# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | UL-US-L351759-11-71806102-1 |
| **Report Reference** | E351759-20160817 |
| **Date** | 21-October-2021 |
| **Issued to:** | MAXIM INTEGRATED PRODUCTS<br>160 RIO ROBLES SAN JOSE, CA<br>United States 95134-1813 |
| **This is to certify that representative samples of** | FPPT2 - Nonoptical Isolating Devices - Component<br>See Addendum Page for Product Designation(s). |
| | Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC. |
| **Standard(s) for Safety:** | UL 1577, 5th Ed, Issue Date: 2014-04-25, Revision Date: 2019-06-11 |
| **Additional Information:** | See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information |

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | UL-US-L351759-11-71806102-1 |
| **Report Reference** | E351759-20160817 |
| **Date** | 21-October-2021 |

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

USR, CNR – Single Protection, Non-Optical Isolator, Models MAX14852, MAX14853, MAX14854, MAX14855¸ MAX14856¸ MAX14857, MAX14858, MAX14859, MAX14878, MAX14878AWA, MAX14879, MAX14880, MAX14882, MAX14938, MAX14939, MAX14940, MAX14941, MAX14942¸ MAX14943, MAX14945, MAX14948, MAX22025, MAX22025F, MAX22026, MAX22026F, MAX22027, MAX22027F, MAX22028, MAX22028F, MAXM22510GLH, and MAXM22511GLH. May be followed by additional alphanumeric characters.

USR – Single Protection, Non-Optical Isolator, Models MAX14946, MAX14949. May be followed by additional alphanumeric characters.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | UL-CA-L351759-21-71806102-1 |
| **Report Reference** | E351759-20160817 |
| **Date** | 21-October-2021 |
| **Issued to:** | MAXIM INTEGRATED PRODUCTS<br>160 RIO ROBLES SAN JOSE, CA<br>United States 95134-1813 |
| **This is to certify that representative samples of** | FPPT8 - Nonoptical Isolating Devices Certified for Canada - Component<br>See Addendum Page for Product Designation(s). |
| | Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC. |
| **Standard(s) for Safety:** | CSA Component Acceptance Service Notice No. 5A, Issue Date: 1998-01-23 |
| **Additional Information:** | See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information |

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | UL-CA-L351759-21-71806102-1 |
| **Report Reference** | E351759-20160817 |
| **Date** | 21-October-2021 |

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

USR, CNR – Single Protection, Non-Optical Isolator, Models MAX14852, MAX14853, MAX14854, MAX14855¸ MAX14856¸ MAX14857, MAX14858, MAX14859, MAX14878, MAX14878AWA, MAX14879, MAX14880, MAX14882, MAX14938, MAX14939, MAX14940, MAX14941, MAX14942¸ MAX14943, MAX14945, MAX14948, MAX22025, MAX22025F, MAX22026, MAX22026F, MAX22027, MAX22027F, MAX22028, MAX22028F, MAXM22510GLH, and MAXM22511GLH. May be followed by additional alphanumeric characters.

USR – Single Protection, Non-Optical Isolator, Models MAX14946, MAX14949. May be followed by additional alphanumeric characters.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

File E351759
Project 4787193788

August 17, 2016

REPORT

on

COMPONENT - Nonoptical Isolating Devices - Component

Maxim Integrated Products
SAN JOSE, CA 95134-1813

DESCRIPTION

PRODUCT COVERED:

* USR, CNR – Single Protection, Non-Optical Isolator, Models MAX14852, MAX14853, MAX14854, MAX14855, MAX14856, MAX14857, MAX14858, MAX14859, MAX14878, MAX14878AWA, MAX14879, MAX14880, MAX14882, MAX14938, MAX14939, MAX14940, MAX14941, MAX14942, MAX14943, MAX14945, MAX14948, MAX22025, MAX22025F, MAX22026, MAX22026F, MAX22027, MAX22027F, MAX22028, MAX22028F, MAXM22510GLH, **and MAXM22511GLH**. May be followed by additional alphanumeric characters.

USR – Single Protection, Non-Optical Isolator, Models MAX14946, MAX14949. May be followed by additional alphanumeric characters.

