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

KF2002-GP10A

A world first, ROHM offers the KF2002-GP10A 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).

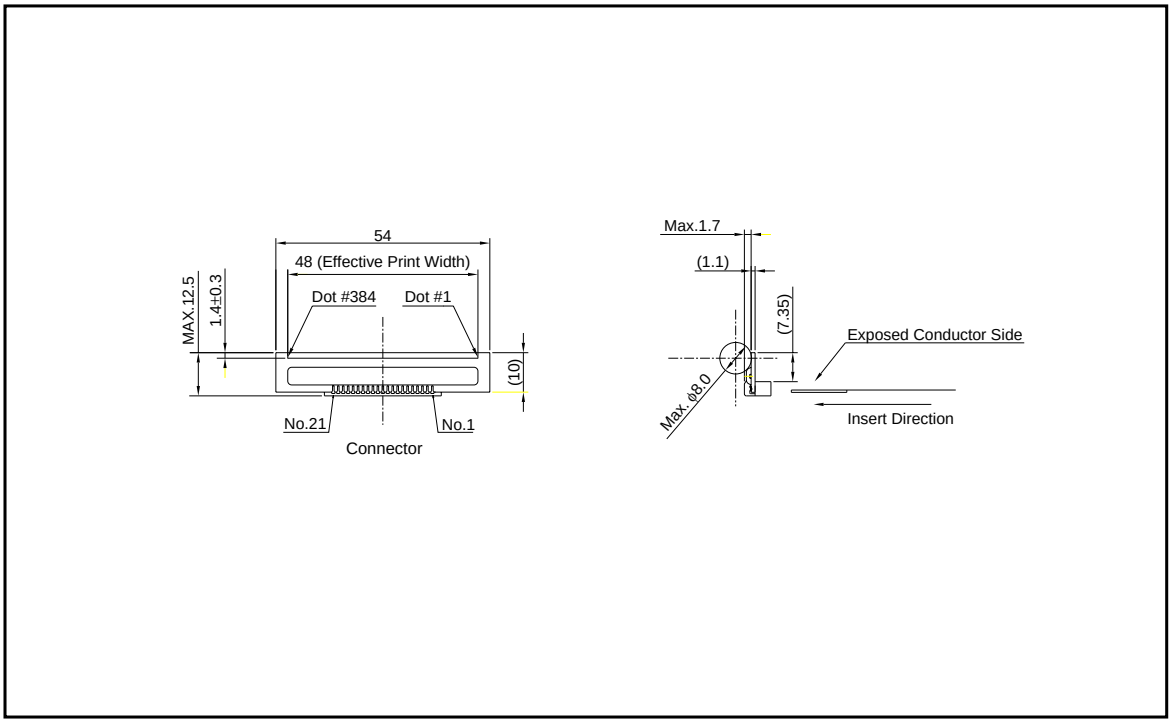
●Applications

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 123Ω ± 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)



●Equivalent circuit

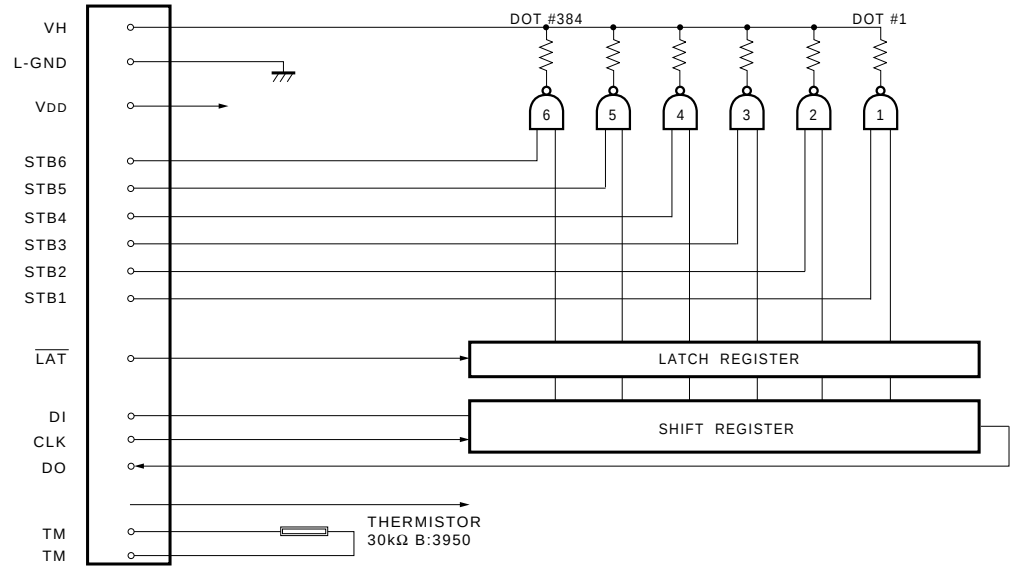


Fig.1

●Pin assignments

No.	Circuit
1	VH
2	VH
3	DO
4	$\overline{LAT}$
5	GND
6	GND
7	STB1
8	STB2
9	STB3
10	TM
11	TM

No.	Circuit
12	V_{DD}
13	STB4
14	STB5
15	STB6
16	GND
17	GND
18	CLK
19	DI
20	VH
21	VH

Note) The GND terminal 5 and 6 are not connected with the GND terminal 16 and 17.
These terminals shall be connected each other at the closest point to the printhead.

