Thermal Print head TPH 12384.xx

Two inch Thermal Printhead, 384 dots, 7.52 dots/mm

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: 384 dots
- Heat element pitch: 0.133 mm (7.52 dots/mm)
- Print width: 51.07 mm
- Average Resistor Value: 750 Ω
- serial interface 4 MHz
- printing speed 100 mm/s
- High power efficiency
- Advanced selectable power control for increased lifetime
- Supplied with heat sink and connector for simple installation
- Controlled current ramping on databus and high current dot supply for transient and EMI-reduction

General characteristics

Characteristics	Value	Unit	Note
Print Width	51.07	mm	
Number of Dots	384	dots	
Dot Pitch	0.133	mm	
Dot Density	7.52	dots/mm	
Dot Dimension	0.133 X	mm	
Dot Resistance (mean value)	638 - 862	Ω	Typical mean value is 750 Ω
Dot Resistance Variation	+/- 15	%	Max. variation within head

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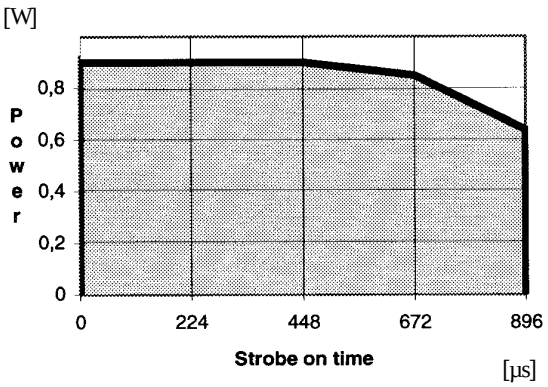
Maximum ratings

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

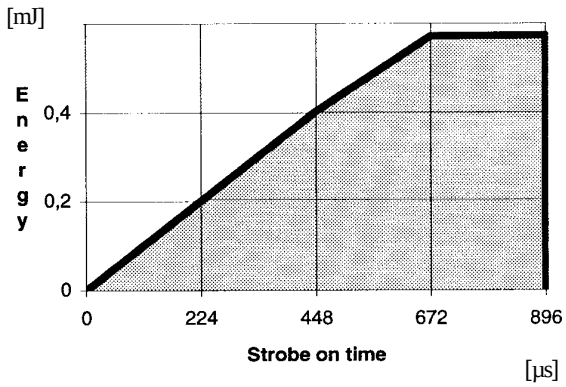
Symbol	Parameter	min.	max.	Unit
V_{DD}	DC Logic Supply Voltage Range	-0.5	6	V dc
V_{dot}	DC Driver Transistor Supply Voltage	0	35	V dc
V_{DRV}	DC Driver Control Supply Voltage	-0.5	35	V dc
V_I	Input Voltage Range, All Inputs	-0.5	V_{DD}+0.5	V dc
I_I	DC Input Current, Any One Input		±10	mA dc
E_{dot}	Dot Energy	See below		mJ/dot
P_{dot}	Dot Power	See below		W/dot
T_{stg}	Storage Temperature Range	- 20	+85	°C
T_{AMB}	Ambient Temperature,Operating	- 10	+55	°C
	Environment Humidity	10	90	% RH

The maximum dot power and energy graphs are valid at StrobeCycleTime = 1312 µs = 100 mm/s and substrate temperature < 30°C. Historical control, Adjacent control and Pulse Width Modulation are off.

