

# High Speed Thermal Printhead (8dots / mm)

## SE2003-DC90A

High speed, high quality, and high durability are achieved by using step free structure with high performance partial glaze and highly conductive overcoat layer. SE200\*-DC90A series are lined up which can accommodate with all types of barcode labeling printers from Direct to Thermal Transfer, normal to high speed (over 300mm/s).

### ●Applications

Bar code label printers

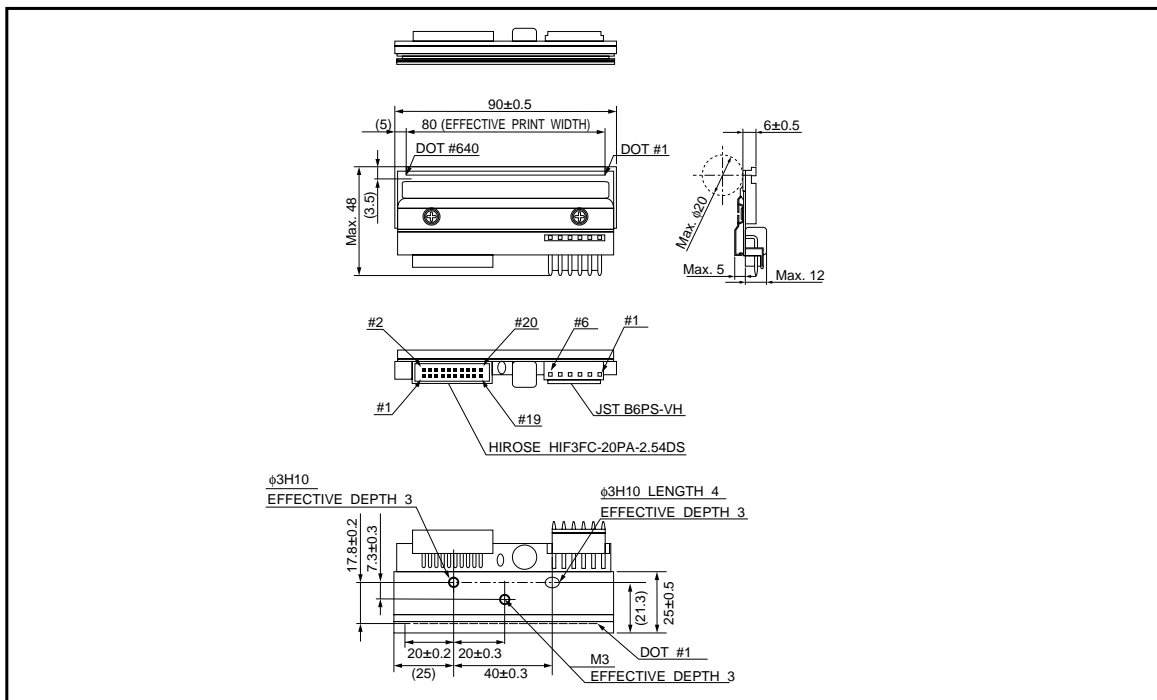
Ticket printers

General purpose compact printers

### ●Features

- 1) ROHM new technology "STEP FREE" structure will provide, high corrosion resistance, better resistance against scratching damage, high efficiency.
- 2) Standard glazed components to accommodate thick paper.
- 3) High speed clock (10MHz) to facilitate external heat history control.
- 4) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.
- 5) Compatible with the SE3003-DC90A 300dpi in mechanical specifications, to facilitate the making of a series of printers.

### ●External dimensions (Unit : mm)



Note: No heat history control function inside the thermal printhead. External heat history control is required for high speed printing.

## Printheads

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### ●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	–	80	mm
Dot pitch	–	0.125	mm
Total dot number	–	640	dots
Average resistance value	Rave	550	$\Omega$
Applied voltage	V <sub>H</sub>	24	V
Applied power	P <sub>o</sub>	0.899	W / dot
Print cycle	SLT	0.42	ms
Maximum number of dots energized simultaneously	–	448	dots
Maximum clock frequency	–	10	MHz
Maximum roller diameter	–	20	mm
Running life / pulse life	–	50 / 10 <sup>8</sup>	km / pulses
Operating temperature	–	5 to 45	°C

### ●Pin configuration

#### HIROSE

No.	Circuit	No.	Circuit
1	V <sub>DD</sub>	2	BEO
3	GND	4	DI2
5	N.C.	6	CLK
7	$\overline{LA}$	8	GND
9	GND	10	DI1
11	N.C.	12	GND
13	V <sub>DD</sub>	14	$\overline{STB2}$
15	$\overline{STB1}$	16	TM
17	TM	18	SENS1
19	SENS2	20	SENS3

