Recommended Land Pattern for SST's SOIC and WSON Packages

Application Note
May 2002

INTRODUCTION

SST introduces an innovative, ultra-thin package for it's Serial Flash family of devices.

The SST 8-contact WSON package has a nominal height of 0.75 mm (that is less than 30 mils!). The body is sized to match the footprint of the 8-lead SOIC, with land contacts at the same physical locations and with the same signal-to-pin assignments. Thus, the package is a 'drop-in' compatible fit to the PC board, consuming only about 30 mm^2 of PC board area.

The key features and advantages of this package are:

- Ultra-thin with maximum height of package at 0.8 mm (0.75 mm is nominal)
- Very small over-all foot-print of 5mm x 6mm
- Package is configured to match the PC board solder footprint of 8-lead SOIC. See "Dimensional Comparisons" for details.
- Lead-less package design with bottom paddle which can be soldered to PC board
- Available in both Sn/Pb (tin/lead) and non-Pb solder versions

WSON PACKAGE

The 8-contact WSON package is "lead-less" and the contacts are configured on the package bottom, with plastic mold compound present on three sides of each contact. The contacts are fixed into their positions by plastic and co-planarity is assured.

The 8-contact WSON package is resistant to failure from board bending (flexing); it features a metal bottom paddle, which can be soldered directly to the PC board. This adds adhesive strength while avoiding messy epoxy under-fill. It is not required that this bottom paddle be soldered to the PC board, especially for PC boards with little flex. For the more flex-resistant PC boards, the bottom paddle soldering is not necessary.

SOIC PACKAGE

The 8-lead SOIC/150 mil package is a compact, leaded package that consumes only about 30 mm^2 of PC board space. The package total height is 1.6 mm nominal (maximum of 1.75 mm).

The board area computation is based on a lead-tip to lead-tip distance of 6 mm (nominal) and a body dimension of 5 mm (maximum, excluding mold flash).

Socket Availability

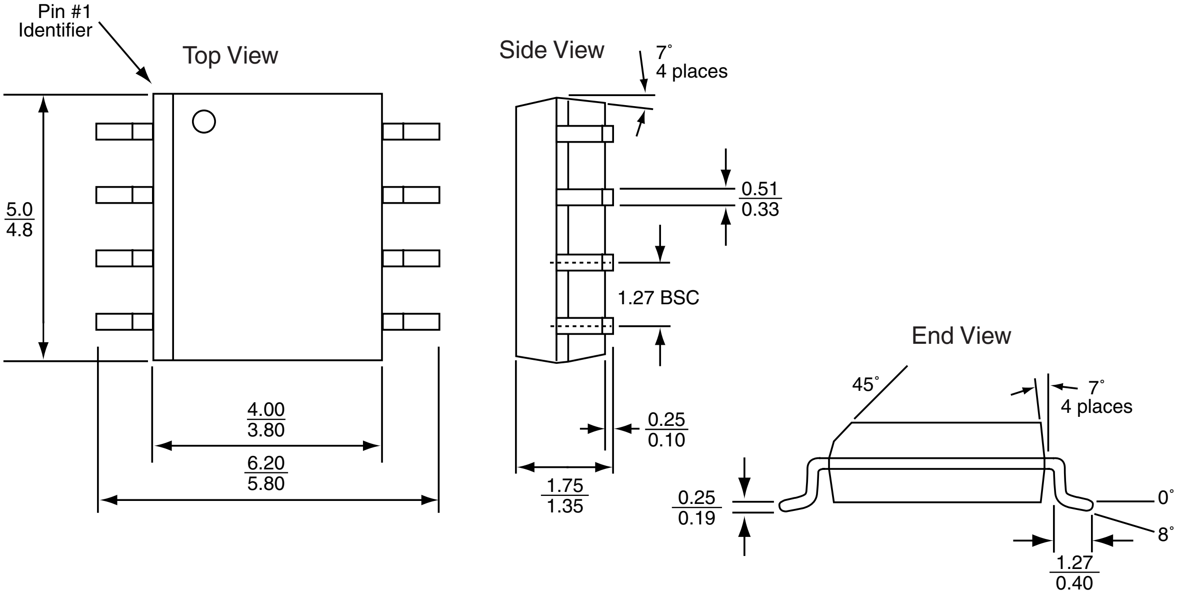
Please contact support@sst.com for a listing of SST qualified sockets vendors.

Shipping Media

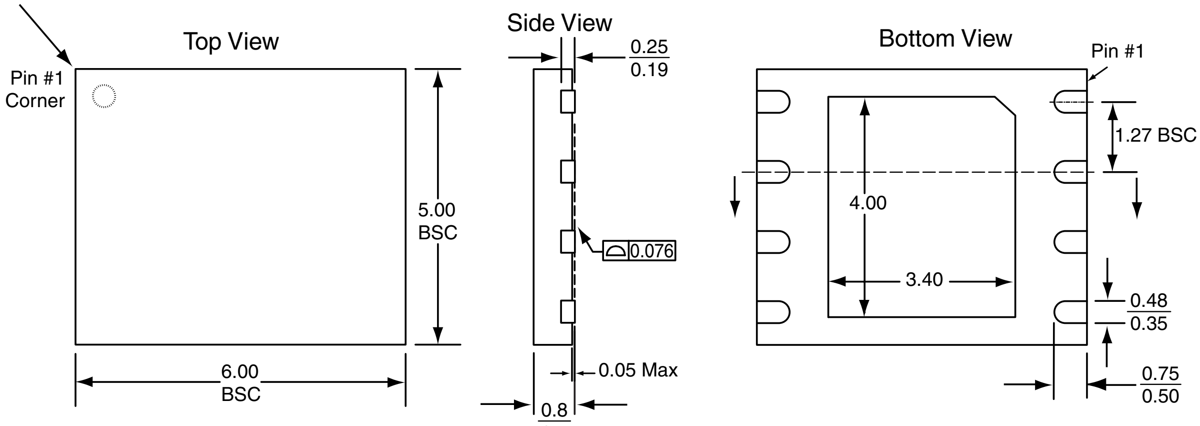
The WSON can be shipped using anti-static tubes since the units have no leads that can bend. Similar to the SOIC, 100 units fit into each tube. Also, the units can be packed into conductive carrier tape. SST offers both forms of packing.

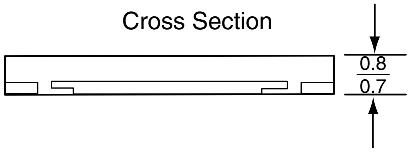
DIMENSIONAL COMPARISONS

8-lead SOIC



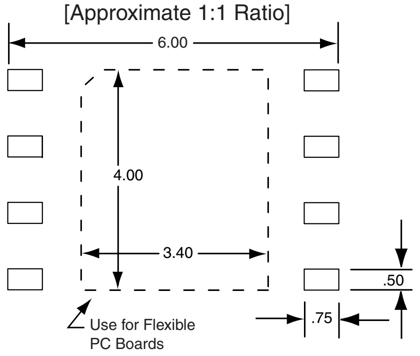
8-contact WSON





Recommmended Solder Pattern

[Approximate 1:1 Ratio]



WSON Note: 1. All linear dimensions are in millimeters (max/min).

SOIC Note:
1. SOIC Complies with JEDEC publication 95 MS-012 AA dimensions, although some dimensions may be more stringent.
2. All linear dimensions are in millimeters (max/min).
3. SOIC Coplanarity: 0.1 mm
4. SOIC Maximum allowable mold flash is 0.15 mm at the package ends and 0.25 mm between leads.

08-wson-soic-3