Recommended Land Pattern for SST TSOP Devices

Application Note
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INTRODUCTION

SST offers an 8mm x 14mm TSOP package for our bulk erase, Byte-Program SuperFlash MTP products and the Sector-Erase, Byte-Program MPF products. The 8mm x 14mm package provides a substantial reduction in the amount of board space used over conventional 8mm x 20mm TSOP packages.

This Application Note will describe the advantages of the 8mm x 14mm TSOP package for board layout and provides information to make conversion to the 8mm x 14mm TSOP package or use of either package easier.

Advantages

Designing a board to use the 8mm x 14mm package provides a 30% reduction in board space over conventional 8mm x 20mm packages (112 mm^2 instead of 160 mm^2).

Current PCB layouts, which require an 8mm x 20mm package, may be easily modified to support the 8mm x 14mm device without complicated redesign. See the following section, "Designing in the 8mm x 14mm TSOP Package" .

Designing in the 8mm x 14mm TSOP Package

SST recommends designing the PCB to accommodate the 8mm x 14mm TSOP package to realize the space savings provided by this package. However, during conversion of existing designs to this new 8mm x 14mm package, the board may be laid out to support BOTH the 8mm x 14mm and 8mm x 20mm TSOP packages.

The following diagram (Figure 1, not drawn to scale) shows the recommended solder land pattern for TSOP packages. Measurements are provided for the 8mm x 20mm package, the 8mm x 14mm package, and a "combination" land pattern, which will support both devices. All measurements are provided in mm. The combination pattern is an extension of the standard 8mm x 20mm pattern - extending the solder pads inward to support the 8mm x 14mm package. On a board, this extension is made in an unused area of the board. Any traces run under the package would not normally interfere with the proposed land pattern.

"A"	represents the distance between inner edges of the solder pads
"B"	represents the distance between outer edges of the solder pads
"C"	represents the center-to-center distance between solder pads along the longer side
"D"	represents the center-to-center distance between solder pads along the shorter edge (always 7.50 mm for a 8 mm wide package)
"E"	represents the pad length
"F"	represents the pad width (always 0.30 mm)
"G"	represents the lead pitch (always 0.50 mm)

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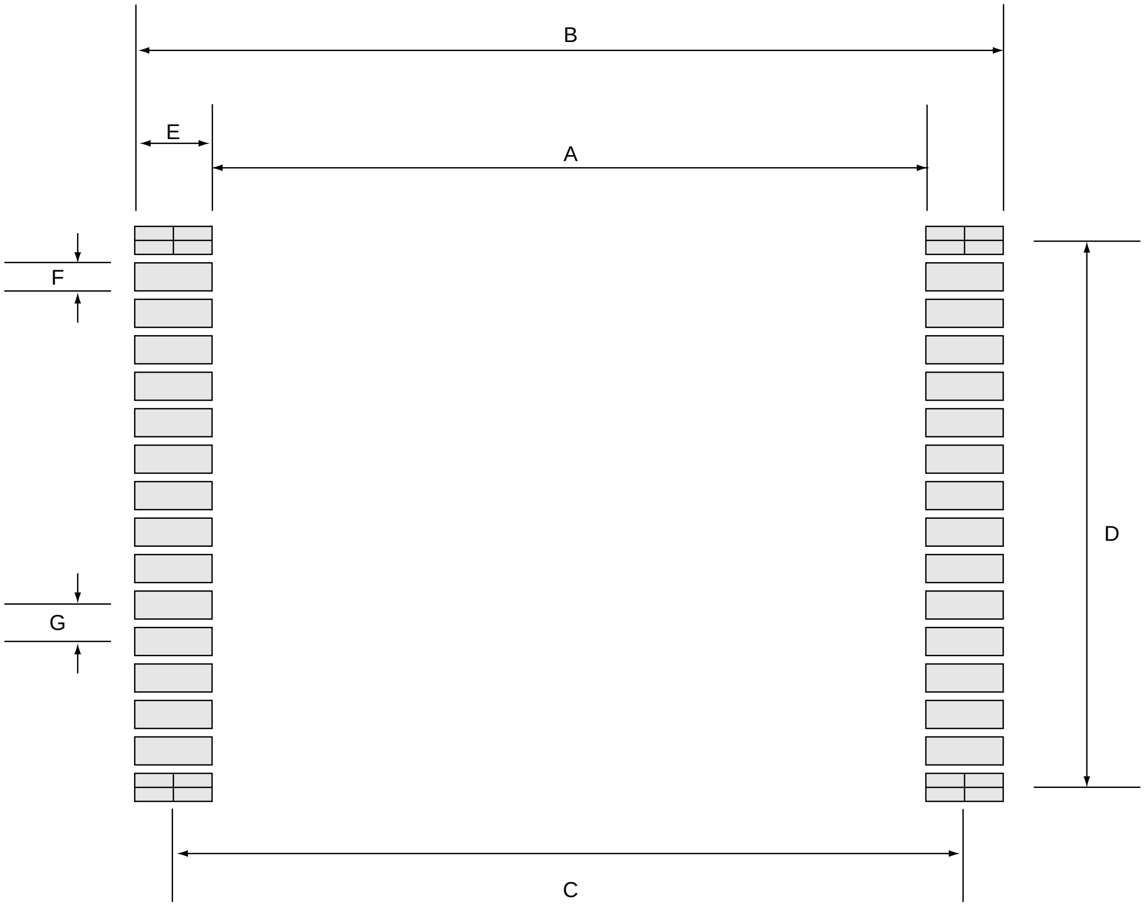

	A	B	C	D	E	F	G
EH Package (8mm x 20mm)	18.50	21.50	20.00	7.50	1.50	.30	.50
WH Package (8mm x 14mm)	12.50	15.50	14.00	7.50	1.50	.30	.50
EH and WH compatible	12.50	21.50	17.00	7.50	4.50	.30	.50

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FIGURE 1: SOLDER LAND RECOMMENDATIONS FOR TSOP PACKAGES (NOT TO SCALE)

SUMMARY

Laying out a PCB to accommodate the 8mm x 14mm TSOP package provides cost savings by reducing the board area required for the 8mm x 20mm TSOP package. Existing boards designed for an 8mm x 20mm TSOP package may be modified to support either the 8mm x 20mm or 8mm x 14mm package. New boards can be laid out to support either package or can be laid out to enjoy the space savings of the 8mm x 14mm TSOP only.

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