#### JST

No.	Circuit
1	VH
2	VH
3	VH
4	GND
5	GND
6	GND

## Printheads

## ●Timing chart

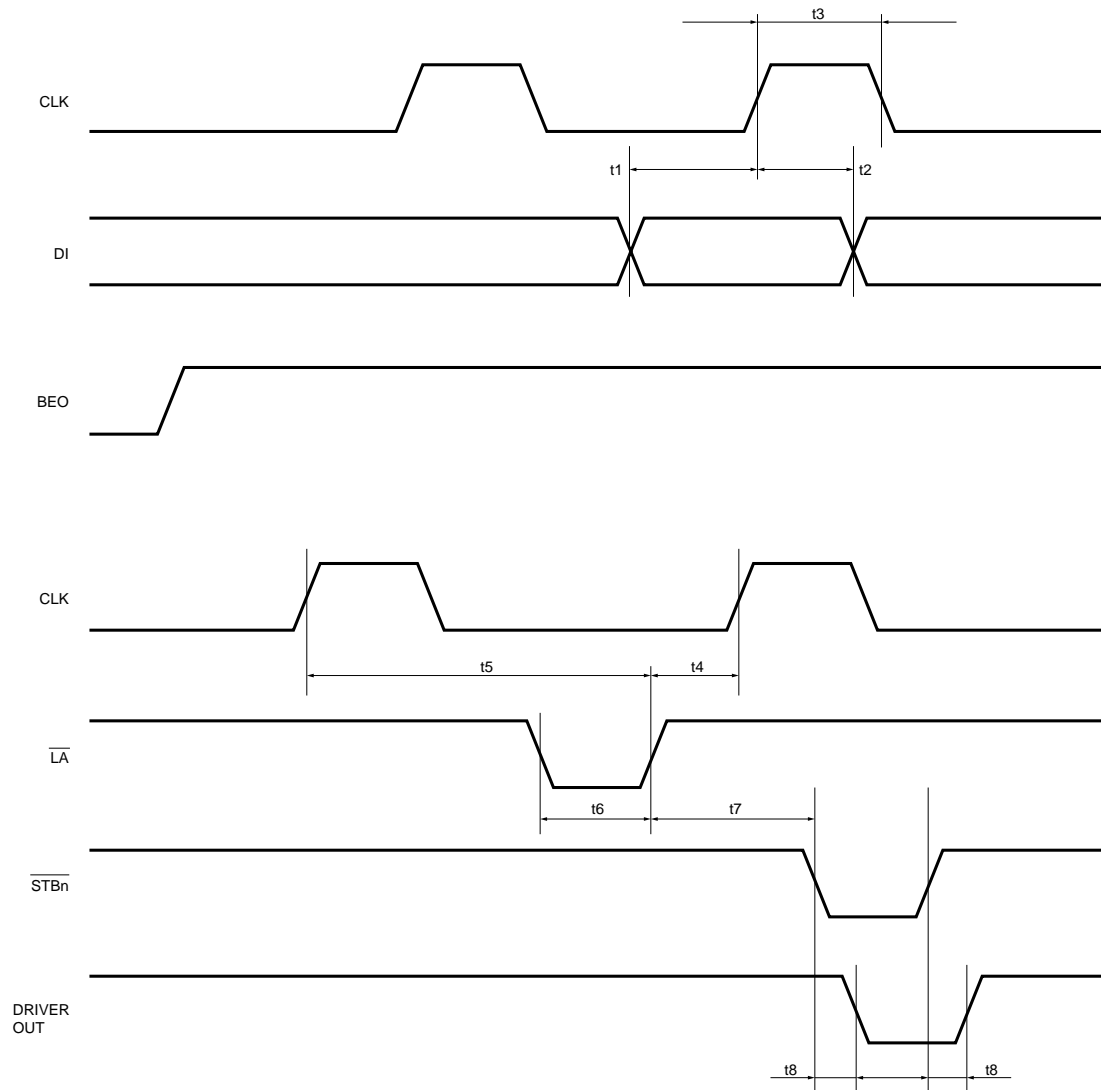
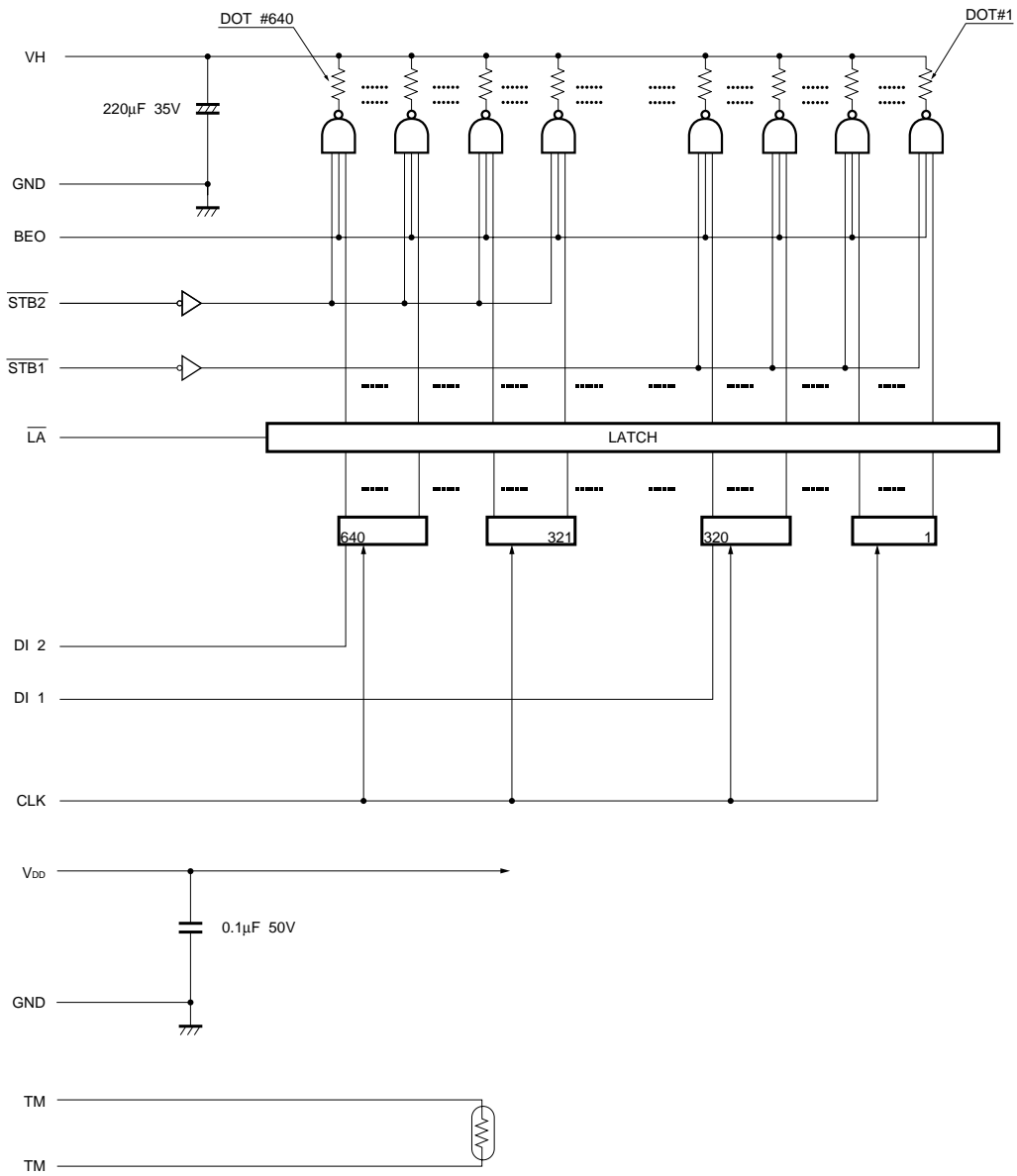


