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America

CERTIFICATE

No. U8V 077311 0020 Rev. 00

Holder of Certificate: **Texas Instruments Incorporated**
13570 North Central Expressway, MS 3928
Dallas TX 75243
USA

Certification Mark:

Product: Audio/Video, Information and Communication technology equipment
Digital Isolator

This product was voluntarily tested to the relevant safety requirements referenced on this certificate. It can be marked with the certification mark above. The mark must not be altered in any way. This product certification system operated by TÜV SÜD America Inc. most closely resembles system 3 as defined in ISO/IEC 17067. Certification is based on the TÜV SÜD "Testing and Certification Regulations". TÜV SÜD America Inc. is an OSHA recognized NRTL and a Standards Council of Canada accredited Certification body.

Test report no.: 72166872-000

Date, 2021-02-24

(William J. Stinson)

TÜV SÜD America Inc. • 10 Centennial Drive • Peabody • MA 01960 • USA

America

C E R T I F I C A T E

No. U8V 077311 0020 Rev. 00

Model(s):

SN1007074

ISO7520xxxxxx, ISO7521xxxxxx
Where x can be a combination of F, C, E, CC, DW, R

ISO7631xxxxx, ISO7640xxxxx, ISO 7641xxxxx
Where x can be a combination of F, C, M, DW, R

Brand Name: **TI**

Tested according to:

CAN/CSA-C22.2 No. 60950-1:2007/A2:2014
UL 60950-1:2007/A2:2014
EN 60950-1:2006/A2:2013

CAN/CSA-C22.2 No. 61010-1:2012
UL 61010-1:2012
EN 61010-1:2010

CAN/CSA-C22.2 No. 62368-1:2014
UL 62368-1:2014
EN 62368-1:2014/A11:2017

Models and accessories:

ISO7520 & ISO7521:

These are 2-Ch isolators with both channels in the same direction (ISO7520) and opposite direction (ISO7521). These devices may be followed by suffixes such as:

F – Default output Low

C, E, CC – Speed Grades

DW – Wide body SOIC-16 package

R – Tape & Reel Packing option

ISO7631, ISO7640, & ISO7641:

ISO7631 is a 3-Ch digital isolator with 2 channels in the same direction and one in the opposite direction. ISO7640 is a 4-Ch digital isolator with all four channels in the same direction. ISO7641 is a 4-Ch digital isolator with 3 channels in the same direction and one in the opposite direction. These devices may be followed by suffixes such as:

F – Default output Low

C, M– Speed Grades

DW – Wide body SOIC-16 package

R – Tape & Reel Packing option

America

C E R T I F I C A T E

No. U8V 077311 0020 Rev. 00

Parameters:

ISO7520xxxxxx, ISO7521xxxxxx
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

SN1007074
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7631FCDW, ISO7631FCDWR, ISO7631FMDW, ISO7631FMDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7640FMDW, ISO7640FMDWR
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7640FCDW, ISO7640FCDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7641FMDW, ISO7641FMDWR
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7641FCDW, ISO7641FCDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

TÜV SÜD America Inc. • 10 Centennial Drive • Peabody • MA 01960 • USA

Product Service

Technical Report No.: 72166872-000

Date: 2021-02-17

Client:	Texas Instruments Incorporated (#77311) 13570 North Central Expressway M/S 3928, Dallas, TX 75243 *Saleem Marwat*
Manufacturing place:	Texas Instruments Taiwan Limited (#77320) #142, Sec 1, Hsin-Nan Rd, Chung-Ho, New Taipei, Taiwan
Test subject:	Product: Digital Isolator **SN1007074** Type: **ISO7520xxxxxx, ISO7521xxxxxx.** Where x can be a combination of F, C, E, CC, DW, R. See page 2 for models differences **ISO7631xxxxx, ISO7640xxxxx, ISO 7641xxxxx**. Where x can be a combination of F, C, M, DW, R. See page 2 for model differences.
Test specification:	EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013, CAN/CSA-C22.2 No. 60950-1/A2:2014, UL60950-1/A2:2014, EN 61010-1:2010 (Third Edition), UL 61010-1:2012, CAN/CSA-C22.2 No. 61010-1:2012, EN 62368-1:2014+A11:2017 CAN/CSA C22.2 No. 62368-1:2014 UL 62368-1:2014
Purpose of examination:	• Add EN/UL/CSA 62368-1. No Additional testing deemed necessary
Test result:	The test result show that the presented product is in compliance with the specific requirements.

