

File E214100  
Project 04ME14994

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REPORT

on

COMPONENT - NON-OPTICAL ISOLATORS

Analog Devices Inc  
Wilmington, MA

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## DESCRIPTION

## PRODUCT COVERED:

USR - Single Protection Non-Optical Isolators, "HIGH SPEED DIGITAL ISOLATORS", Cat. Nos. ADuM followed by 1200, 1201, 1210, **128x**, 3200, 3201, 3210, where "x" may be any alpha/numeric designation. All models may have additional suffixes.

## GENERAL CHARACTERISTIC AND USE (Not for UL Representative Use):

These are magnetically coupled devices consisting of two physically separated die in the same package. They are intended to provide electrical isolation between input and output terminals.

**ELECTRICAL RATINGS (at 25°C ambient) (\$):**

Model	Current, Dynamic Condition (mA)		Power (mW)		Isolation Voltage (V)	Max Operating Temp ( <b>T<sub>moa</sub></b> ) (°C)	Max Junction Temp ( <b>T<sub>j</sub></b> ) (°C)	Max Storage Temp ( <b>T<sub>s</sub></b> ) (°C)
	Side 1	Side 2	Side 1	Side 2				
ADuM1200, ADuM1201, ADuM1210, ADuM3200, AduM3201, AduM3210	3.5 @10 Mbps	3.5 @10 Mbps	19 @10 Mbps	19 @10 Mbps	2500	125	150	150
<b>ADuM128x</b>	<b>25</b>	<b>25</b>	<b>138 @ 100Mbps</b>	<b>138 @ 100 Mbps</b>	<b>3000</b>	<b>125</b>	<b>150</b>	<b>150</b>

(\$) - For ambient temperatures higher than 25°C and up to T<sub>moa</sub>, refer to manufacturer's specifications and/or thermal derating curve data for complete electrical ratings.

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## ENGINEERING CONSIDERATIONS (Not for UL Representative Use:)

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

## Conditions of Acceptability -

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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 operating (ambient) temperature, as noted in the ratings table, 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:

The product shall be constructed in accordance with the following description.

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

Corrosion Protection - All parts of corrosive material shall be protected against corrosion by dipping, plating or painting.

Marking - These devices shall be marked on the body, or may be marked on the smallest shipping carton to included the company's name or trademark and catalog number.

The terminal shall be identified to indicate their function. This marking shall appear on the device or the marking shall be provided as part of the manufacturer's specifications.

Electrical ratings including the ON-state or forward current versus case temperature curve, and installation instructions shall appear in the manufacturer's specification for the product.

Alternate Marking - The "ADUM" in the Model No. of the device marking may be replaced with "AD" due to spacing constraints.

CAT. NO. ADuM1200, 1201, 1210, 3200, 3201, 3210.

GENERAL - For engineering use only - see ILL. 1 for construction details.

1. Insulation Encapsulant - R/C (QMFZ2), "Sumikon" Type EME-6600H manufactured by Sumitomo Bakelite Co., Ltd.
2. Insulation Compound Coupling - Medium, Type I-8124C Polyamidic Acid Ester manufactured by Asahi Kasei **EMD**, min 0.017 mm thick.

Alternate - Type I-8124ER, manufactured by Asahi Kasei **EMD**, minimum 0.017 mm thick.

3. **Lead Frame and Bond Wire - Metal employed for current carrying parts shall be of stainless steel, silver, gold, copper, nickel, aluminum, an alloy of the same, or an equivalent material.**

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4. Encoder - FET.
5. Decoder - FET.

**Model ADuM128x.**

GENERAL - Similar to Model ADuM1200, except as noted. For engineering use only - see ILL. 2 for construction details.

1. Insulation Encapsulant - Type G600C manufactured by Sumitomo Bakelite Co., Ltd.
2. Insulation Compound Coupling - Polyimide film, Type I-8124ER, manufactured by Asahi Kasei **EMD**, minimum 0.017 mm thick.