

Compact low voltage thick film thermal printhead (12dots / mm)

KF3004-GF11A

KF3004-GF11A of low voltage thermal printheads have a 1.25-mm pitch connectors and reduced power supply circuit voltage requirements. This makes them useful for a wide range of applications, including CAT, FET-POS and naturally, handheld devices that demand printer heads which can operate with low supplied voltage.

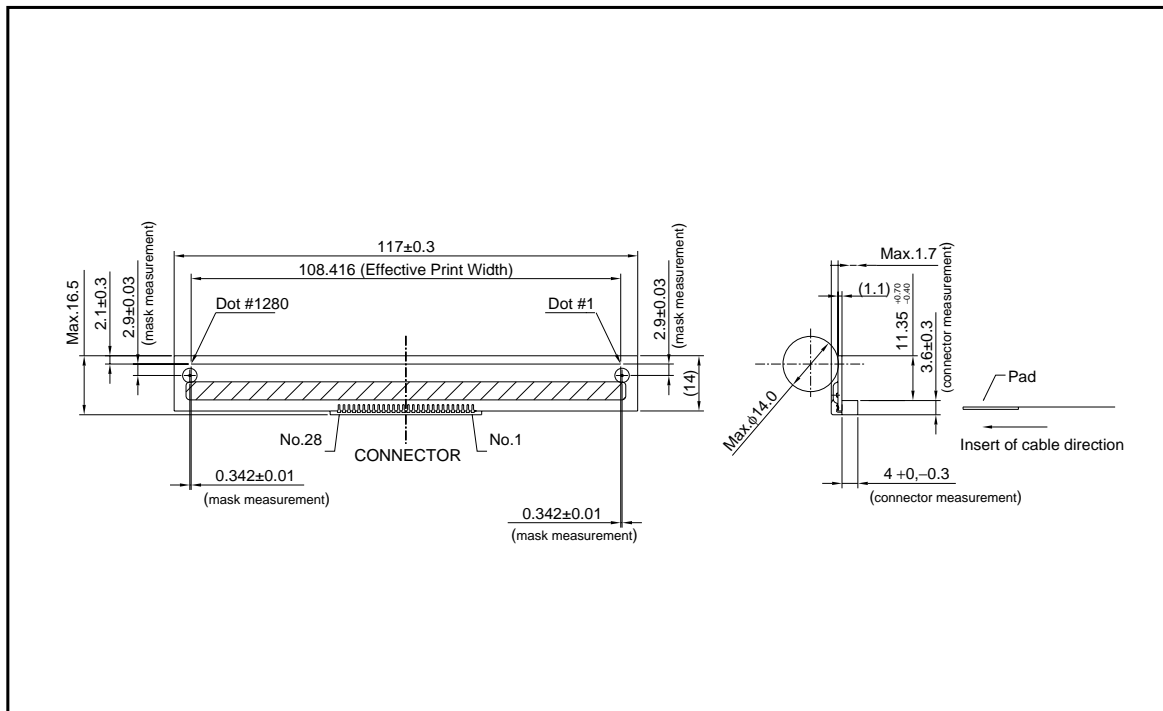
●Applications

Mobile printers
FET-POS printers
Hand-held printers
Debit printers

●Features

- 1) Both the circuit voltage and the voltage required during printing are 3.3V ; this allows the design of complete printer assemblies with energy-saving low power consumption.
- 2) KF3004-GF11A has a resistance value of 210Ω and can take a maximum current of 8.5V for printing. This is useful in applications where the peak voltage is restricted.
- 3) Because the connectors accept 1.25-mm pitch FFC (Flexible flat cables) it is possible to reduce the size of printer mechanism control boards.

