Thermal Print head TPH 14014.00

Four inch Thermal Printhead, 832 dots, 8 dots/mm, serial input

The following parameters are valid for a thermal print head, that means for a ceramic hybrid, mounted on an appropriate cooling plate to guarantee a good thermal contact and to transport the unnecessary heat away from the head.
The mechanical design of the cooling plate, the pin out as well as the operating conditions can be defined together with the customer or modified to satisfy his needs.
Major changes to standard heads or new designs to fit into new applications are welcome to be discussed with the developing engineers of the OECA.
For more detailed information please refer to the complete specification.

Main features

- Number of Heat Elements: 832 dots
- Heat element pitch: 0.125 mm (8 dots/mm)
- Print width: 104 mm
- Average Resistor Value: 800 Ω
- serial interface 4 MHz
- printing speed 100 mm/s
- Controlled current ramping transient and EMI reduction

General characteristics

Characteristics	Value	Unit	Note
Print Width	104.00	mm	(4,0 inch)
Number of Dots	832	dots	
Dot Pitch	0.125	mm	
Dot Density	8	dots/mm	
Dot Resistance	680 - 920	Ω	Typical mean value is 800 Ω
Dot Dimension	0.125 X 0.125	mm	
Dot Resistance Variation	+/- 10	%	Max. variation within head

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Maximum ratings

Voltage referenced to V_{ss} terminal. All heating element (dot) ratings are valid only with paper in contact with the heating element.

Symbol	Parameter	min.	max.	Unit
V_{DD}	DC Logic Supply Voltage Range	-0.5	6	V dc
V_{BR}	IC Breakdown Voltage		35	V dc
V_I	Input Voltage Range, All Inputs	-0.5	VDD+0.5	V dc
I_I	DC Input Current, Any One Input		±10	mA dc
v_{dot}	DC Driver Supply Voltage		26.4	V dc
P_{dot}	Dot Power (R_{dot} 800 Ω)		0.9	W/dot
E_{dot}	Dot Energy (T_{ON} = 0.3 ms)		0.26	mJ/dot
dc	Duty cycle (ratio t_{ON} / t_{cycle})		28	%
$N_{dot\ max}$	Number of burning dots at the same time		448	

Electrical operating conditions

Operating conditions at T_{AMB}=+25°C. For maximum reliability, operating conditions should be selected within the following ranges.

Symbol	Parameter	Conditions	min	max.	Unit
V_{DD}	Logic Supply Voltage Range	-	4.75	5.25	V
V_{dot}	DC Driver Transistor Supply Voltage	-	21.6	26.4	V
f_{Clk}	Maximum Input Clock Frequency	4.75-5.25V	-	4.0	MHz
T_{sub}	Substrate Operating Temperature	4.75-5.25V	-10	+65	°C

Expected lifetime

When operating according to specified printing conditions the expected lifetime for OECA-Standard Thermal print heads, manufactured all with the same technology and with the same base material, is as follows:

Parameter	Value	Unit	Note
Strobe pulses	50 x 10^6		
Mechanical wear	50	km	RICOH 130 LAB Or other OECA approved papers

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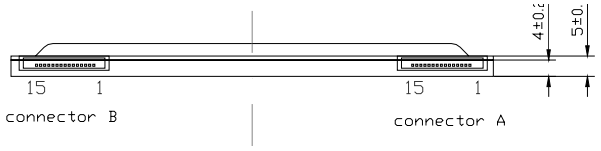
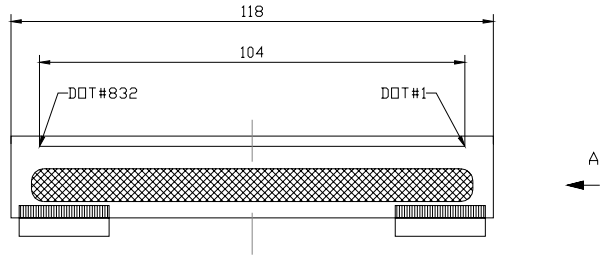
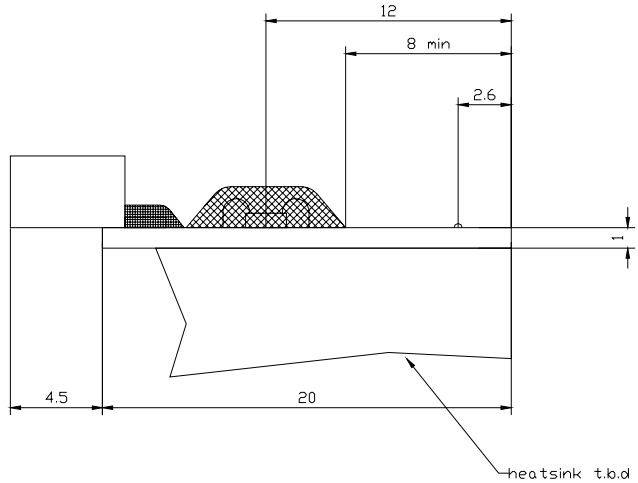
Mechanical outline





PRELIMINARY

VIEW A
M5:1



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