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| **Unit / Module Name:** | |
| **Unit / Module Number:** | SMT597 |
| **Used On:** | |
| **Document Issue:** | 1.0 |
| **Date:** | 20th December 2005 |

# CONFIDENTIAL

Sundance Multiprocessor Technology Ltd, Chiltern House, Waterside, Chesham, Bucks. HP5 1PS.




Certificate Number FM 55022

# Revision History

| Issue | Changes Made | Date | Initials |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

# Table of Contents

# 1 Related Documents

SHB Specification;

Sundance: http://www.sundance.com/docs/SHB Technical Specification.pdf

Probing Solutions for Logic Analyser;

Agilent: http://cp.literature.agilent.com/litweb/pdf/5968-4632E.pdf

# 2 Functional Description

## 2.1 Module Description

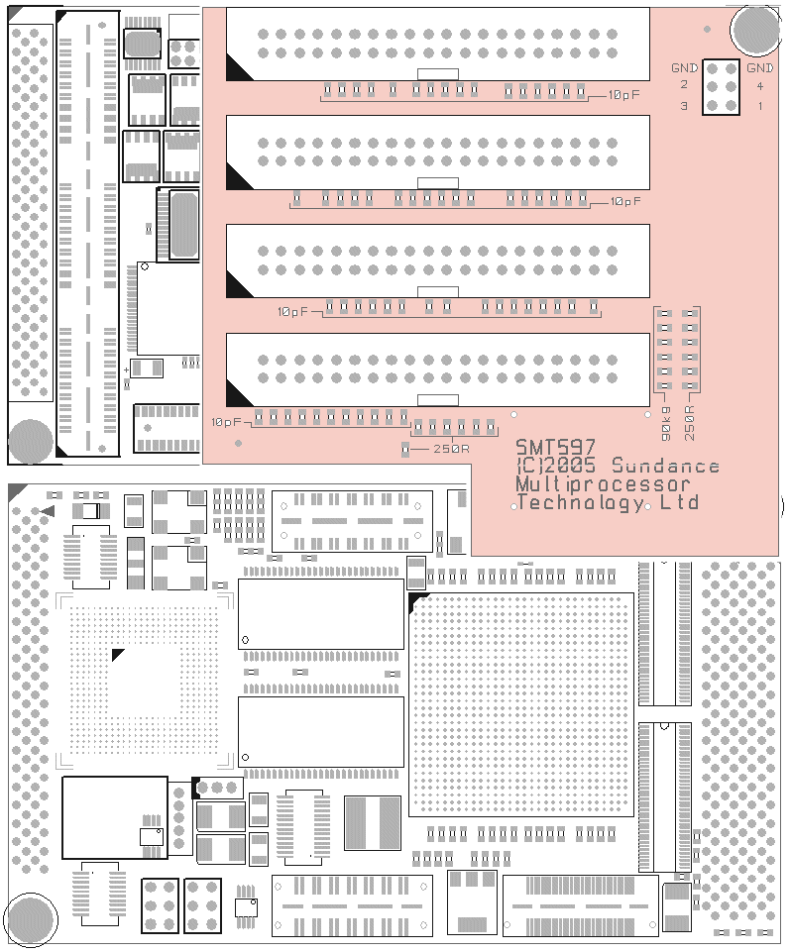
This TIM mezzanine board provides an SHB to SHB link which can be used to join two adjacent TIMs' SHB connectors together. It then provides Agilent compatible 40-way logic analyser probe points. These headers are for direct connection with the 0.1" dual-in-line Agilent cable headers (not the flying leads).

Both 16-bit SDB interfaces are made available on separate probe headers. All of the additional control and user signals are accessible on two further headers.

## 2.2 Interface Description

### 2.2.1 Mechanical Interface

The drawing below shows the SMT597 'linking' an SMT395 and an SMT398VP;



# 3 Verification Procedures

The ‘linking’ ability of the mezzanine board will be tested on two compatible TIM modules.

