

# Mars Heatsink Kits

## Selection and Mounting Guide

### Purpose

The purpose of this document is to provide information on the Mars heatsink kits: Package content, options, dimensions, module compatibility, gap pad selection and mounting guide information.

Product Information	Code	Name
Product	HS-ZX-SET / HS-XU3-SET	Mars Heatsink Kit Sets

Document Information	Reference	Version	Date	Author
Reference / Version / Date / Author	D-0000-204-002	01	20.06.2022	TKAU

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## Document History

Version	Date	Author	Comment
01	20.06.2022	TKAU	Initial release

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# 1 Introduction

The Mars heatsink is an optimal cooling solution for Mars FPGA and SoC modules – it is low-profile and covers the whole module surface.

The Mars heatsink is provided as part of a heatsink accessory package including:

- Heatsink body
- Mounting material
- Gap pad set

There are two types of Mars heatsink kits available:

- HS-ZX-SET-R2 (EN104034)
  - For Mars ZX2, Mars ZX3, Mars AX3, Mars MX1, Mars MX2, Mars MA3
  - Heatsink ZX (EN104301), gap pads and mounting material included
  - The optional fan set ACC-FAN-KIT-25X25-5V can be used if additional cooling is required
- HS-XU3-SET-R2 (EN104031)
  - For Mars XU3
  - Heatsink XU3 (EN104302), gap pad and mounting material included
  - It is recommended to use the fan set ACC-FAN-KIT-25X25-5V together with this heatsink. The fan set can be purchased separately

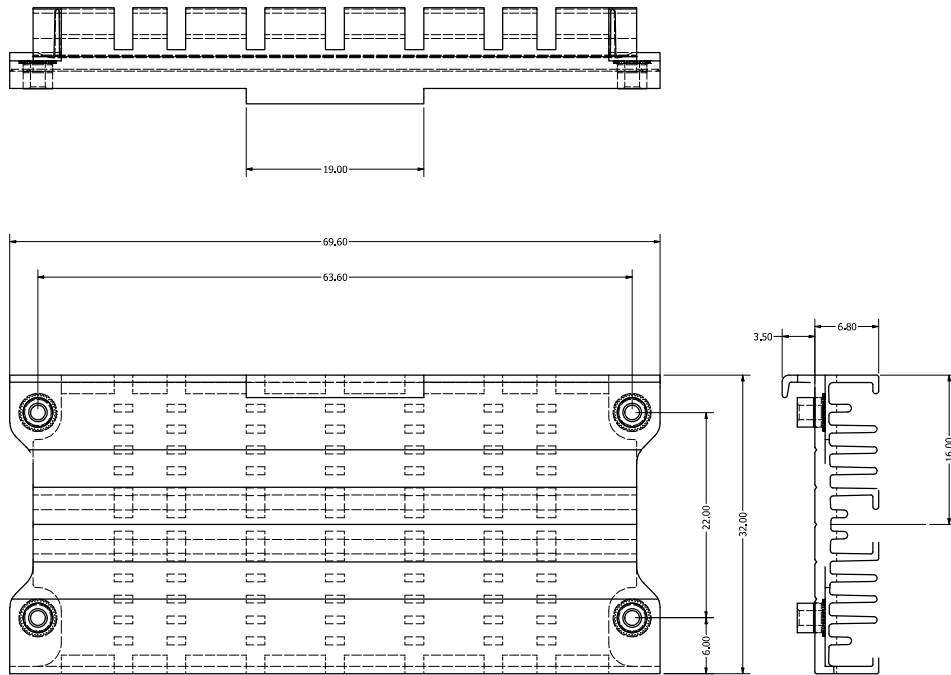
The following sections provide for each Mars heatsink type information on:

- heatsink dimensions
- compatible modules and selection of suitable gap pads from the provided options

The final sections of this document include information on the characteristics of the optionally available fan and on how to mount the heatsink, gap pad and fan to the module.

