# Near edge thermal printhead (300 dots / inch)

# NE3002-VA10A

The NE3002-VA10A is a near edge thin-film thermal printhead, where the printing medium passes straight through at printing speeds up to 8 inch / second. It is suited for high-speed label printers.

#### Applications

Bar code printers Card printers

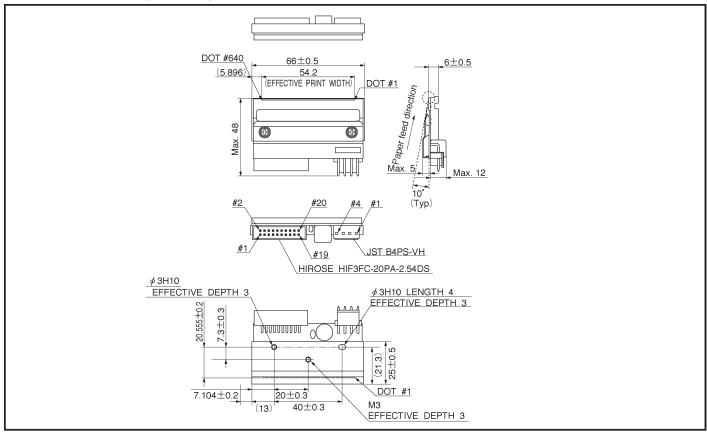
Ticket printers

General purpose compact printers

#### Features

- 1) Inclined toward the printing surface to provide excellent printing quality even for cards and thick paper.
- 2) Prints directly on printing medium that cannot be bent.
- 3) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.
- 4) Being low-profile when installed enables smaller printers.
- 5) Compatible with the NE2002-VA10A (8 dots / mm) 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.

### Characteristics

| Parameter                                       | Symbol          | Typical              | Unit        |
|---|-----------------|----------------------|-------------|
| Effective printing width                        | _               | 54.2                 | mm          |
| Dot pitch                                       | _               | 0.0847               | mm          |
| Total dot number                                | _               | 640                  | dots        |
| Average resistance value                        | Rave            | 1250                 | Ω           |
| Applied voltage                                 | V <sub>H</sub>  | 24                   | V           |
| Applied power                                   | Po              | 0.42                 | W / dot     |
| Print cycle                                     | SLT             | 1.5                  | ms          |
| Pulse width                                     | T <sub>ON</sub> | 0.30                 | ms          |
| Maximum number of dots energized simultaneously | _               | 640                  | dots        |
| Maximum clock frequency                         | _               | 10                   | MHz         |
| Maximum roller diameter                         | _               | _                    | mm          |
| Running life / pulse life                       | _               | 50 / 10 <sup>8</sup> | km / pulses |
| Operating temperature                           |                 | 5~45                 | °C          |

# ●Pin assignments

### HIROSE

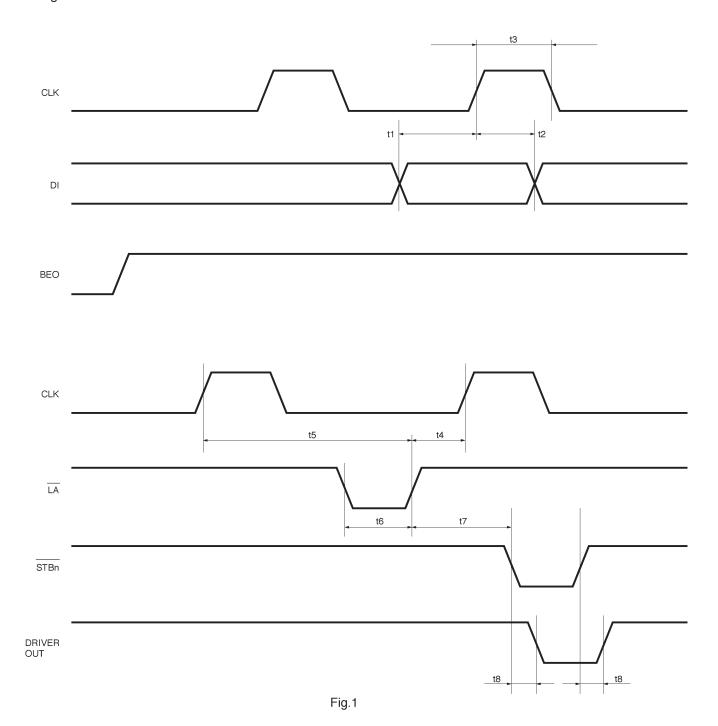
| No. | Circuit         | No. | Circuit |
|-----|-----------------|-----|---------|
| 1   | V <sub>DD</sub> | 2   | BEO     |
| 3   | GND             | 4   | DI      |
| 5   | N.C.            | 6   | CLK     |
| 7   | LA              | 8   | GND     |
| 9   | GND             | 10  | N.C.    |
| 11  | 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     |  |
|     |         |  |

