ICS527-01/02 Demo Board

The ICS527-01/02 demo board provides a way to quickly evaluate the performance of the ICS525-01 or ICS527-02 Clock Slicer User Configurable PECL Input Zero Delay Buffer.

Power

Connect 3.3 across the VDD and GND header pins.

Frequency Selection

The output frequency can be changed by setting switches SW1 and SW2 according to the instructions in datasheet. Alternatively, shunts can be soldered to the appropriate 0604 device landings underneath the SWs. Turning on a switch or stuffing a shunt will pull that particular input low. Opening the switch or removing the shunt will allow the on-chip pull-up resistors to take the signal high.

Devices Supported

The ICS527-01/02 Demo Board supports either an ICS527-01 (CLK in, CLK out) or a ICS527-02 (PECL in, CLK out) device. ICS527-02 specific signal names are printed in lower case. All other silk-screen labels are either common to both devices or are specific to the ICS527-01.

<table>
<thead>
<tr>
<th>Component</th>
<th>ICS527-01</th>
<th>ICS527-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1</td>
<td>open</td>
<td>SMA Connector</td>
</tr>
<tr>
<td>R1</td>
<td>open</td>
<td>68 ohm</td>
</tr>
<tr>
<td>R3</td>
<td>short</td>
<td>open</td>
</tr>
<tr>
<td>R4</td>
<td>open</td>
<td>180 ohm</td>
</tr>
<tr>
<td>R6</td>
<td>open</td>
<td>68 ohm</td>
</tr>
<tr>
<td>R8</td>
<td>open</td>
<td>open</td>
</tr>
<tr>
<td>R9</td>
<td>50 ohm</td>
<td>180 ohm</td>
</tr>
<tr>
<td>R11</td>
<td>open</td>
<td>short</td>
</tr>
<tr>
<td>R12</td>
<td>short</td>
<td>open</td>
</tr>
<tr>
<td>R13</td>
<td>short</td>
<td>open</td>
</tr>
</tbody>
</table>

Feedback Selection

The ICS527-01/02 Demo Board supports feedback from either CLK1 or CLK2. For off-board feedback, also connect the feedback signal to the resistor pad shared between R7 and R10.

<table>
<thead>
<tr>
<th>Component</th>
<th>CLK1 Feedback</th>
<th>CLK2 Feedback</th>
<th>Off-board Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>R7</td>
<td>short</td>
<td>open</td>
<td>open</td>
</tr>
<tr>
<td>R10</td>
<td>open</td>
<td>short</td>
<td>open</td>
</tr>
</tbody>
</table>

Output Termination

The R2 and R5 resistors serve as series termination resistors.

Trace Impedance

The ICS527-01/02 board has controlled impedance traces of 50 ohms for all clock inputs and outputs.
Demo Board Schematics

[Diagram of demo board schematics]

- R7 = CLK1
- R10 = CLK2
- Shared pad for feedback selection
- Stuff ONLY ONE
- R5 = 33 Ohm
- R3 = 0 Ohm
- R6 = 68 Ohm
- R9 = 180 Ohm
- R12 = 0 Ohm
- C1 = 0.01uF
- C3 = 10uF
- GND1
- VDD1
- SW1, SW2
- IC527-01, IC527-02
- CN1, CN2, CN3, CN4

Additional components and labels are present in the diagram, including various resistors, capacitors, and test points (PDTS).
ICS527-01/02 Preliminary 3 Revision 010505
Integrated Circuit Systems, Inc.
525 Race Street, San Jose, CA 95126
tel (408) 297-1201
www.icst.com

PCB Power Plane

PCB Top

PCB Ground Plane

PCB Bottom
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