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## Press Release

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### **10 Gb Patent Pending Transformers With Internal Shielding for EMI Reduction**

Application Note 23-293, Reduce EMI with High Speed 10Gb

**Los Angeles, California, August 17, 2008 – Xmultiple releases patent pending products to reduce EMI for 10Gb Ethernet Transformers.**

Ethernet is now running at 10 Gb rates, making it a viable option for high-speed interprocessor and I/O communications. The main problem with 10Gb designs are EMI considerations. Now there is a solution to the 10Gb EMI for products with the Xmultiple XTFZ internally shielded transformers. Before the XTFZ transformers the metal shielding use with 10Gb products was external to the transformer component chip. The Xmultiple 10Gb XTFZ integrates the metal shielding inside the component itself so the metal shielding is contained inside the housing of component. Other elements of the component such as coils and contact pads and pins are also inside the component chip and the metal shielding is position inside to shield the coils in a manner to completely reduce the electromagnetic interference.

To help ensure a successful system implementation of 10Gb, designers should consider the XTFZ architecture. 10 Gigabit Ethernet (10 GbE) technology, which is still relatively new in the server space, is now emerging and EMI is the main concern. Xmultiple provides the solution.

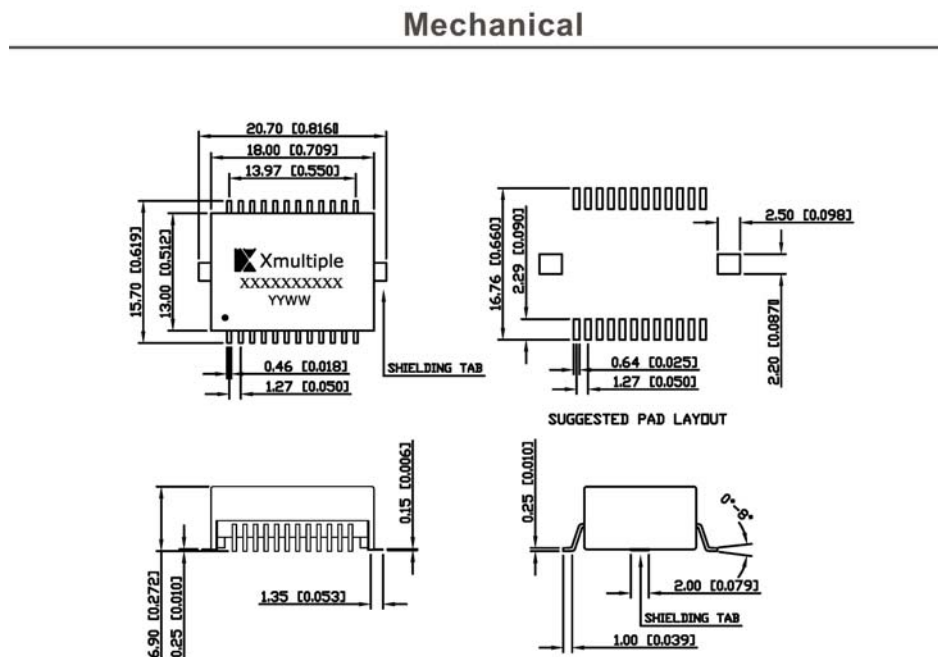
Xmultiple provides a faster EMI solution to get your products to

market. Designer simply seeking a really fast subsystem interconnect now gets a leading edge 10 Gigabit transformer with integrated shielding.

When it comes to successfully implementing 10 GbE as a fat pipe in high-performance, real-time embedded systems, there are several key considerations:

- One, UDP is often the appropriate choice of protocol.
- Two, protocol acceleration/offload is typically required.
- Three, when being employed to transfer data to or from an I/O module, an architecture that permits direct data streaming between the I/O module and 10 GbE is required.
- EMI considerations

Figure 1 is a mechanical graphics of the Xmultiple 10Gb Ethernet transformer with the shielding integrated and the shielding tabs.



**Figure 1**

## **EMI Reduction**

EMI is short for Electro-magnetic Interference and is defined as a naturally occurring phenomenon when the electro-magnetic field of one device disrupts, impedes, or degrades the electro-magnetic field of another device by coming into proximity with it. EMI can cause two or more electronic devices to interfere with each other and affect their performance and operation. The XTFZ integrates the metal shield inside the housing material of the component versus the current way electronic manufactures place shield on the outside the component to cover the component and shield the electromagnetic emissions. By placing the metal shielding inside the component housing itself the XTFZ is improving the shielding at the exact point of where the electromagnetic interference occurs. The XTFZ shields the transformer coils at the most critical point which is exactly where the common mode chokes are located.

## **A practical 10 GbE implementation**

Ethernet has now reaching the level of performance required by many high-performance embedded real-time applications. EMI is however always a critical issue with 10Gb designs. The Xmultiple XTFZ is the best transformer architecture and shielding solution for 10Gb EMI reduction.

For More Information Contact:

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