

Thermal Print head **TPH 15238.xx**

86mm Thermal Print Head, 1024 dots, 11.81 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: 1024 dots
- Heat element pitch: 0.0847 mm (11.81 dots/mm)
- Print width: 86.73 mm
- Average Resistor Value: 1250 Ω
- serial interface: 6 MHz
- printing speed: up to 100 mm/s
- Controlled current ramping: transient and EMI reduction
- anti abrasion coating: TPH 15238.x1
- ESD protection: TPH 15238.x1

General characteristics

| Characteristics | Value | Unit | Note |
|--------------------------|--------|----------|----------------------------|
| Print Width | 86.73 | mm | |
| Number of Dots | 1024 | dots | |
| Dot Pitch | 0.0847 | mm | |
| Dot Density | 11.81 | dots/mm | |
| Dot Resistance | 1250 | Ω | Typical mean value |
| Dot Resistance Variation | 5 | % | Max. variation within head |

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 | -0.3 | 6 | V dc |
| V_R | IC Breakdown Voltage Range | | 30 | V dc |
| V_{IN} | Input Voltage Range, All Inputs | -0.3 | VDD+0.3 | V dc |
| I_{IN} | DC Input Current, Any One Input | | ±10 | mA dc |
| V_{dot} | DC Driver Transistor Supply Voltage | 0 | 26.4 | V dc |
| P_{dotMAX} | Dot Power (1250 Ω) | | 0.56 | W/Dot |
| E_{dotMAX} | Dot Energy | | 0.22 | mJ/Dot |
| DC | Duty Cycle (ratio t_{ON} / t_{CYCLE}) | | 40 | % |
| N_{dotMAX} | Number of burning dots at same time per chip | | 512 | |
| T_{sub} | Substrate Operating Temperature | | +65 | °C |

Electrical operating conditions

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

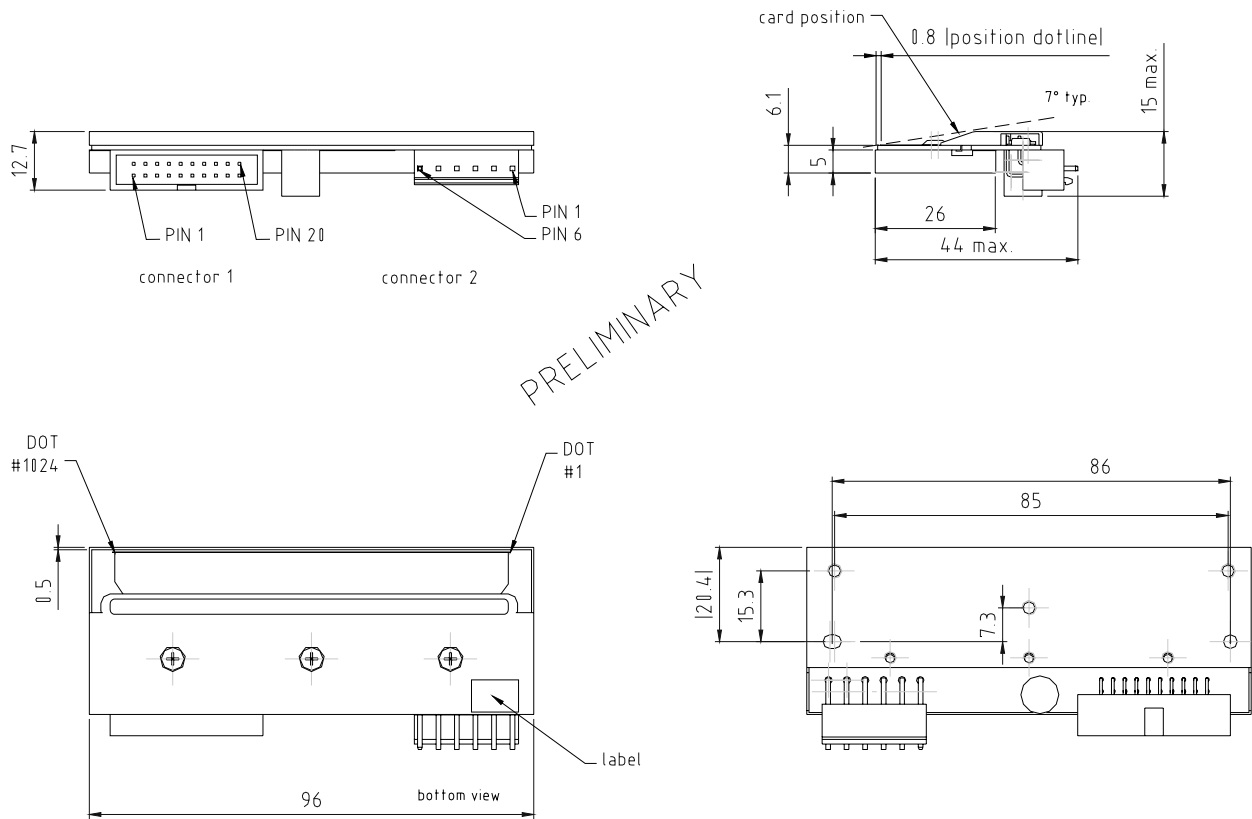
| Symbol | Parameter | Conditions | min | max. | Unit |
|-----------|-------------------------------------|------------|------|------|------|
| V_{DD} | Logic Supply Voltage Range | - | 4.75 | 5.25 | V |
| V_{dot} | DC Driver Transistor Supply Voltage | - | 21.6 | 26.4 | V |
| f_{CLK} | Maximum Input Clock Frequency | 4.75-5.25V | - | 6.0 | MHz |

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 | Condition | Note |
|---------------|-----------------|------|-----------|------|
| Strobe pulses | 2×10^8 | | | |

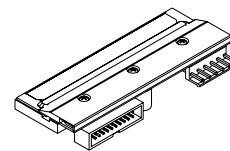
Mechanical outline



PRELIMINARY

Connectors 1: T&B 636-2007
Connector 2: JST B6PS-VH

tolerances acc. to DIN ISO 2768mH
all dimensions in mm



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