1. Description of the test subject

1.1 Function

Manufacturer's specification for intended use:

ISO7520, ISO7521 & SN1007074:

These are 2-Ch isolators with both channels in the same direction (ISO7520, SN1007074) and opposite direction (ISO7521). These devices may be followed by suffixes such as:

F – Default output Low

C, E, CC – Speed Grades

DW – Wide body SOIC-16 package

R – Tape & Reel Packing option

ISO7631, ISO7640, & ISO7641:

ISO7631 is a 3-Ch digital isolator with 2 channels in the same direction and one in the opposite direction. ISO7640 is a 4-Ch digital isolator with all four channels in the same direction. ISO7641 is a 4-Ch digital isolator with 3 channels in the same direction and one in the opposite direction. These devices may be followed by suffixes such as:

F – Default output Low

C, M– Speed Grades

DW – Wide body SOIC-16 package

R – Tape & Reel Packing option

These are component level devices intended for building-in. They are not directly connected to mains. The entire package is molded over. This molding does not provide internal distance through insulation so TÜV SÜD America has performed 30 day thermal cycling as required by the applicable standard, see below.

The samples were subjected ten times to the following sequence of thermal cycling:
68 h at T1 ± 2 °C;
1 h at 25 °C ± 2 °C;
2 h at 0 °C ± 2 °C;
not less than 1 h at 25 °C ± 2 °C.

The reinforced isolation voltage depending on the model is 3000Vrms or 5000Vrms based on a working voltage of 400Vrms. The basic isolation voltage depending on the model is 3000Vrms or 5000Vrms based on a working voltage of 600Vrms.

Product Service

1.2 Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment
☐ Covered by attached risk analysis

1.3 Technical Data

ISO7520xxxxxx, ISO7521xxxxxx
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

SN1007074
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7631FCDW, ISO7631FCDWR, ISO7631FMDW, ISO7631FMDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7640FMDW, ISO7640FMDWR
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7640FCDW, ISO7640FCDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7641FMDW, ISO7641FMDWR
5000Vrms Reinforced Isolation at a working voltage of 400Vrms,
5000Vrms Basic Isolation at a working voltage of 600Vrms

ISO7641FCDW, ISO7641FCDWR
3000Vrms Reinforced Isolation at a working voltage of 400Vrms,
3000Vrms Basic Isolation at a working voltage of 600Vrms

2. Order

2.1 Date of Purchase Order, Customer's Reference

Quote 5447558 dated 2021-02-17, Project 72166872

2.2 Receipt of Test Sample, Condition, Location

N/A, Documenation only

Product Service

2.3 Date of Testing **N/A**

2.4 Location of Testing **N/A**

2.5 Points of Non-Compliance or Exceptions of the Test Procedure

- *None*

3. Test Results

3.1 Positive Test Results

Electrical safety

EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
CAN/CSA C22.2 No. 60950-1/A2:2014,
UL60950-1/A2:2014,
EN 61010-1:2010 (Third Edition),
UL 61010-1:2012,
CAN/CSA C22.2 No. 61010-1:2012,
EN 62368-1:2014+A11:2017
CAN/CSA C22.2 No. 62368-1:2014
UL 62368-1:2014

3.2 Points of Non-Compliance according to the test specification

- None

4. Remark

The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further particulars as well as of the composition and layout.

Routine Safety Test

Your production facility is currently on a Bi-Annual (6 month) inspection cycle.