MAXIMUM RATINGS PER CHANNEL (at 25°C ambient) ($):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage at 60 sec [Vrms] | Max Operating Ambient Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) | Max Data Trans-mission Rate (Mbps) |
|---|---|---|---|---|---|---|---|---|---|
| | Encoder (Side 1) | Decoder (Side 2) | Encoder (Side 1) | Decoder (Side 2) | | | | | |
| MAX14852 | 4 | 11 | 22 | 60 | 2750 | 105 | 150 | 150 | 0.5 |
| MAX14853 | 41 | 11 | 226 | 60 | 2750 | 105 | 150 | 150 | 0.5 |
| MAX14854 | 6 | 53 | 33 | 292 | 2750 | 105 | 150 | 150 | 25 |
| MAX14855 | 142 | 53 | 781 | 292 | 2750 | 105 | 150 | 150 | 25 |
| MAX14856 | 4 | 11 | 22 | 60 | 5000 | 105 | 150 | 150 | 0.5 |
| MAX14857 | 41 | 11 | 226 | 60 | 5000 | 105 | 150 | 150 | 0.5 |
| MAX14858 | 6 | 53 | 33 | 292 | 5000 | 105 | 150 | 150 | 25 |
| MAX14859 | 142 | 53 | 781 | 292 | 5000 | 105 | 150 | 150 | 25 |
| MAX14878 | 0.35 | 25 | 1.92 | 137 | 5000 | 125 | 150 | 150 | 1 |
| MAX14878AWA | 0.35 | 25 | 1.92 | 137 | 4000 | 125 | 150 | 150 | 1 |
| MAX14879 | 0.35 | 25 | 1.92 | 137 | 2750 | 125 | 150 | 150 | 1 |
| MAX14880 | 0.35 | 25 | 1.92 | 137 | 5000 | 125 | 150 | 150 | 1 |
| MAX14882 | 4.68 | 29.38 | 25.74 | 161.59 | 5000 | 125 | 150 | 150 | 1 |
| MAX14938 | 6 | 145 | 33 | 798 | 2750 | 105 | 150 | 150 | 20 |
| MAX14939 | 6 | 145 | 33 | 798 | 2750 | 105 | 150 | 150 | 20 |
| MAX14940 | 242 | 145 | 1331 | 798 | 2750 | 105 | 150 | 150 | 20 |
| MAX14941 | 6 | 145 | 33 | 798 | 5000 | 105 | 150 | 150 | 20 |
| MAX14942 | 6 | 145 | 33 | 798 | 5000 | 105 | 150 | 150 | 20 |
| MAX14943 | 242 | 145 | 1331 | 798 | 5000 | 105 | 150 | 150 | 20 |
| MAX14945 | 114 | 174 | 627 | 957 | 2750 | 85 | 150 | 150 | 0.5 |
| MAX14946 | 272 | 174 | 1496 | 957 | 2750 | 85 | 150 | 150 | 0.5 |
| MAX14948 | 114 | 174 | 627 | 957 | 5000 | 85 | 150 | 150 | 0.5 |
| MAX14949 | 272 | 174 | 1496 | 957 | 5000 | 85 | 150 | 150 | 0.5 |
| MAX22025 | 0.37 | 31 | 5.87 | 162.75 | 3500 | 85 | 150 | 150 | 0.5 |
| MAX22025F | 0.37 | 31 | 5.87 | 162.75 | 3500 | 85 | 150 | 150 | 0.5 |
| MAX22026 | 0.37 | 47 | 5.87 | 246.75 | 3500 | 85 | 150 | 150 | 16 |
| MAX22026F | 0.37 | 47 | 5.87 | 246.75 | 3500 | 85 | 150 | 150 | 16 |
| MAX22027 | 0.37 | 32 | 5.87 | 162.75 | 3500 | 85 | 150 | 150 | 0.5 |
| MAX22027F | 0.37 | 32 | 5.87 | 162.75 | 3500 | 85 | 150 | 150 | 0.5 |
| MAX22028 | 0.37 | 47 | 5.87 | 246.75 | 3500 | 85 | 150 | 150 | 16 |
| MAX22028F | 0.37 | 47 | 5.87 | 246.75 | 3500 | 85 | 150 | 150 | 16 |
| MAXM22510GLH | 103 | N/A# | 370.8 | N/A# | 2500 | 105 | 125 | 125 | 0.5 |
| MAXM22511GLH | 103 | N/A# | 370.8 | N/A# | 2500 | 105 | 125 | 125 | 25 |

**($) - For ambient temperatures higher than 25°C and up to Tmoa, refer to manufacturer's specifications and/or thermal derating curve data for complete electrical ratings.**
**(#) - The power VDDA is supplied to the Data side. Indicated power ratings are at VDDA = 3.6V. For Cable side an on-chip DC-DC and LDO provides power and a regulated output voltage VDDB=3.3V maximum, and as such there is no external voltage supply drawing current on VDDB.**

*

**RESERVED FOR FUTURE USE**

GENERAL:

These non-optical isolator devices consist of a transmitter coupled to a receiver. The transmitter and receiver are separated by an insulating barrier. Internal chips are connected to lead frames that are molded into the enclosure.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by UL LLC.

USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, Fifth **Edition, revised June 11, 2019.**

CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. **5A, dated January 23, 1998.**

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

1. The capability of the device to control a load has not been investigated.

2. These devices should be installed in a suitable end product enclosure.

3. The maximum junction temperature shall not be exceeded.

4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to the isolation voltage specified in the ratings table.

5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.

CONSTRUCTION DETAILS:

General - The product shall be constructed in accordance with the following description. All dimensions are approximate, unless specified as “max” or “min”.

Markings – As specified in the Section General.

Model Differences - All models have identical insulation systems. The only differences between models are the input and output configurations.