●External dimensions (Unit : mm)



Printheads

●Equivalent circuit

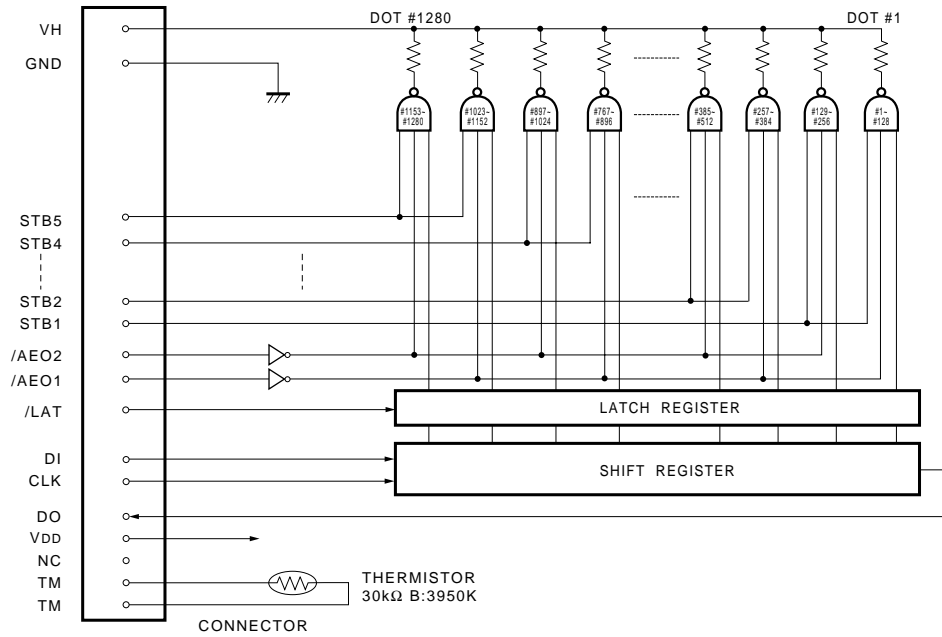


Fig.1

●Pin assignments

| No. | Circuit | No. | Circuit |
|-----|-----------------|-----|----------------|
| 1 | V _H | 15 | GND |
| 2 | V _H | 16 | GND |
| 3 | V _H | 17 | GND |
| 4 | DO | 18 | GND |
| 5 | /LAT | 19 | /AEO1 |
| 6 | CLK | 20 | /AEO2 |
| 7 | V _{DD} | 21 | STB3 |
| 8 | N.C. | 22 | STB4 |
| 9 | STB1 | 23 | STB5 |
| 10 | STB2 | 24 | N.C. |
| 11 | TM | 25 | DI |
| 12 | TM | 26 | V _H |
| 13 | GND | 27 | V _H |
| 14 | GND | 28 | V _H |

