

Tentative  
Printhead

NF3004-VA30A  
Under development

# High speed thermal printhead (300 dots / inch)

## NF3004-VA30A

NF-VA30 series are the thermal printheads developed for high-speed / high-resolution printing for the market of bar-code printer & scale-printer, based on "step-free" structure. These printheads realize ultra-highspeed printing with long life & high reliability.

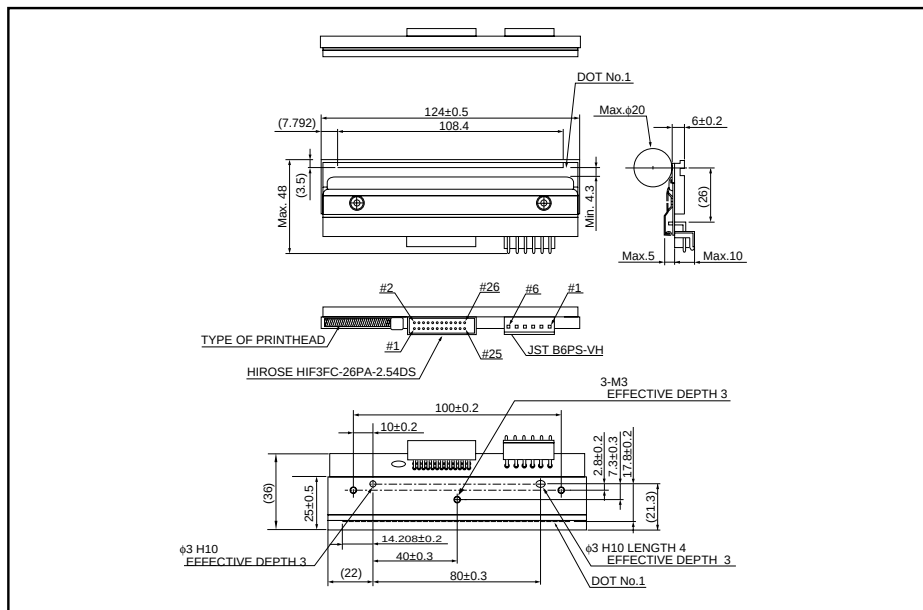
### ●Applications

Barcode printers  
Label printers  
Packaging printers  
ATM  
Ticket printers  
Scale printers

