# Compact medium speed thick film thermal printhead (8 dots / mm) KD2002-DF10A

Using its expertise in LSI technology, ROHM has developed new high density driver chips for use in the KD2002-DF10A. Capable of being employed for both thermal and thermal transfer printing, with a print speed of 250mm/s, the resulting print heads are the fastest in their class. This high-speed and high-density printing answers the needs of POS, ATM, KIOSK and ticket printing devices, which are increasingly being called upon to produce graphical output.

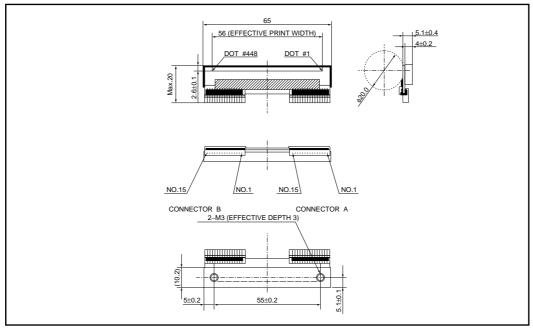
## Applications

POS printers ATM printers KIOSK printers Ticket printers

### Features

- 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 250mm/s with using thermal history control, the fastest in its class.
- Standard printheads in the line up are capable of 203 or 300 dpi. They achieve the high resolution needed for graphics and other complex print patterns.
- 3) One rank resistance value of  $650\Omega\pm3\%$  eliminates the inconvenience of rank selection.
- 4) 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.
- 5) 2-inch, 3-inch and 4-inch series are available.

## •External dimensions (Unit : mm)



# Printheads

# •Equivalent circuit

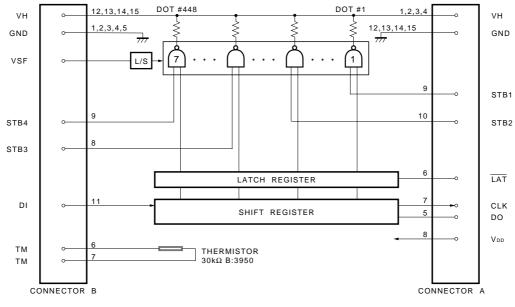


Fig.1

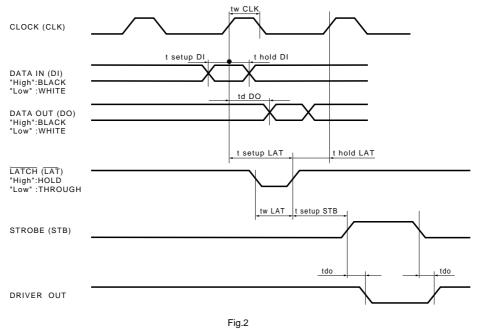
#### Pin assignments

	acolginnonac			
CONNECTOR A		CONN		
No.	Circuit	No.		
1	VH	1		
2	VH	2		
3	VH	3		
4	VH	4		
5	DO	5		
6	LAT	6		
7	CLK	7		
8	Vdd	8		
9	STB1	9		
10	STB2	10		
11	NC	11		
12	GND	12		
13	GND	13		
14	GND	14		
15	GND	15		

CONNECTOR B				
No.	Circuit			
1	GND			
2	GND			
3	GND			
4	GND			
5	GND			
6	ТМ			
7	ТМ			
8	STB3			
9	STB4			
10	NC			
11	DI			
12	VSF			
13	VH			
14	VH			
15	VH			

# Printheads

## Timing chart



#### Characteristics

Parameter		Typical	Unit
Effective printing width		56.0	mm
Dot pitch		0.125	mm
Total dot number		448	dots
Average resistance value		650	Ω
Applied voltage		24	V
Applied power	Po	0.79	W/dot
Print cycle	SLT	0.5	ms
Pulse width	Τον	0.19	ms
Maximum number of dots energized simultaneously	-	448	dots
Maximum clock frequency	-	16	MHz
Maximum roller diameter	-	φ20.0	mm
Running life / pulse life	-	50/5×107	km/pulses
Operating temperature	-	5 to 45	°C

# Printheads

#### •Electrical characteristic curves

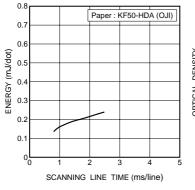
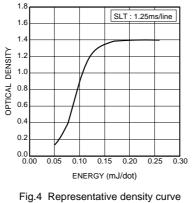


Fig.3 Adaptive speed chart



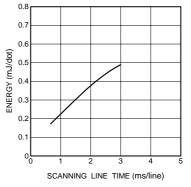


Fig.5 Maximum energy curve

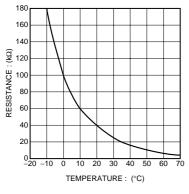


Fig.6 Thermistor curve

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