Printheads

●Timing chart

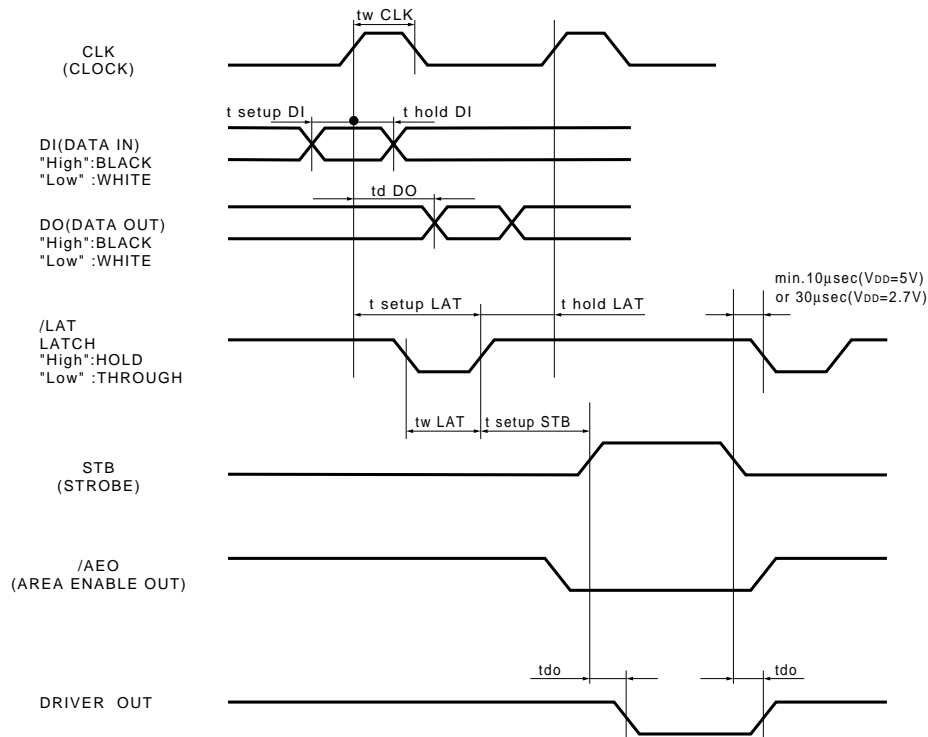


Fig.2

●Characteristics

| Parameter | Symbol | Typical | Unit |
|---|----------|--------------------|--------------------|
| Effective printing width | - | 108.416 | mm |
| Dot pitch | - | 0.0847 | mm |
| Total dot number | - | 1280 | dots |
| Average resistance value | Rave | 210 | Ω |
| Applied voltage | V_H | 7.2 | V |
| Applied power | P_O | 0.17 | W/dot |
| Print cycle | SLT | 0.847 | ms |
| Pulse width | T_{ON} | 0.6 | ms |
| Maximum number of dots energized simultaneously | - | 256 | dots |
| Maximum clock frequency | - | 8 | MHz |
| Maximum roller diameter | - | $\phi 14.0$ | mm |
| Running life / pulse life | - | $66/1 \times 10^8$ | km/pulses |
| Operating temperature | - | 0~50 | $^{\circ}\text{C}$ |

Printheads

●Electrical characteristic curves

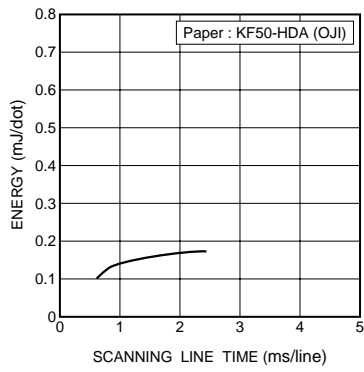


Fig.3 Adaptive speed chart

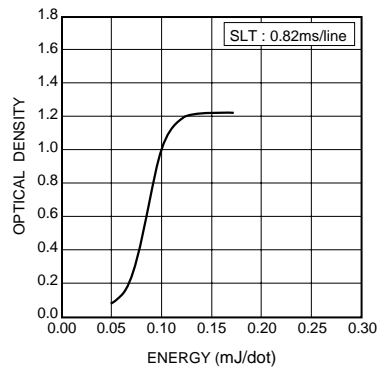


Fig.4 Representative density curve

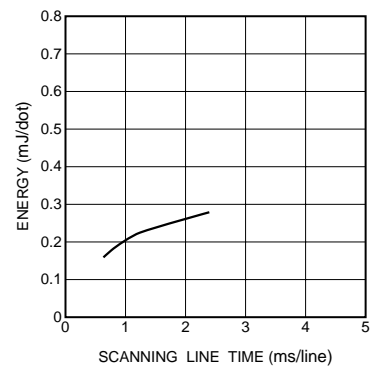


Fig.5 Maximum energy curve

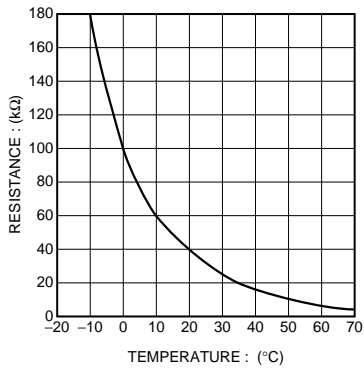


Fig.6 Thermistor curve

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