NIM 2 TTL converter

MPD NIM 2 TTL converter is a module capable to convert an input NIM pulse to a Low Voltage TTL output pulse with the same width. This new instrumentation, completely based on solid-state components, fully maintains the input time-jitter performance without the typical drawbacks of passive pulse inverters at high pulse rates.

** MODULE FEATURES **
- 12 V power supply
- NIM input
- Low voltage TTL output
- < 5ps timing jitter
- 4 ns propagation delay
- Input pulse width preserved
- No baseline recovery as with passive inverters

** BIOMEDICAL APPLICATION **
- Correlation Measurements
- Spectroscopy
- Time-correlated single photon counting
- Optical Tomography

** INDUSTRIAL APPLICATION **
- Streak camera synchronization
- Short gate acquisition experiments

** NIM to TTL converter **
- 800mV NIM standard input pulse converted to 2.7V Low Voltage TTL standard

** High performance **
- < 5 ps timing jitter
Overview

MPD NIM 2 TTL converter is a module capable to convert an input NIM pulse to a Low Voltage TTL output pulse with the same width. This new instrumentation, completely based on solid-state components, fully maintains the input time-jitter performance without the typical drawbacks of passive pulse inverters at high pulse rates.

Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Description</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>$V_{IN}$</td>
<td></td>
<td>6</td>
<td>12</td>
<td>15</td>
<td>V</td>
</tr>
<tr>
<td>Input Supply current</td>
<td>$V_{IN,6V}$</td>
<td>$V_{in}=6V / RL=50 , \text{Ohm}$</td>
<td></td>
<td>138</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>Input Supply current</td>
<td>$V_{IN,12V}$</td>
<td>$V_{in}=12V / RL=50 , \text{Ohm}$</td>
<td></td>
<td>85</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>NIM input threshold Voltage</td>
<td>$TH_{NIM}$</td>
<td></td>
<td>-237</td>
<td></td>
<td></td>
<td>mV</td>
</tr>
<tr>
<td>LV TTL output amplitude HIGH</td>
<td>$V_{OUT, HIGH}$</td>
<td>$RL=50 , \text{Ohm}$</td>
<td></td>
<td>2.7</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>LV TTL output amplitude LOW</td>
<td>$V_{OUT, LOW}$</td>
<td>$RL=50 , \text{Ohm}$</td>
<td></td>
<td>0</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Minimum input pulse width</td>
<td>$T_{WIDTH}$</td>
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<td>5</td>
<td></td>
<td></td>
<td>ns</td>
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<tr>
<td>Maximum input frequency</td>
<td>$f_{MAX}$</td>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td>MHz</td>
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<td>Propagation delay</td>
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<td>NIM falling / TTL rising edge</td>
<td>4</td>
<td></td>
<td></td>
<td>ns</td>
</tr>
<tr>
<td>OUTPUT pulse width</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ns</td>
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</tbody>
</table>

Designed and built compliant with the European Union Directive 2011/65/CE (also known as RoHS 2)

Ordering Information

The NIM to TTL converter can be ordered from Micro Photon Devices Srl or its representatives. The ordering code is the following:

$NIM2TTL$

Warranty

A standard legal warranty according to local legislation applies following shipment. Any warranty is null and void if the module case has been opened or if the absolute maximum ratings are exceeded. Specifications are subject to change without any notice. Document version 1.0 – May 2018.

Contacts

Micro Photon Devices srl, Via Stradivari 4, I-39100 Bolzano, Italy
T: +39 0471 051212
F: +39 0471 501524
www.micro-photon-devices.com

Packing list

Accessories included in the box: power supply with socket adaptors

Mechanical Dimensions

Object dimensions: 55 mm x 25 mm x 110 mm