Product Service

General example for electrical testing:

Final inspection requirements for production are described in: *EN 62911:2018*

☒ Required	☐ Not Required	Reason: ☐ Class III product ☐ Other:

Test Details:	**Test Points:**	**Test Values:**
☒ Dielectric Strength	BI: L/N – Chassis	Range 3000 - 5000 Vac / Vdc
☐ Ground Continuity	RI: L/N – Secondary	Vac / Vdc
☐ Insulation Resistance	AC-Inlet – Chassis	A, 1s, <0.1 Ohm (Ω)
☐ Leakage Current		
☒ Other: Dielectric Strength based on Working Voltage		

5. Documentation

- CDF

6. Summary

"The test specifications are met"

TÜV SÜD

Tested by:

Steven Skoropowski
Engineer

Approved by:

William Stinson
Technical Report Checked

Aufbauübersicht für Elektrogeräte und Maschinen
Data form for electrical equipment and machinery

America

U8V 077311 0020 Rev. 00
(standard: 60950-1, 62368-1, 61010-1)

Applicant / Auftraggeber: (#077311)	Texas Instruments Incorporated, 13570 North Central Expressway M/S 3928, Dallas, Texas 75243
Manufacturer / Hersteller: (#077311)	Texas Instruments Incorporated 13570 North Central Expressway M/S 3928, Dallas, Texas 75243
Authorized Person / Bevollmächtigter:	Saleem Marwat (marwat@ti.com)
Factory / Fertigungsstätte**:** (#077320)	Texas Instruments Taiwain Limited, #142, Sec 1, Shin-Nan Rd, Chung-Ho, 235 New Taipei, Taiwan, R.O.C.
Type of Equipment / Geräteart:	Digital Isolator
Type/model / Typenbezeichnung:	SN1007074, ISO7520xxxxxx, ISO7521xxxxxx. Where x can be a combination of F, C, E, CC, DW, R. ISO7631xxxxx, ISO7640xxxxx, ISO 7641xxxxx. Where x can be a combination of F, C, M, DW, R. See Certificate attachment for additional model and accessory information
Serial no. / Seriennr.:--	
Rated voltage/frequency / Nennspannung/Frequenz	5000 Vrms Reinforced isolation at a working voltage of 400 VRMS (see certificate attachment for additional rating information)
Rated input power/current / Nennaufnahme/Nennstrom:	--
Connection to water installation / Anschlussdaten-Wasser	N/A
Dimensions / Abmessungen [HxWxD / HxBxT]:	-- [mm / cm / m] (Optical Isolator IC)
Weight / Gewicht:	<0.1 [kg]
Noise emission / Lärmemission:	N/A [dB(A)]
Ambient temperature / Umgebungstemperatur	min.: -40 °C max.: 150 °C ☒
Operation / Einsatz:	< 2,000 m above sea level/< 2.000 m üNN ☒ up to m / bis zu m ☐

Classification of installation and use /: Installation und Nutzung	Stationary	Ortsfest	☐
	Portable	Ortsveränderlich	☐
	Hand-held	Handgerät	☐
	Open-frame	Einbaugerät	☐
	For Building-in		☒

Test Report No. / Prüfbericht Nr.: 72166872-000 (Revised 2021-08-12)

Place / Ort: Peabody **Date** / Datum: 2021-08-12

Name of Project manager / Steven Skoropowski
Name Projektleiter:

Name, seal and signature of Certificate Holder / *Saleem Marwat*
Name, Stempel und Unterschrift des Zertifikatinhabers:

Aufbauübersicht für Elektrogeräte und Maschinen
Data form for electrical equipment and machinery

America

U8V 077311 0020 Rev. 00
(standard: 60950-1, 62368-1, 61010-1)

Protection class / Schutzklasse:	I:	PE-connection	Schutzleiteranschluss	N/A
	II:	Double insulation	Schutzisoliert	N/A
	III:	SELV / internally powered	Schutzkleinspannung / interne Stromversorgung	N/A
Degree of protection / Schutzart /:	IP	X0		☒

Degree of pollution / Verschmutzungsgrad:	**1**	☐	**2**	☒	**3**	☐	**4** ☐
Overvoltage category / Überspannungskategorie:	**I**	☐	**II**	☒	**III**	☐	**IV** ☐

Supply connection / Anschlussart:	Nondetachable cord	Feste Anschlussleitung	☐
	Permanent connection	Fester Anschluss	☐
	Appliance inlet	Gerätesteckvorrichtung	☐
	For building-in (to be determined in the End application)		☒
Rated operation / Netzbetriebsart:	Continuous operation	Dauerbetrieb	☒
	Intermittent operation	Aussetzbetrieb	☐
	Short time operation	Kurzzeitbetrieb	☐