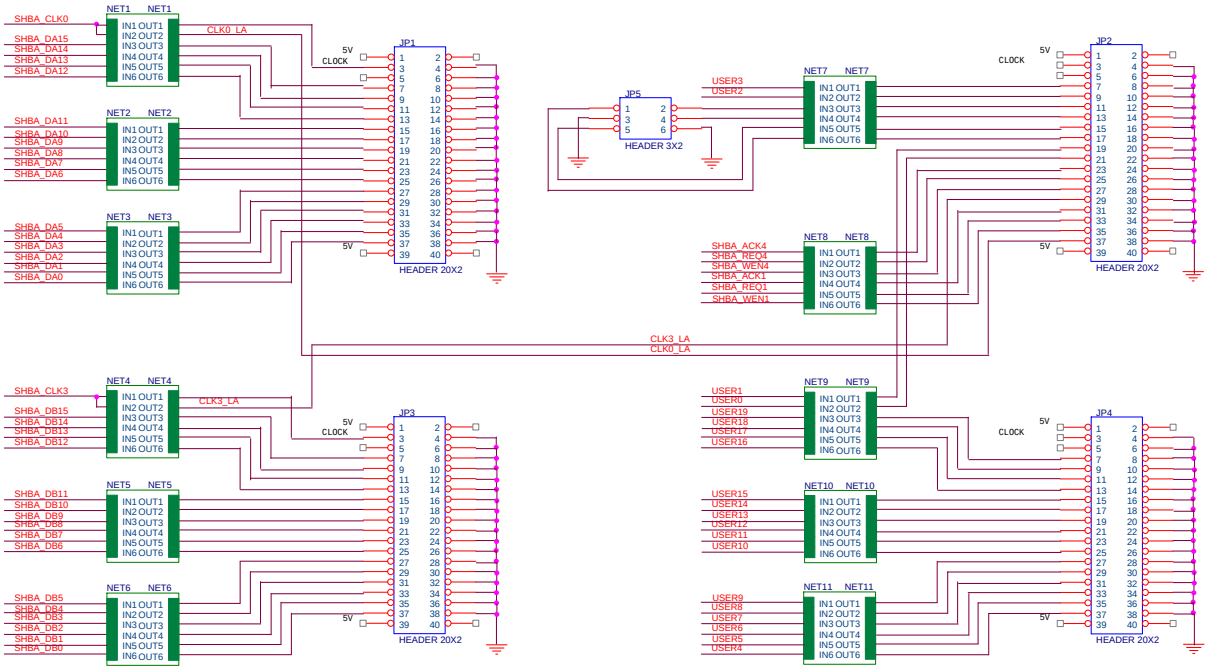
Logic analysis will be performed on SHB data transfers.

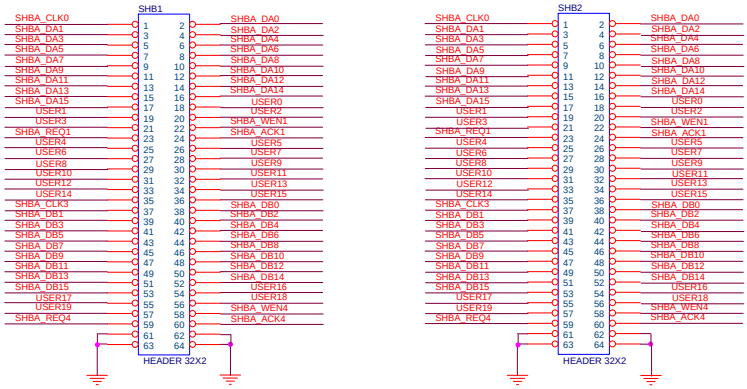
# 4 Review Procedures

As per Sundance quality procedures.