### ●Features

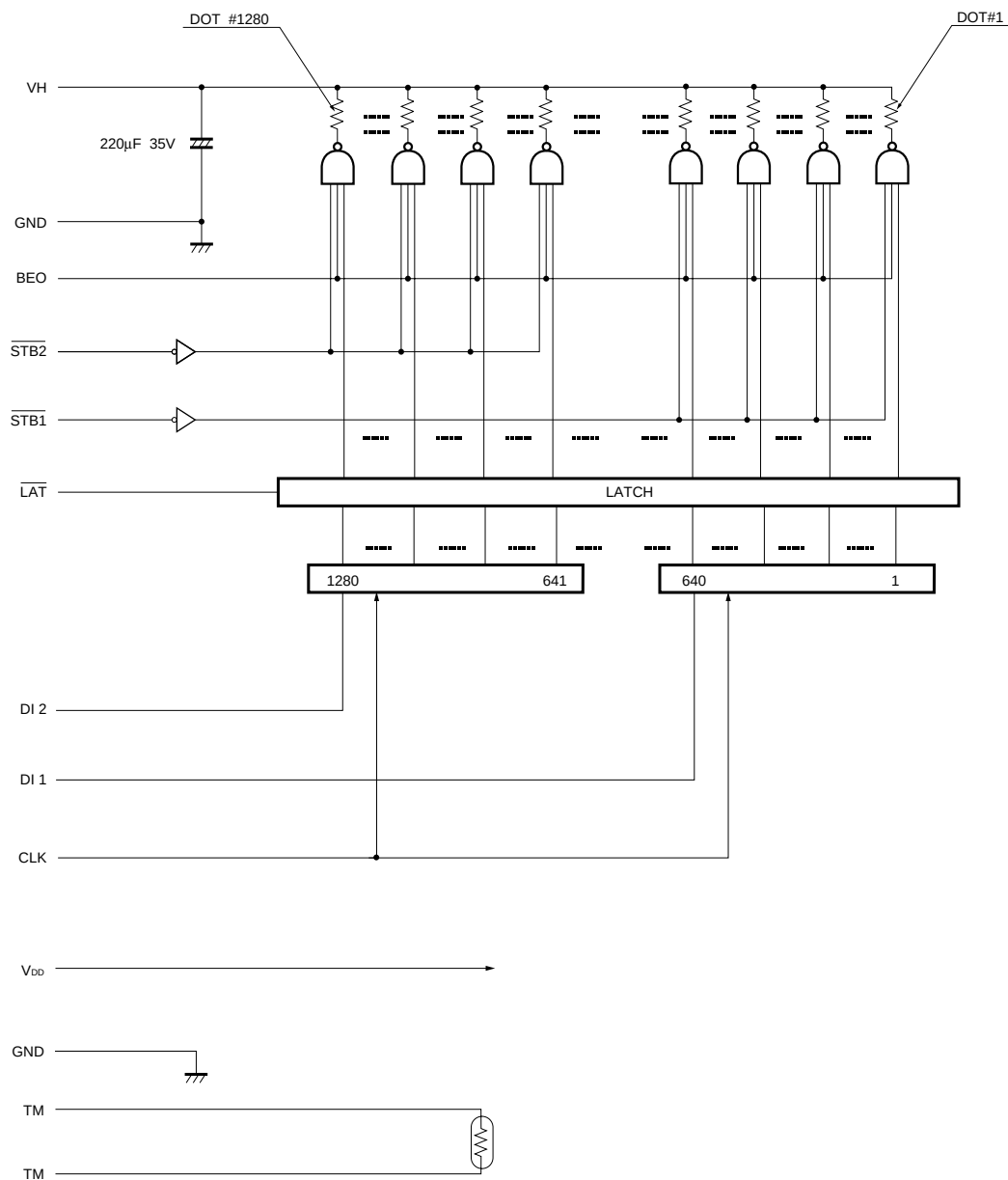
- 1) High dot reproducibility with step-free structure.
- 2) High-hardness protect cote type "W-coat" is employed with 150km abrasion life-time.
- 3) Even without history-control, high-speed printing more than 300mm/s can be achieved at 300dpi with clear print image.  
With history-control, 500mm/s printing is also possible at 300dpi.

### ●External dimensions (Unit : 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   | 1280 to 641 |
| DI 1   | 640 to 1    |

| STB No. | DOT No.     |
|---------|-------------|
| STB2    | 1280 to 641 |
| STB1    | 640 to 1    |

## ●Pin assignments

## HIROSE

| No. | Circuit         | No. | Circuit |
|-----|-----------------|-----|---------|
| 1   | V <sub>DD</sub> | 2   | BEO     |
| 3   | GND             | 4   | DI2     |
| 5   | N.C.            | 6   | CLK     |
| 7   | LAT             | 8   | GND     |
| 9   | GND             | 10  | DI1     |
| 11  | N.C.            | 12  | GND     |
| 13  | V <sub>DD</sub> | 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     |

## ●Characteristics

| Parameter                                       | Symbol           | Typical               | Unit        |
|-------------------------------------------------|------------------|-----------------------|-------------|
| Effective printing width                        | —                | 108.4                 | mm          |
| Dot pitch                                       | —                | 0.0847                | mm          |
| Total dot number                                | —                | 1280                  | dots        |
| Average resistance value                        | R <sub>ave</sub> | 850                   | Ω           |
| Applied voltage                                 | V <sub>H</sub>   | 24                    | V           |
| Applied power                                   | P <sub>O</sub>   | 0.57                  | W / dot     |
| Print cycle                                     | SLT              | 0.28                  | ms          |
| Pulse width                                     | T <sub>ON</sub>  | 0.31                  | ms          |
| Maximum number of dots energized simultaneously | —                | 1280                  | dots        |
| Maximum clock frequency                         | —                | 10                    | MHz         |
| Maximum roller diameter                         | —                | φ20                   | mm          |
| Running life / pulse life                       | —                | 150 / 10 <sup>8</sup> | km / pulses |
| Operating temperature                           | —                | 5 to 45               | °C          |

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