

Hitex Technology Spotlight

A tale of two heatsinks

A Tale of Two Heatsinks

By Paul Roberts.

When it comes to Heatsinks on embedded Modules they differ from the standard Heatsink that you might find in your desktop PC and not always for the reasons you might expect, this article explains why..

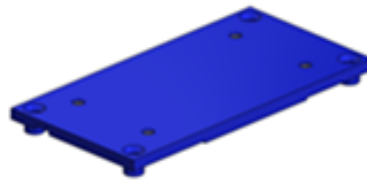
Open up your modern desktop PC and you will probably see something resembling this :-



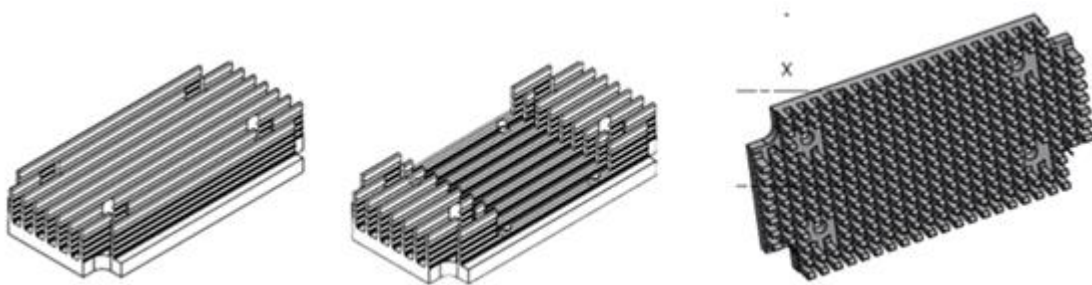
Immediately there are obvious reasons why you would not use this on an embedded system. Size is one and then there is the fact that a lot of embedded systems require passive cooling, although not always the case as I will explain later.

If you look at the offerings that come with some of our embedded modules you will notice immediately that we offer a split option. We tend to call these a Heatspreader and a Heatsink to differentiate them.

The Heatspreader connects to the components on the module and finishes with a flat surface where as the Heatsink connects with the Heatspreader's flat surface and ends with a fin finish or perhaps a fan and fin finish.



Heatspreader



Heatsink options



Heatspreader, Heatsink and Fan Combined

While this may seem like an over engineered way of doing this, let me explain why this means that there is less engineering effort for you and more choice on delivering a “faster to market” solution.

If we go back to the desktop PC example, that is developed for one specific purpose and normally results in the heat being dispersed around a large enclosure and perhaps vented out through a secondary fan.

The embedded module can be used in many different applications using different amounts of power and the cooling requirements are determined by the end use. The hardest part of

designing a Heatsink are determining which components to connect to and fixing it to the module or baseboard. These may result in complicated contours to accommodate components of different heights. So, by splitting it in two we do the hard part and expose the flat surface for you to meet your application specific requirements. These could be a Heatsink with various size fins to fit around components within the system, a Heatsink and fan combination as mentioned earlier or even fixing to the enclosure to transfer the heat to the outside for greater cooling.

Summary

This is a general article relating to a range of our solutions. Not all of our modules require it, and we provide appropriate solutions as required. Some of our modules require no heatsink at all. Please contact us to discuss your requirements.

For more information visit our website: www.hitex.co.uk or get in touch: info@hitex.co.uk. You can also connect with us: [LinkedIn](#)