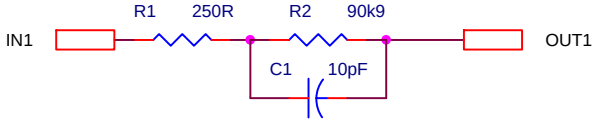
# 5 Validation Procedures

# 6 Circuit Diagrams



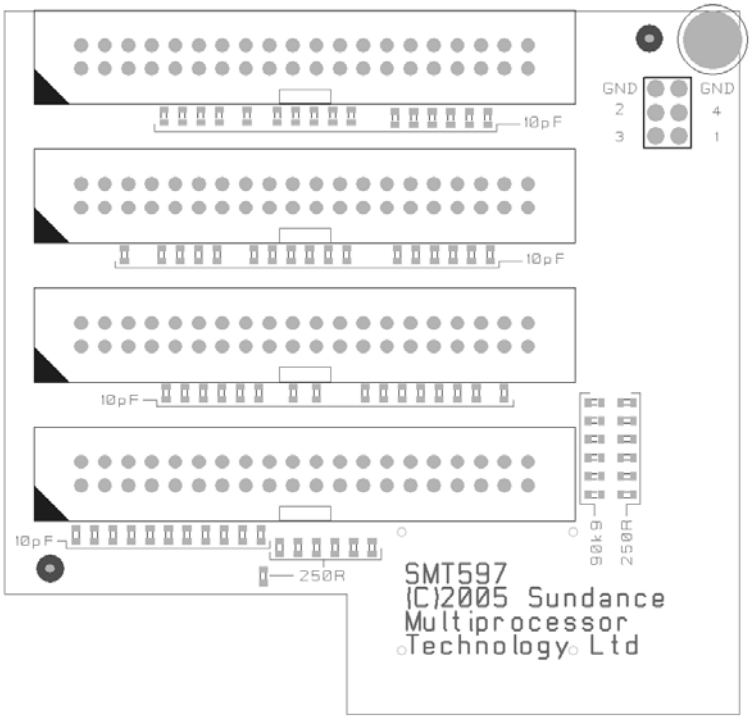




Each ‘NET’ block consists of 6 terminations as shown here;

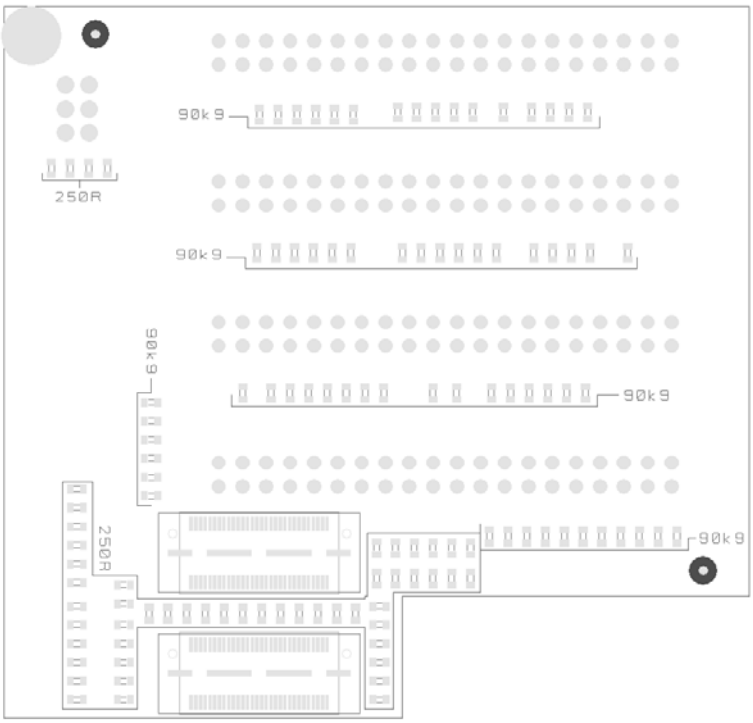


# 7 PCB Layout Details

## 7.1 Component Side




## 7.2 Solder Side



# 8 Logic Analyser Header Pinout

## 8.1 JP1

| Signal | Pin | Pin | Signal |
|---|---|---|---|
| NC | 1 | 2 | NC |
| SHBA Clock | 3 | 4 | GND |
| NC | 5 | 6 | GND |
| SHBA D15 | 7 | 8 | GND |
| SHBA D14 | 9 | 10 | GND |
| SHBA D13 | 11 | 12 | GND |
| SHBA D12 | 13 | 14 | GND |
| SHBA D11 | 15 | 16 | GND |
| SHBA D10 | 17 | 18 | GND |
| SHBA D9 | 19 | 20 | GND |
| SHBA D8 | 21 | 22 | GND |
| SHBA D7 | 23 | 24 | GND |
| SHBA D6 | 25 | 26 | GND |
| SHBA D5 | 27 | 28 | GND |
| SHBA D4 | 29 | 30 | GND |
| SHBA D3 | 31 | 32 | GND |
| SHBA D2 | 33 | 34 | GND |
| SHBA D1 | 35 | 36 | GND |
| SHBA D0 | 37 | 38 | GND |
| NC | 39 | 40 | NC |