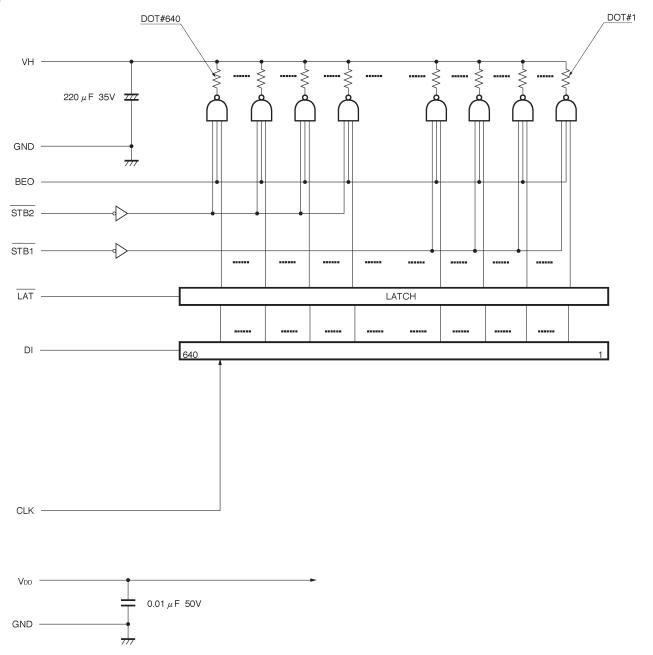
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# Timing chart



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# ●Equivalent circuit



| TM |        |         |  |
|----|--------|---------|--|
|    |        |         |  |
|    |        |         |  |
|    |        |         |  |
|    | DI No. | DOT No. |  |
| ·  | DI     | 640~1   |  |

| STB No. | DOT No. |
|---------|---------|
| STB 2   | 640~321 |
| STB 1   | 320~ 1  |

Fig. 2

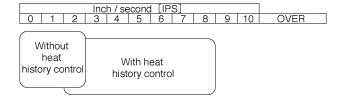
**ROHM** 

TM -

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## Supported speeds chart



#### Electrical characteristic curves

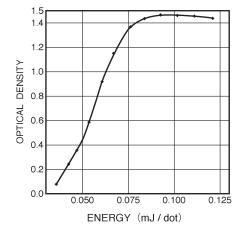


Fig. 3 Representative density curve

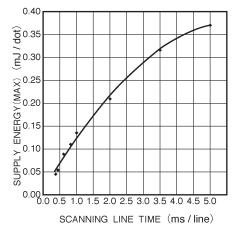


Fig. 4 Maximum energy curve

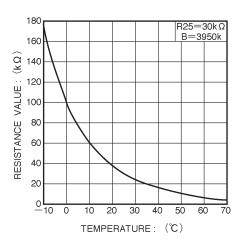


Fig. 5 Thermistor curve