# 2 Mars Heatsink ZX (EN104301)

## 2.1 Dimensions



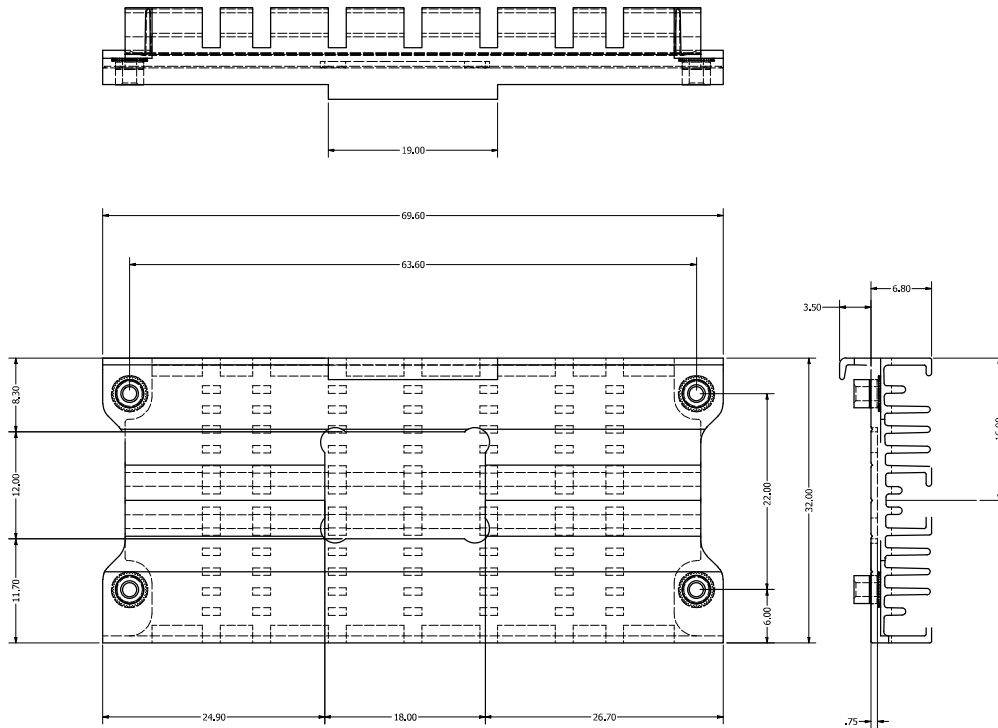
All dimensions are in mm.

## 2.2 Module Compatibility and Gap Pad Selection

Module	Gap Pad Designator
Mars ZX2	18 x 18 x 0.6 mm (EN102061)
Mars ZX3	18 x 18 x 0.6 mm (EN102061)
Mars AX3	18 x 18 x 0.6 mm (EN102061)
Mars MA3	23 x 23 x 0.3 mm (EN102063)

# 3 Mars Heatsink XU3 (EN104302)

## 3.1 Dimensions



All dimensions are in mm.

## 3.2 Module Compatibility and Gap Pad Selection


Module	Gap Pad Designator
Mars XU3	17.5 x 11.5 x 0.3 mm (EN102062)

# 4 Fan Characteristics

## 4.1 Size and Details

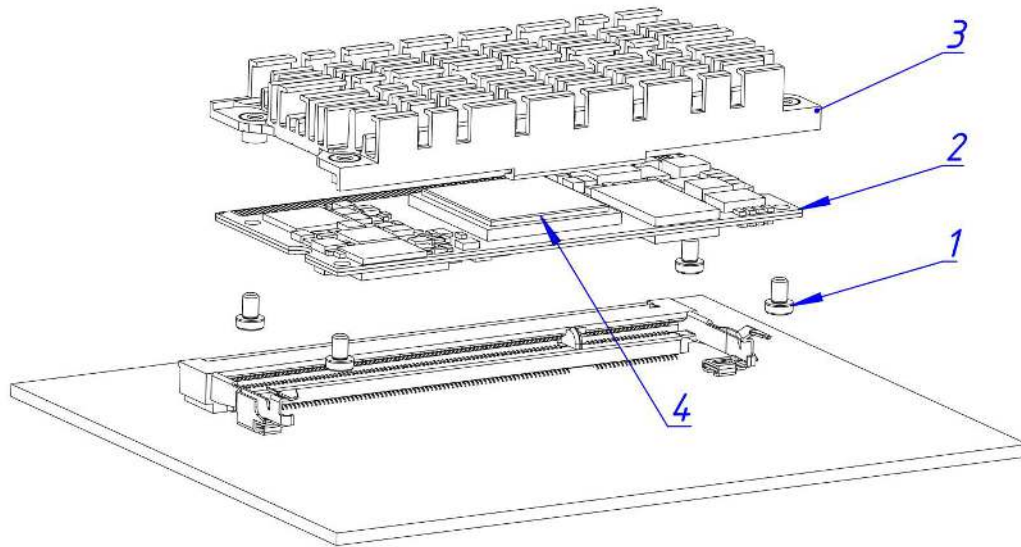
Size/Details	
Fan Type	Runda RS2510B05M
Size	25 x 25 x 10 mm
Mounting holes	4 x Ø2.7 mm, 20 mm distance between holes
Material	Thermoplastic PBT UL94-V0
Voltage	Nominal 5VDC (4-6VDC)
Bearing System	Two Ball Bearings
Certification	CE, UL Class A, ROHS ((EU)2017/2102)
Cable Length	100 mm +/- 10 mm
Current	0.19 A
Power	0.95 W
Speed	8000 RPM
Airflow	0.04 m <sup>3</sup> /min
Noise	19.6 dBA

## 4.2 Connector Type and Pin Assignment

Connector Type and Pin Assignment		
Connector	TE Connectivity 440129-2 2 position, 2mm pitch (or compatible)	
Pin assignment	Pin 1 (red): 5V Power Pin 2 (black): GND	

