

Compact low voltage thick film thermal printhead (8dots / mm)

KF2003-GF50A

A world first, ROHM offers the KF2003-GF50A of thermal printheads that allow operation using a single standard lithium ion battery: required voltage has been reduced to just 2.7V. Compact and lightweight they are ideal printheads for handheld printers and PDAs (personal digital assistants).

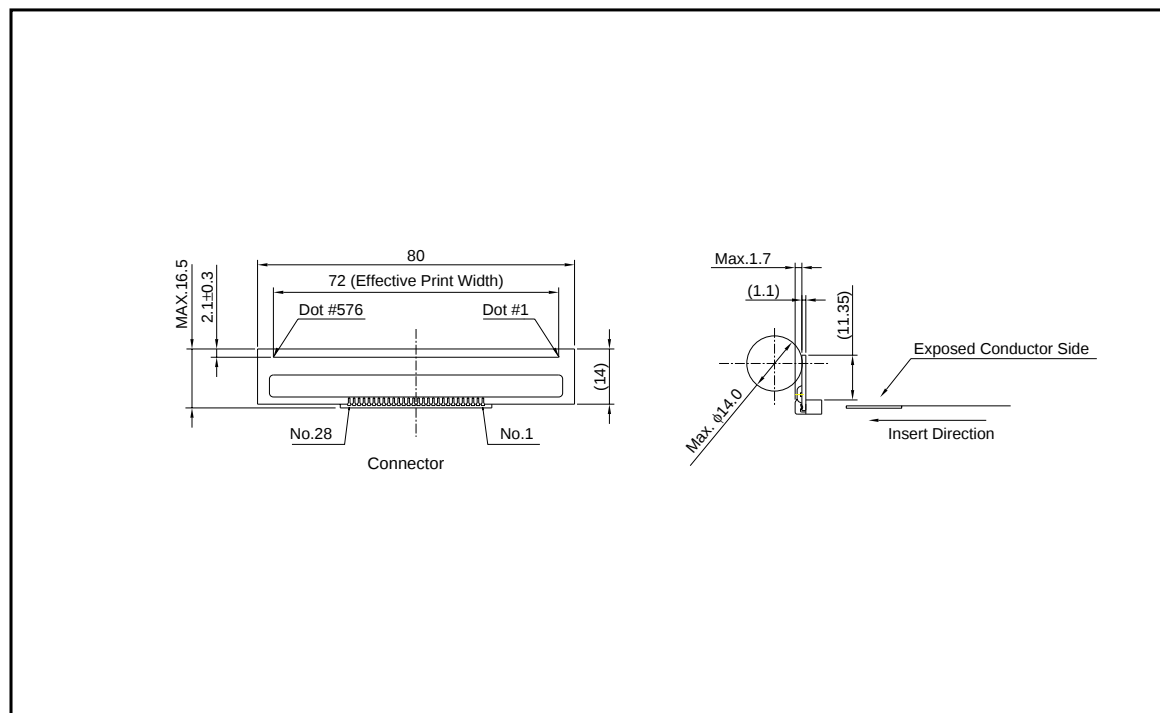
●Applications

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

●Features

- 1) Using advanced LSI technology, ROHM has developed a dedicated low voltage driver chip. Compared with previous products, power consumption has been reduced by more than 30%. Because the print head circuits draw just 2.7 volts, the printer can be driven using a single lithium ion battery.
- 2) One rank resistance value of $123\Omega \pm 4\%$ eliminates the inconvenience of rank selection.
- 3) The GP10 series has a resistance value of 123Ω and can be used in devices designed to operate with a single 3V lithium ion battery.

●External dimensions (Units : mm)



