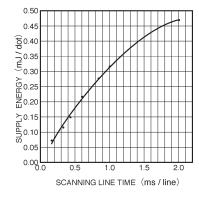


Fig. 4 Maximum energy curve

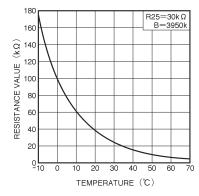


Fig. 5 Thermistor curve