Compact high speed thick film thermal printhead (12 dots / mm)

KD3002-DF10A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KD3002-DF10A. Capable of being employed for both thermal and thermal transfer printing, with a print speed of 200mm/s, the resulting print heads are the fastest in their class. The high-speed and high-density printing answers the needs of ATM, kiosk and ticket printing devices, which are increasingly being called upon to produce graphical output.

Applications

Label printers

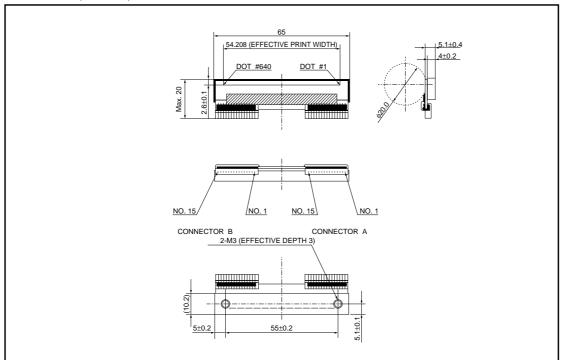
Ticket printers

Terminal printers

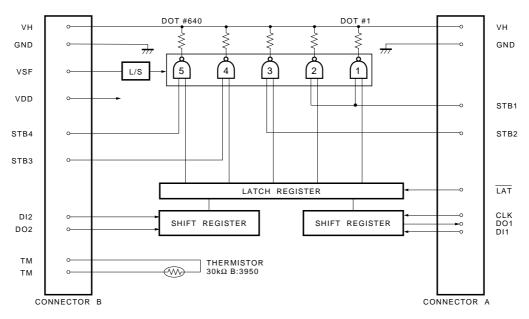
Features

- 1) The use of a special partial glaze and the latest heating element structure, along with new high-density driver chips that can accept big current, has allowed ROHM to achieve print speeds of 200mm/s with using thermal history control, the fastest in its class
- 2) One rank resistance value of $1000\Omega\pm3\%$ eliminates the inconvenience of rank selection.
- 3) The required driving voltage of 3.15 to 5.25V allows wide range of power supply voltage setting. This also allows multiple choice of electronic components for printers.
- 4) 2-inch, 3-inch, 4-inch and 8-inch series are available.

●Dimensions (Unit:mm)



●Equivalent circuit



STB No.	Dot No.	dots / STB	
1	1 ~ 256	256	
2	257 ~ 384	128	
3	385 ~ 512	128	
4	513 ~ 640	128	

DI No.	Dot No.	dots / STB
1	1 ~ 384	384
2	385 ~ 640	256

Fig.1

Pin assignments

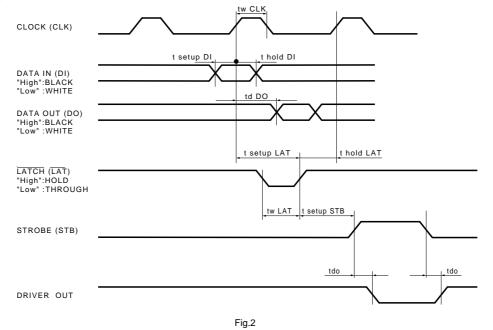
CONNECTOR A

No.	Circuit	
1	VH	
2	VH	
3	VH	
4	VH	
5	DI1	
6	DO1	
7	LAT	
8	CLK	
9	STB1	
10	STB2	
11	GND	
12	GND	
13	GND	
14	GND	
15	GND	

CONNECTOR B

No.	Circuit	
1	GND	
2	GND	
3	GND	
4	GND	
5	STB3	
6	STB4	
7	V _{DD}	
8	TM	
9	TM	
10	DO2	
11	DI2	
12	VSF	
13	VH	
14	VH	
15	15 VH	

Timing chart



Characteristics

Parameter		Typical	Unit
Effective printing width		54.208	mm
Dot pitch		0.0847	mm
Total dot number	_	640	dots
Average resistance value	Rave	1000	Ω
Applied voltage	Vн	24	V
Applied power	Po	0.53	W/dot
Print cycle	SLT	0.82	ms
Pulse width	Ton	0.25	ms
Maximum number of dots energized simultaneously	-	640	dots
Maximum clock frequency	_	16	MHz
Maximum roller diameter	_	φ18.0	mm
Running life / pulse life	_	50/5×10 ⁷	km/pulses
Operating temperature	_	5 to 45	°C

•Electrical characteristic curves

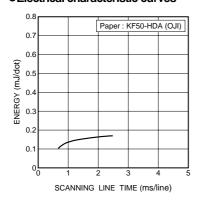


Fig.3 Adaptive speed chart

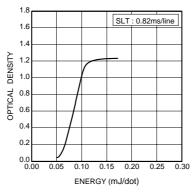


Fig.4 Representative density curve

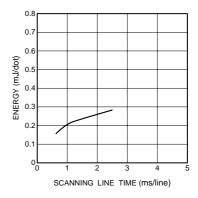


Fig.5 Maximum energy curve

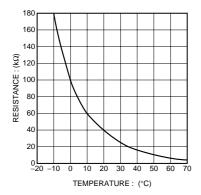


Fig.6 Thermistor curve

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