Printheads

●Equivalent circuit

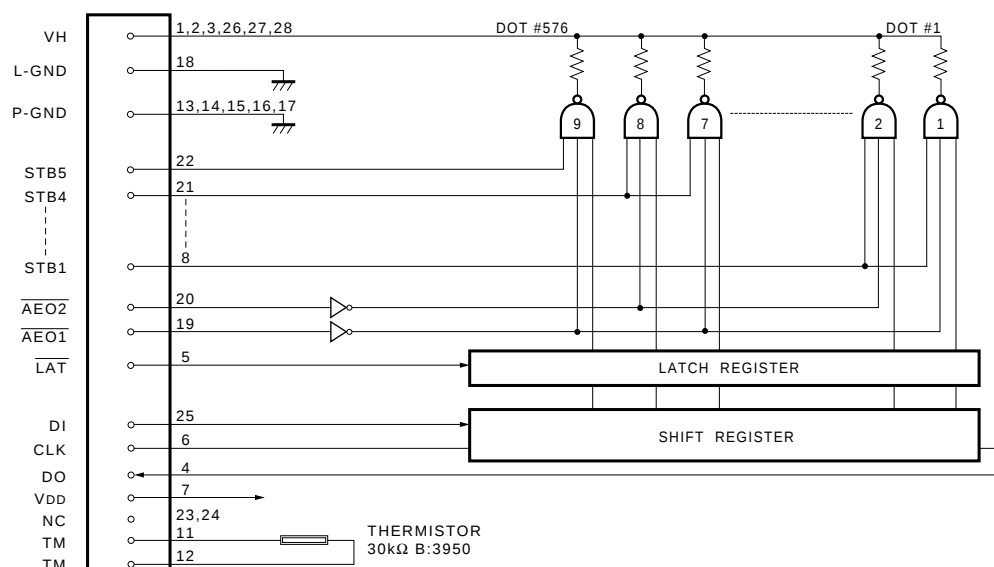


Fig.1

●Pin assignments

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

L-GND : LOGIC GROUND
P-GND : POWER GROUND

Printheads

●Timing chart

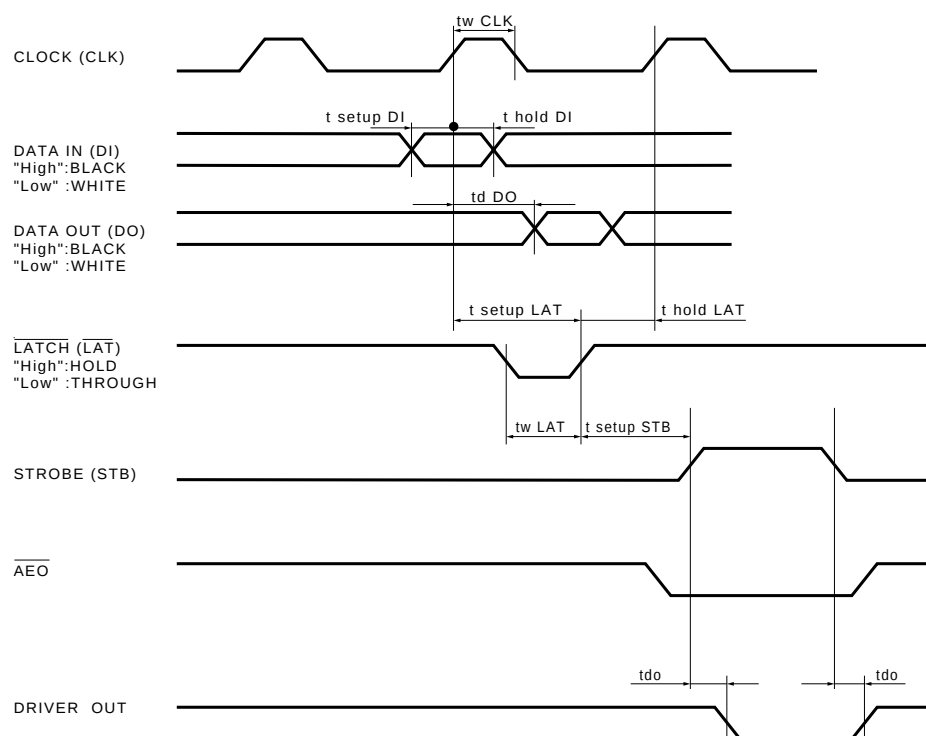


Fig.2

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	72	mm
Dot pitch	—	0.125	mm
Total dot number	—	576	dots
Average resistance value	Rave	123	Ω
Applied voltage	V _H	3.6	V
Applied power	P _O	0.07	W/dot
Print cycle	SLT	2.50	ms
Pulse width	T _{ON}	2.02	ms
Maximum number of dots energized simultaneously	—	64	dots
Maximum clock frequency	—	8	MHz
Maximum roller diameter	—	$\phi 14.0$	mm
Running life / pulse life	—	50/1 $\times 10^8$	km/pulses
Operating temperature	—	0-50	°C

Printheads

●Electrical characteristic curves

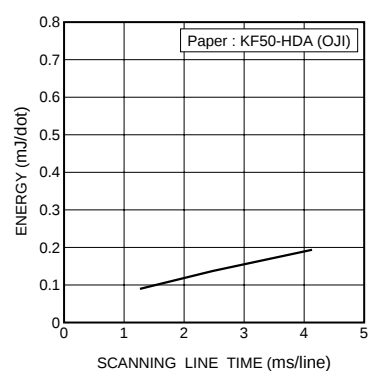


Fig.3 Adaptive speed chart

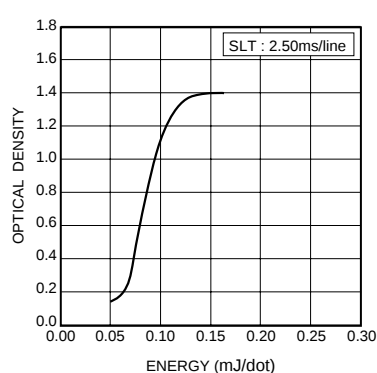


Fig.4 Representative density curve

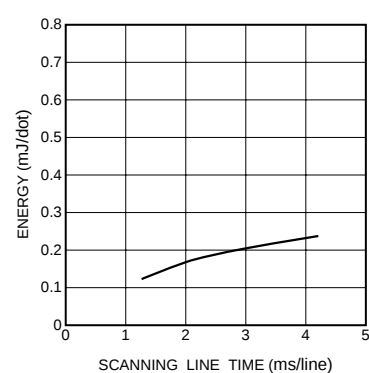


Fig.5 Maximum energy curve

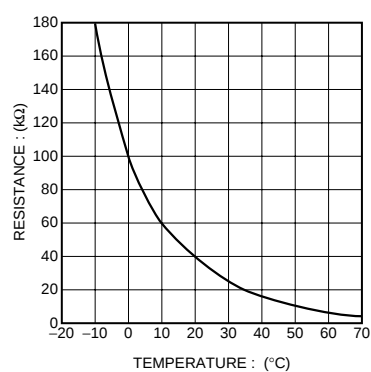


Fig.6 Thermistor curve