Fig.1

Printheads

●Equivalent circuit



DI No.	DOT No.	$\overline{\text{STB}} \text{ No.}$	DOT No.
DI 2	640 to 321	$\overline{\text{STB}} \text{ 2}$	640 to 321
DI 1	320 to 1	$\overline{\text{STB}} \text{ 1}$	320 to 1

Fig. 2

Printheads

●Electrical characteristics curves

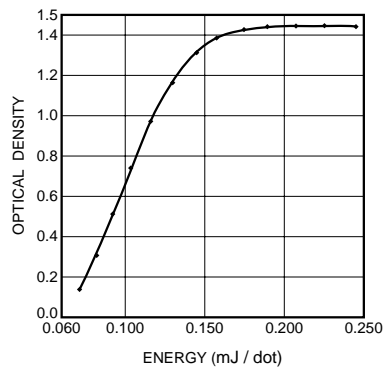


Fig. 3 Representative density curve

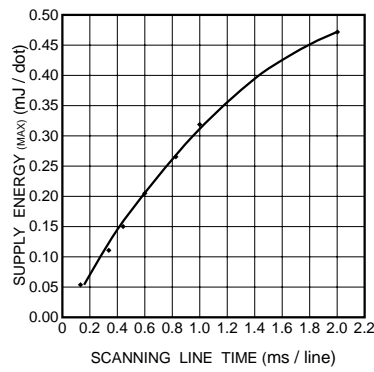


Fig. 4 Maximum energy curve

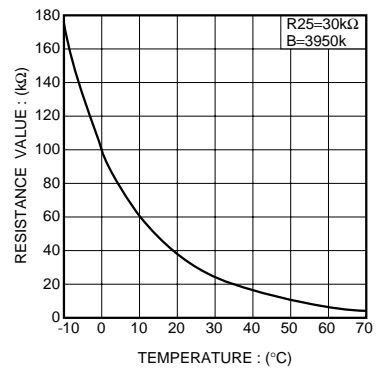


Fig. 5 Thermistor curve

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