

# STISO621

## 6kV galvanic isolated digital dual channel for industry-leading reliability



### Isolated UART connectivity solution

This dual-channel STISO621 digital isolator provides very safe insulation for UART and other communication interfaces thanks to its thick oxide galvanic isolation technology, allowing up to 6kVp impulse withstand voltage and 1.2kVp working voltage on two independent channels oriented in opposite directions.

The device features high 100Mbps data rate with low pulse distortion (<3ns), with Schmitt trigger on the inputs ensuring robust noise tolerance, and high 65kV/μs typical CTMI delivering low-voltage-side protection against high switching transients in more demanding operating environments.

STISO621 is available in the standard SO8 narrow package as well as the SO8 wide package option for applications requiring clearance and creepage up to 8mm.

#### KEY FEATURES & BENEFITS

- Digital isolator with 1 – 1 channel directionality
- 6 kV peak galvanic isolation ( $V_{IOTM}$ )
- 1.2 kV peak maximum working voltage ( $V_{IORM}$ )
- High common-mode transient: >50 kV/μs
- High data rate up to 100 Mbps
- Pulse width distortions < 3ns
- 3.3 V and 5V level translation
- Low power consumption
- SO8N and SO8W package options

#### KEY APPLICATIONS

- Electricity metering
- Power supplies
- Factory automation
- Motor control
- Inverter
- Isolated UART intra-board communication
- Optocoupler replacement in industrial applications



## STISO621: isolated digital UART interface

Digital isolator chips transfer digital signals across galvanically isolated barriers, and the STISO621 is the first in the line of ST digital isolators featuring the latest thick oxide 6kV galvanic isolation technology.

The two independent channels oriented in opposite directions are equipped with Schmitt trigger inputs to ensure high robustness to noise and very high speed (100Mbps) input/output switching time, with an exceptional low pulse distortion (<3ns).

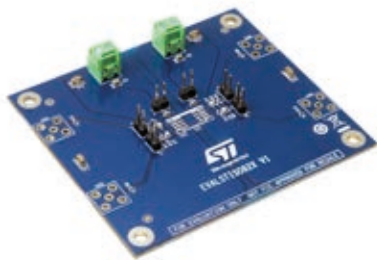
The wide 5.5V down to 3V independent side voltage supply range renders the STISO621 suitable for 3.3 V and 5 V level translation applications as well. The standard SO8 narrow package (STISO621) version is rated for 4.8kVp impulse withstand voltage, while the SO8 wide body package (STISO621W) for applications requiring up to 8mm clearance or creepage has an impulse withstand voltage 6kVp. Both package versions support 1.2 kVp of maximum operating isolation voltage.

The high level of performance both in terms of galvanic isolation and signal switching capabilities render the STISO621 ideal for any industrial isolated UART interface application.

## STISO621 ecosystem

The EVALSTISO62XV1 board is available for straightforward STISO62x product evaluation. ST also offers the EVALSTPM-3PHISO metrology and power-quality data computation reference design, which combines the high accuracy STPMS2 metering front-end IC and advanced STISO621 digital isolator with customizable turnkey firmware running on an STM32 MCU.

## Evaluation Boards



**EVALSTISO62XV1**  
Dual channel digital isolator evaluation board



**EVALSTPM-3PHISO**  
Three-phase full shunt electricity meter evaluation board based on STPMS2, STISO621 and STM32

## ST's Isolated Interfaces

Part numbers	Number of Channels	Isolation Voltage (kV) max peak	V <sub>IOTM</sub> (kV) max peak	CMTI (V/μs) min	Data Rate (Mbps) max	Supply Voltage (V) min - max	Package	Packing
STISO621	2	1.2	4.8	50000	100	3 - 5.5	SO8 Narrow	Tube
STISO621TR	2	1.2	4.8	50000	100	3 - 5.5	SO8 Narrow	Tape&Reel
STISO621W	2	1.2	6	50000	100	3 - 5.5	SO8 Wide	Tube
STISO621WTR	2	1.2	6	50000	100	3 - 5.5	SO8 Wide	Tape&Reel



© STMicroelectronics - April 2021 - Printed in the United Kingdom - All rights reserved  
 ST and the ST logo are registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere. In particular, ST and the ST logo are Registered in the US Patent and Trademark Office. For additional information about ST trademarks, please refer to [www.st.com/trademarks](http://www.st.com/trademarks). All other product or service names are the property of their respective owners.