Additional information for Laser equipment, classification according to IEC/EN 60825
Zusätzliche Angaben für Laser, Klassifizierung nach IEC/EN 60825

Class / Klasse: --
Wavelength / Wellenlänge: --
Pulse duration / Pulsdauer: --

Aufbauübersicht für Elektrogeräte und Maschinen
Data form for electrical equipment and machinery

America

Safety relevant components: (switches, temperature regulators, heating elements, plugs, sockets, wiring, capacitors, motors and other components with windings e.g. transformers, coils, emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers, Software (Revision), housing parts, materials with contact to food etc.

Components for Functional Safety shall be listed in appropriate table.

The entry of safety relevant components into this table documents and confirms review of suitability and acceptance by the product specialist.

Sicherheitsrelevante Bauteile: (Schalter, Temperaturregler, Heizkörper, Stecker, Fassungen, Leitungen, Kondensatoren, Motoren und sonstige Wicklungen z.B. Transformatoren, Magnetspulen, Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschranken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen , Software (Revisionsstand), Gehäuseteile, Materialien mit Kontakt zu Lebensmitteln usw.
Komponenten für Funktionale Sicherheit müssen in die entsprechende Tabelle eingetragen werden.
Der Eintrag sicherheitsrelevanter Komponenten in die Übersicht dokumentiert und bestätigt die Überprüfung der Eignung und Freigabe durch den „Product Specialist“.

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Case (Outer Compound)	[redacted]	[redacted]	Epoxy Molding Compound, UL94V-0 min.	UL 94	UL
Insulation Compound (Provides isolation between driver and receiver circuits)	—	—	Silicon Dioxide (SiO2) minimum thickness of 0.014mm.	Tested in device	Insulation Compound (Provides isolation between driver and receiver circuits)
Lead Frame	—	—	Solder Plated Copper Alloy	IEC 62368-1	Tested in device.

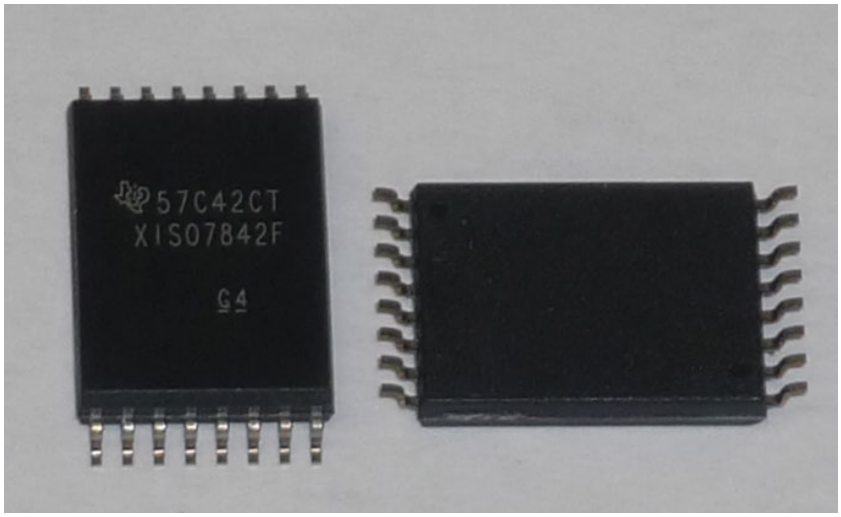
Supplementary information:

[1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

Aufbauübersicht für Elektrogeräte und Maschinen
Data form for electrical equipment and machinery

Label / Typenschild

Silk screened with P/N



Routine Safety Test

Final inspection requirements for production are described in: EN 62911:2018

☒ Required ☐ Not Required

Reason:
☐ Class III product
☐ Other:

Test Details:
☒ Dielectric Strength
☐ Ground Continuity
☐ Insulation Resistance
☐ Leakage Current
☐ Other:

Test Points:
BI: L/N – Chassis
RI: L/N – Secondary
AC-Inlet – Chassis

Test Values:
2500 or 4500 Vac / Vdc
Vac / Vdc
A, 1s, <0.1 Ohm (Ω)

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