New Chip Scale Packaging for Small, Lightweight Designs

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Xilinx has just introduced two new chip scale packages for the new XC9500XL family: A 48-pin version for the XC9536XL and a 144-pin version for the XC95144XL. The 12x12 millimeter package for the XC95144XL features 117 I/Os and has a seven times smaller footprint than the 160-pin plastic quad flat pack device (see **Figure 1**). In addition, the 48-pin CSP package for the 3.3V XC9536XL gives you access to 36 I/Os while the XC9572XL has 38 I/Os available.

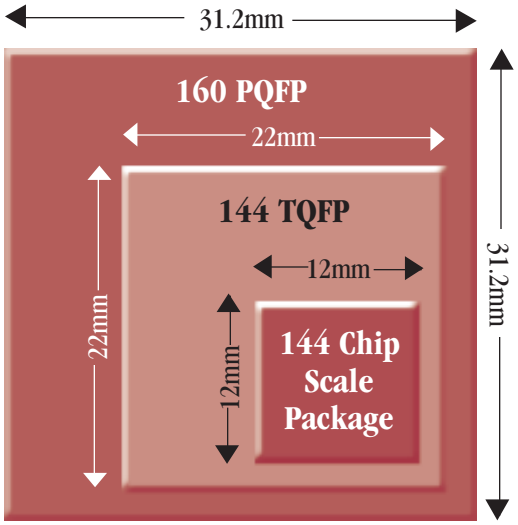

Figure 1: Package Size Comparison

According to Electronic Trend Publications in San Jose, the use of CSP packages is expected to grow by 108% per year over the next few years, reaching more than 6.1 billion units shipped worldwide by 2002. This dramatic growth is occurring because CSP packages bring you the benefits of:

- An extremely small form factor for such applications as PCMCIA cards, portable and wireless designs, and PC add-in cards.
- Lower inductance and lower capacitance
- The absence of the thin, fragile leads found on other packages
- A very thin, very light weight package
- You can take advantage of existing circuit board lithography and assembly equipment. (Board-level assemblers, like Solectron, have already qualified CSPs.)

Xilinx also has a simple board layout solution (see **Figure 2**) for the 48-lead package that uses widely available 5-mil board traces without resorting to more expensive fine line printed circuit board technologies that require features like buried and micro vias. This gives you all the advantages of the smaller CSP footprint without the added expense of fine-line lithography boards.

Conclusion

Xilinx continues to be an innovator in leading-edge, easy-to-use package technology. These two new chip scale packages are another milestone in our continuing efforts to make programmable logic even more flexible and accessible to you.

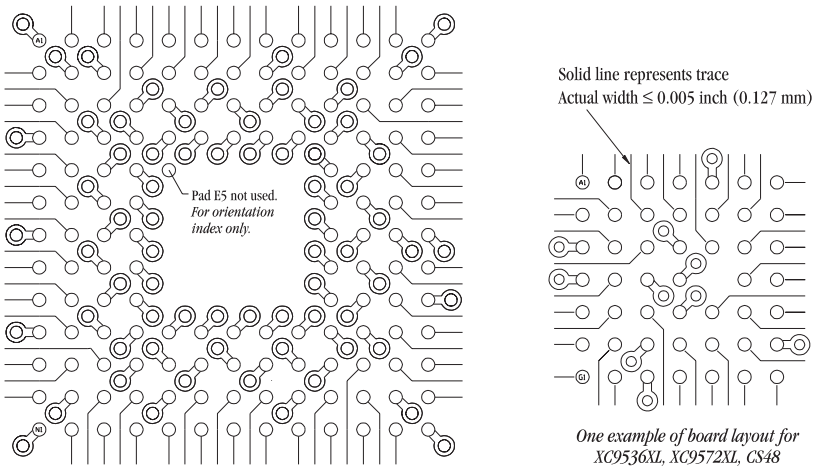

Figure 2: Two Sample Board Layouts

Notes: Solder land diameter 0.013 inch (0.33 mm) NSMD (non-solder mask defined), via land diameter 0.020 inch (0.5 mm) and via hole diameter 0.012 inch (0.3 mm) are recommended.