Maximum dot power



Maximum dot energy



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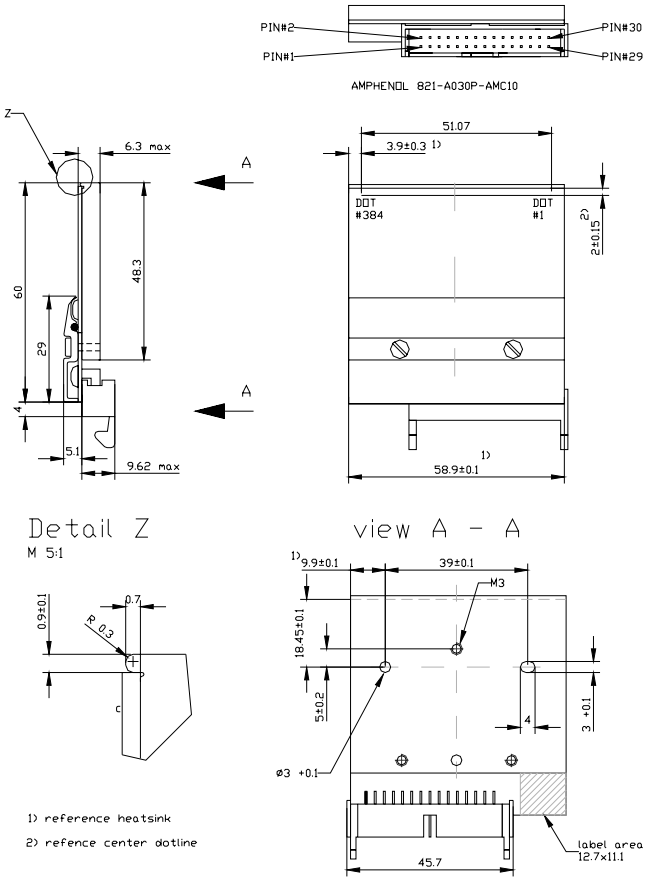
Electrical operating conditions

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	-	20.12	23.22	V
V_{DRV}	DC Driver Control Supply Voltage		22.0	26.0	V
f_{clk}	Maximum Input Clock Frequency	4.75-5.25	-	4.0	MHz
T_{sub}	Substrate Operating Temperature	4.75-5.25	-10	+85	°C

Mechanical outline

TPH 12384.40



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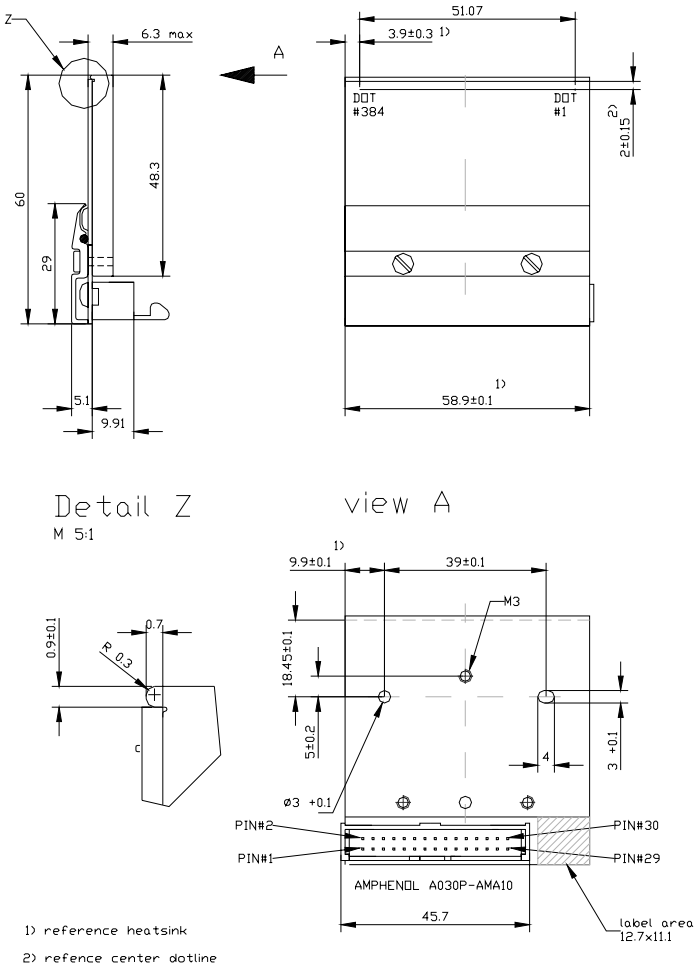
TPH 12384.60



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