AN1000
APPLICATION NOTE

TIMEKEEPER and ZEROPOWER Controller Surface Mount Solution

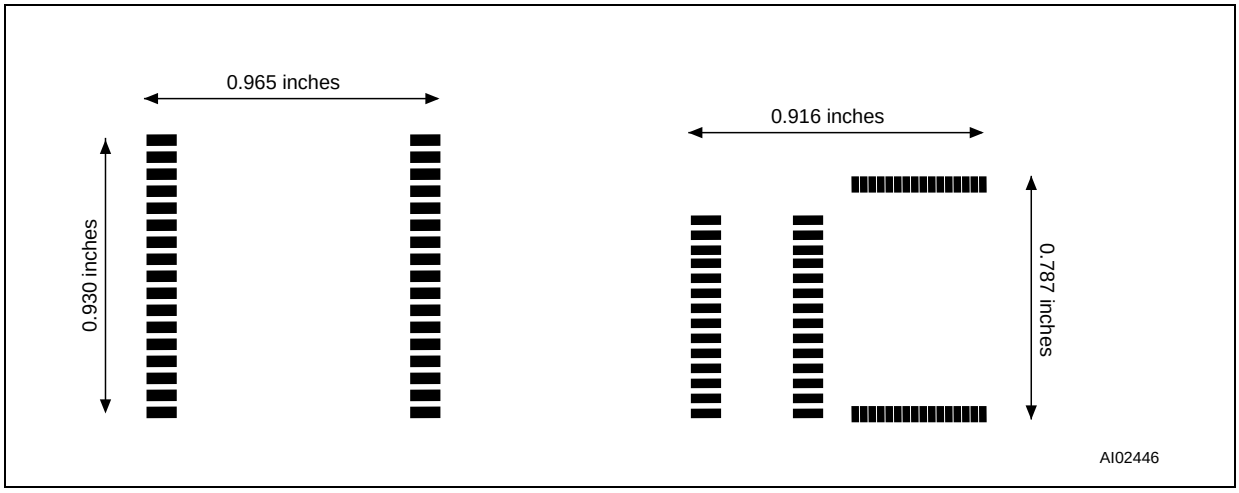
ST's ZEROPOWER® controllers (such as the M40Z300) and the TIMEKEEPER® controllers (such as the M48T201Y/V) offer all the advantages of using surface mount technology, and are well suited to automatic assembly-line assembly.

Designed to be highly modular, they interface directly with commodity SRAM, and use a commercially available cell for the internal battery (which is easily replaceable).

Overall, therefore, these devices are designed for lower system costs, when compared to designs using competitors' products.

Moreover, even though the ST products might need to be supported by an external SRAM chip, the footprint of the two chips together is still 80% of that of the competitors' single chip solutions. Figure 1 compares the footprint of a competitor's chip (not unlike Dallas Semiconductor Inc.'s hybrid surface mount PowerCap module) with an ST device connected to a 1 Mbit (128K x 8) low power SRAM chip (perhaps from Hitachi, Sony or Samsung). The former solution might have a footprint of 0.965 by 0.930 inches (0.898 square inches), while the latter leads to a combined footprint of 0.916 by 0.787 inches (0.721 square inches).

Figure 1. Footprint Comparison



If you have any questions or suggestions concerning the matters raised in this document, please send them to one of the following electronic mail addresses:

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Please remember to include your name, company, location, telephone number and fax number.