●**Timing chart**

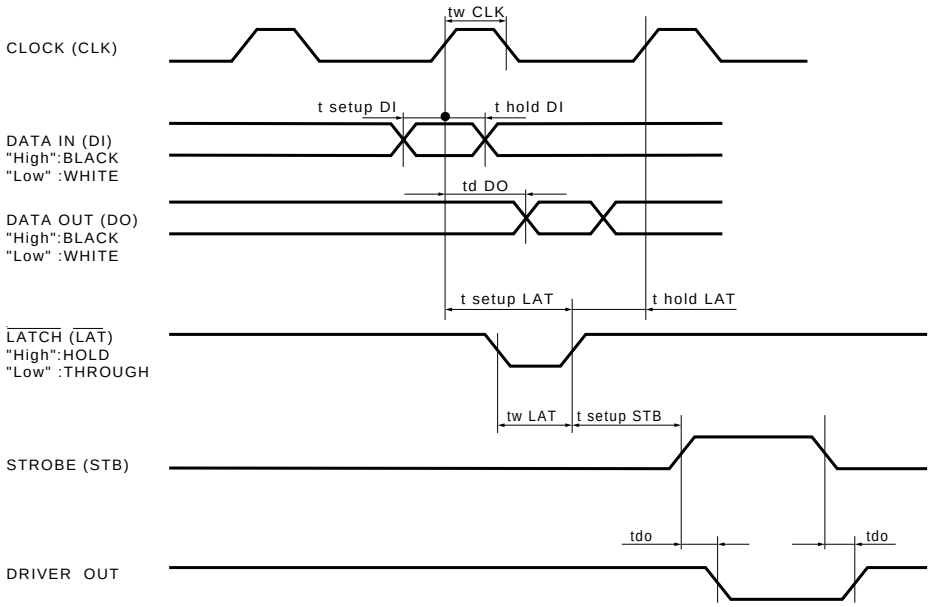


Fig.2

●**Characteristics**

Parameter	Symbol	Typical	Unit
Effective printing width	–	48	mm
Dot pitch	–	0.125	mm
Total dot number	–	384	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	2.5	ms
Pulse width	T_{ON}	2.01	ms
Maximum number of dots energized simultaneously	–	64	dots
Maximum clock frequency	–	8	MHz
Maximum roller diameter	–	ϕ8.0	mm
Running life / pulse life	–	$50/1\times10^8$	km/pulses
Operating temperature	–	0~50	°C

●Electrical characteristic curves

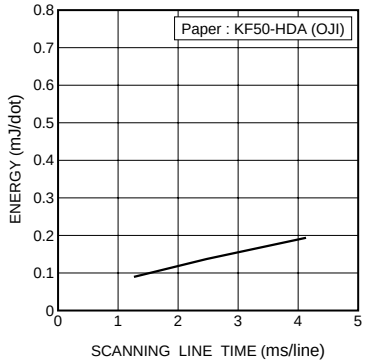


Fig.3 Adaptive speed chart

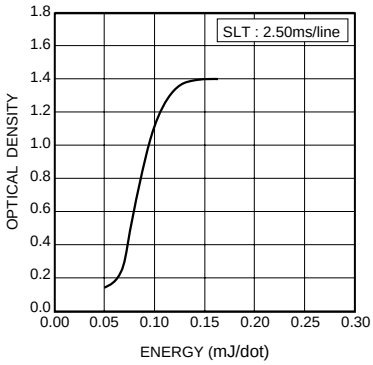


Fig.4 Representative density curve

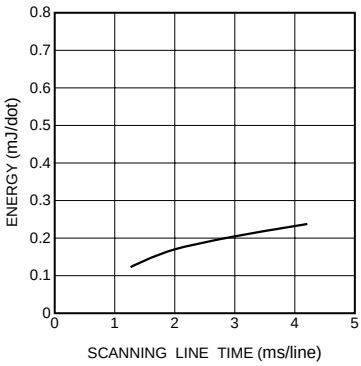


Fig.5 Maximum energy curve

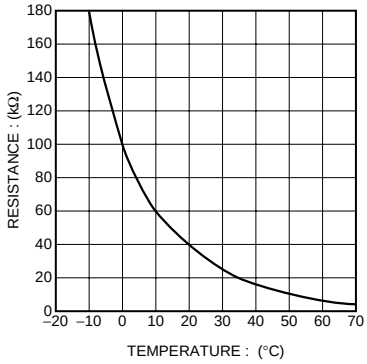


Fig.6 Thermistor curve

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