# 5 Mounting Guide

## 5.1 Fixing the Heatsink to Module Only

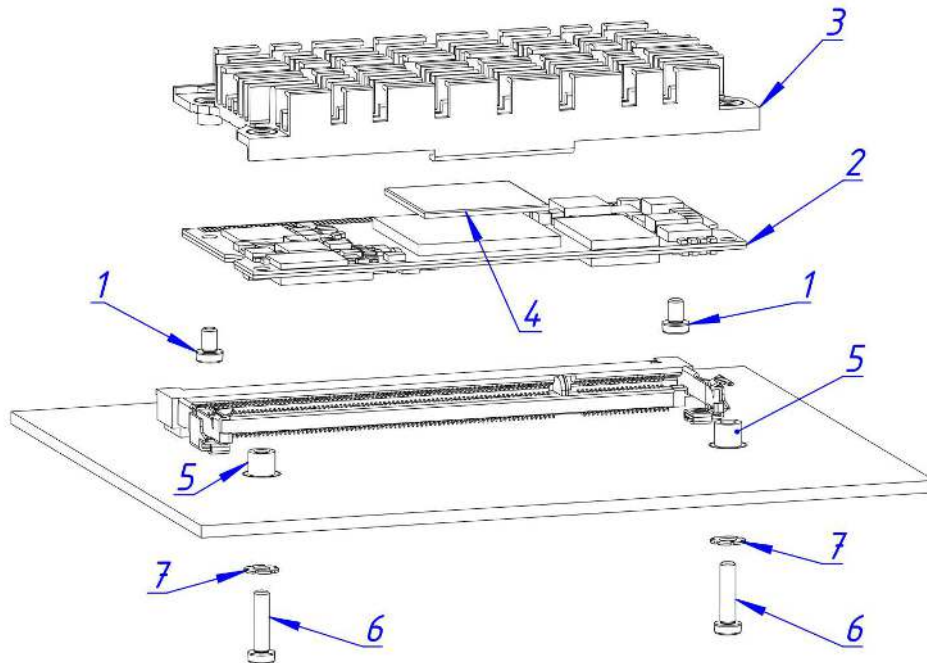


### Parts description

Number	Quantity	Description
1	4	Screw M2 x 4 mm
2	1	Mars Module
3	1	Heatsink
4	1	Gap pad



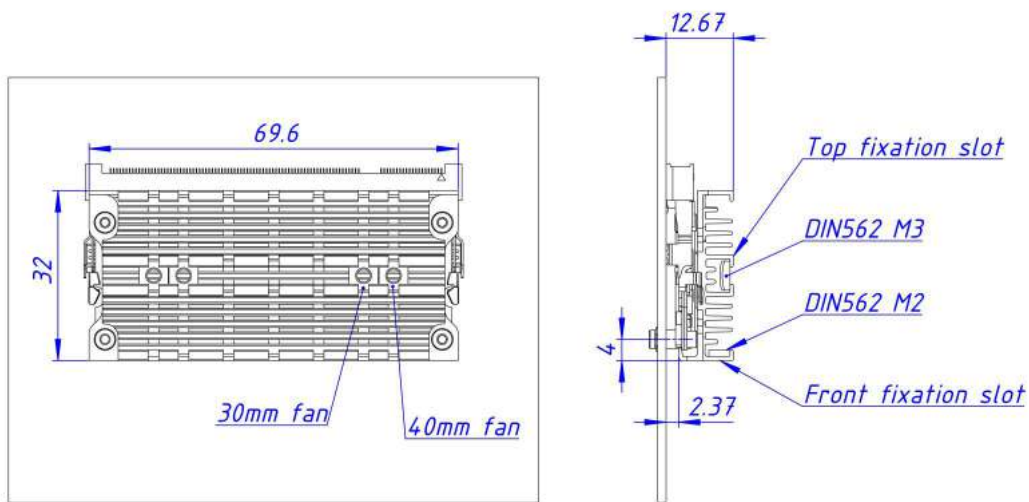
## 5.2 Fixing the Heatsink to Module and Baseboard



### Parts description

Number	Quantity	Description
1	2	Screw M2 x 4 mm
2	1	Mars Module
3	1	Heatsink
4	1	Gap pad
5	2	Spacer
6	2	Screw M2 x 8 mm
7	2	Lock washer M2

## 5.3 Fixing the Fan to the Heatsink



A fan or other accessories can be attached to the heat sink.

To this end, the top fixation slot in combination with M3 or M2.5 square thin nuts (DIN562) or the front and back fixation slots in combination with M2 square thin nuts can be used.

The optionally available Enclustra fan set ACC-FAN-KIT-25X25-5V is equipped with the 25x25cm fan described in section 4. Two M2.5 screws and square nuts are included in the kit. Note that in an earlier revision of the fan set, a different fan and hex nuts were delivered, which resulted in a more difficult mounting procedure.

The fan is preferably mounted diagonally over the top fixation slot, such that the airflow points towards the heatsink. The mounted fan can be seen in the image below.

