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REPORT

on

COMPONENT - Nonoptical Isolating Devices - Component

Maxim Integrated Products
SAN JOSE, CA 95134-1813

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Single Protection, Non-Optical Isolator, Models MAX14001, MAX14002, MAX22517, MAX22518, MAX22519, **MAX22530**, **MAX22531**. May be followed by additional letters and/or numbers.

USR - Single Protection Non-Optical Isolator, Model MAX22192 Series. May be followed by additional letters and/or numbers.

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)
	Logic (Side 1)	Field (Side 2)	Logic (Side 1)	Field (Side 2)					
MAX14001	5.5	N/A	21.13	N/A	3750	125	150	150	10
MAX14002	5.5	N/A	21.13	N/A	3750	125	150	150	10
MAX22192ARC+	1.75	4.13	9.63	22.8	600V	125	150	150	10
MAX22517	7.8	n/a	42.9	n/a	4000	125	150	150	0.5
MAX22518	7.8	n/a	42.9	n/a	4000	125	150	150	0.5
MAX22519	7.8	n/a	42.9	n/a	4000	125	150	150	0.5
MAX22530	8	n/a	44	n/a	5000	125	150	150	20
MAX22531	8	n/a	44	n/a	3500	125	150	150	20

(\$) - 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.

Note - For Field side an on-chip DC-DC provides power and an unregulated output voltage VDDF=3.5V maximum, and as such there is no external voltage supply drawing current.

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.

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

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.

MODEL MAX14001

General - Model MAX14001 represents all models in the report **except as noted below.**

1. Input/Primary Side - FET (CMOS) input.
2. Output/Secondary Side - FET (CMOS) output.
3. Lead Frame and Bond Wire - Metal employed for current carrying parts shall be of stainless steel, plated steel, silver, gold, copper, nickel, aluminum, an alloy of the same, or an equivalent material.
4. Casing (Outer Mold) - Type G605L manufactured by Sumitomo Bakelite Co. Ltd.
5. Isolation Barrier - Silicon Dioxide (SiO₂), manufactured by Maxim Integrated, minimum 15µm through insulation thickness between the input and output circuits.

MODEL MAXM22192 Series

General - Same as model MAX14001, except as noted below.

4. Casing (Outer Mold) - Type G700LTD manufactured by Sumitomo Bakelite Co. Ltd.
6. Isolation Chip - As described below.

Optical Isolator Model	Emitter Chip	Sensor Chip
MAXM22192	RV64A-0A	RV64A-0A

MODEL MAX22517

General - Same as model MAX14001, except as noted below. Also represents models MAX22518 and MAX22519

4. Casing (Outer Mold) - Type G600 manufactured by Sumitomo Bakelite Co. Ltd.

MODEL MAX22530

General - Same as model MAX14001, except as noted below.

4. Casing (Outer Mold) - Type G700LA manufactured by Sumitomo Bakelite Co. Ltd