NC – no connection

## 8.2 JP2

| Signal | Pin | Pin | Signal |
|---|---|---|---|
| NC | 1 | 2 | NC |
| NC | 3 | 4 | GND |
| NC | 5 | 6 | GND |
| USER 3 | 7 | 8 | GND |
| USER 2 | 9 | 10 | GND |
| JP5 ‘4’ | 11 | 12 | GND |
| JP5 ‘3’ | 13 | 14 | GND |
| JP5 ‘2’ | 15 | 16 | GND |
| JP5 ‘1’ | 17 | 18 | GND |
| USER 1 | 19 | 20 | GND |
| USER 0 | 21 | 22 | GND |
| SHBB ACK | 23 | 24 | GND |
| SHBB REQ | 25 | 26 | GND |
| SHBB WEN | 27 | 28 | GND |
| SHBB Clock | 29 | 30 | GND |
| SHBA ACK | 31 | 32 | GND |
| SHBA REQ | 33 | 34 | GND |
| SHBA WEN | 35 | 36 | GND |
| SHBA Clock | 37 | 38 | GND |
| NC | 39 | 40 | NC |

## 8.3 JP3

| Signal | Pin | Pin | Signal |
|---|---|---|---|
| NC | 1 | 2 | NC |
| SHBB Clock | 3 | 4 | GND |
| NC | 5 | 6 | GND |
| SHBB D15 | 7 | 8 | GND |
| SHBB D14 | 9 | 10 | GND |
| SHBB D13 | 11 | 12 | GND |
| SHBB D12 | 13 | 14 | GND |
| SHBB D11 | 15 | 16 | GND |
| SHBB D10 | 17 | 18 | GND |
| SHBB D9 | 19 | 20 | GND |
| SHBB D8 | 21 | 22 | GND |
| SHBB D7 | 23 | 24 | GND |
| SHBB D6 | 25 | 26 | GND |
| SHBB D5 | 27 | 28 | GND |
| SHBB D4 | 29 | 30 | GND |
| SHBB D3 | 31 | 32 | GND |
| SHBB D2 | 33 | 34 | GND |
| SHBB D1 | 35 | 36 | GND |
| SHBB D0 | 37 | 38 | GND |
| NC | 39 | 40 | NC |

## 8.4 JP4

| Signal | Pin | Pin | Signal |
|---|---|---|---|
| NC | 1 | 2 | NC |
| NC | 3 | 4 | GND |
| NC | 5 | 6 | GND |
| USER 19 | 7 | 8 | GND |
| USER 18 | 9 | 10 | GND |
| USER 17 | 11 | 12 | GND |
| USER 16 | 13 | 14 | GND |
| USER 15 | 15 | 16 | GND |
| USER 14 | 17 | 18 | GND |
| USER 13 | 19 | 20 | GND |
| USER 12 | 21 | 22 | GND |
| USER 11 | 23 | 24 | GND |
| USER 10 | 25 | 26 | GND |
| USER 9 | 27 | 28 | GND |
| USER 8 | 29 | 30 | GND |
| USER 7 | 31 | 32 | GND |
| USER 6 | 33 | 34 | GND |
| USER 5 | 35 | 36 | GND |
| USER 4 | 37 | 38 | GND |
| NC | 39 | 40 | NC |

# 9 Safety

This module presents no hazard to the user.

# 10 EMC

This module is designed to operate from within an enclosed host system, which is build to provide EMC shielding. Operation within the EU EMC guidelines is not guaranteed unless it is installed within an adequate host system.

This module is protected from damage by fast voltage transients originating from outside the host system which may be introduced through the output cables.

Short circuiting any output to ground does not cause the host PC system to lock up or reboot.