



kontron

Application Note

Related Products	All ETX boards
Subject	Important Guidelines for Using Heatspreaders
Document Name	HeatspreaderGuideline_E111.doc
Usage	Common
Revision	1.1

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2. Introduction

This document is designed to give the customer a better understanding of what needs to be considered when using Kontron® heatspreaders and ETX modules. Below you will find important guidelines that must be followed to ensure that the heatspreader is properly mounted.

Note: Refer to your ETX modules 'User's Guide' for the exact dimensions of the heatspreader, cooling requirements and operating temperature limits.

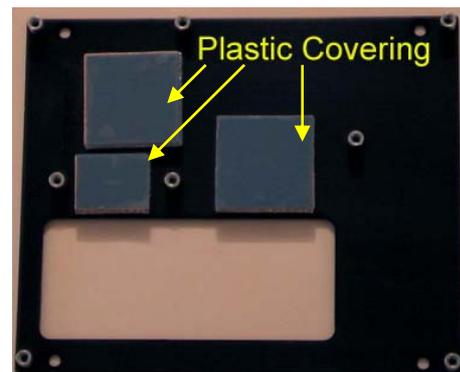
3. Guidelines for Using Heatspreaders

1. Once the heatspreader has been removed from the packaging (figure 1) you will notice that there is a protective plastic covering (figure 2) on the thermal pads. This must be removed before the heatspreader can be mounted. In some cases you may experience problems when you try to peel off the protective plastic covering too slowly. This may result in some of the thermal glue sticking to the protective plastic covering; therefore it must be removed in a specific manner. Using your thumb, hold the thermal pad in one corner and use the pointer finger of the other hand to quickly remove the plastic covering. Click [here](#) to view how to perform this procedure.

Figure 1



Figure 2



Note: Not all heatspreaders look exactly like the ones pictured in figures 1,2,3, and 4

2. After the protective plastic covering has been removed from the thermal pads the heatspreader can be mounted onto the ETX module. Each heatspreader is designed for a specific ETX module. If you have the correct heatspreader for your ETX module then the thermal pads on the heatspreader are designed to make contact with the necessary components on the ETX module.

When mounting the heatspreader you must make sure that the thermal pads on the heatspreader make complete contact (no space between thermal pad and component) with the corresponding components on the ETX module. This is especially critical for ETX modules that have higher CPU speeds (for example 1.0GHz or more) to ensure that the heatspreader acts as a proper thermal interface for cooling solutions.

Note: The heatspreader is not a heatsink. It is designed to act as a thermal interface between the ETX module and the cooling solution (customer specific) that is being used.

3. Each heatspreader has at least 'four posts' (figure 3). These posts can be either threaded or non-threaded. The 'four posts' are used to mount the heatspreader and ETX module assembly to the baseboard using screws that are at least 10mm long.

Most Kontron® heatspreaders have more than the ‘four posts’. These ‘additional posts’ (figure 4) are threaded and are used to secure the heatspreader to the ETX module. If you have a heatspreader that has these ‘additional posts’ you must first use these posts to secure the heatspreader to the ETX module before using the other ‘four posts’ to secure the heatspreader and ETX module assembly to the baseboard. The screws used for the ‘additional posts’ are shorter (6mm) than the ones used for the ‘four posts’ (at least 10mm). If you are using the Kontron® Universal ETX Mounting KIT (18017-0000-00-0) you may find that you do not need all the shorter (6mm) screws that come in the KIT. This will depend on how many “additional posts” there are on your particular heatspreader.

Figure 3 Four Posts

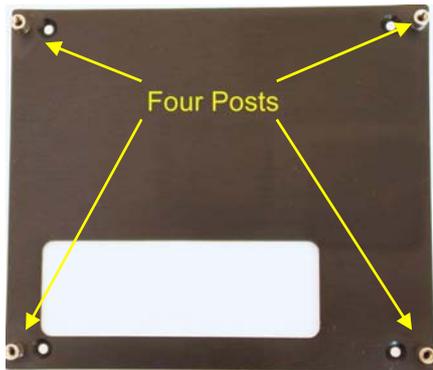
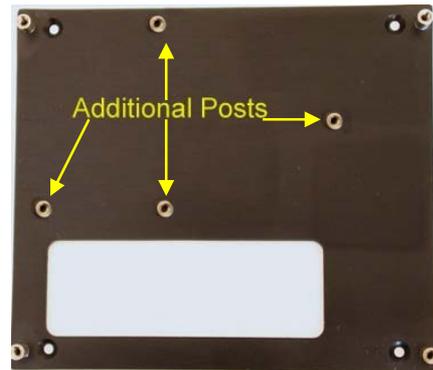


Figure 4 Additional Posts



Note: Not all heatspreaders with ‘additional posts’ look exactly like the one pictured in figure 4. Some heatspreaders may not have as many ‘additional posts’.

4. Additional Information

For more information about mounting heatspreaders and ETX modules please visit the ‘Tech Support’ section of Kontron Embedded Modules GmbH web site at www.kontron.com and download the document “Mechanical Mounting Possibilities for ETX Modules”.

Important Notice:

Kontron Embedded Modules GmbH cannot be held responsible for damage caused by not following the guidelines in this document when using heatspreaders with ETX modules.

5. Revision History

Date	Document Name	Subjects added, changed, deleted	Changed by
25.09.2003	HeatspreaderGuideline_E110.doc	Initial release	GDA and WEM
10.10.2006	HeatspreaderGuideline_E111.doc	Update to new corporate design, removed movie, removed german version of document	STO