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NEC

Safety Standard Certificate for Photocoupler

PS88XX, PS921X, PS98XX

● UL Certificate

Standard UL 1577

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CP (N)

DESCRIPTION

PRODUCT COVERED:

USR - Single protection Optical Isolator, Types 8802-1, 8802-2, 8821-1, 8821-2, 9213, 9214, 9814-1, 9814-2, 9817-1, 9817A-1, 9817-2, 9817A-2, 9851-1, 9851-2. May be prefixed by PS.

USR, CNR - Single protection Optical Isolator, Types 9821-1 and 9821-2. May be prefixed by PS.

RATINGS:

Model	Current (mA)		Power (mW)		Isolation	Max Operating	Junction
Type Number	Emitter	Sensor	Emitter	Sensor	Voltage	Temp. (°C)	Temp. (°C)
8802-1	25	8.0	45 @1 Mbps	100 @1 Mbps	2500 V ac	100	125
8802-2	25	8.0	45 @1 Mbps	100 @1 Mbps	2500 V ac	100	125
8821-1	25	8.0	45 @1 Mbps	100 @1 Mbps	2500 V ac	100	125
8821-2	25	8.0	45 @1 Mbps	100 @1 Mbps	2500 V ac	100	125
9213	25	15	40 @1 Mbps	100 @1 Mbps	2500 V ac	100	125
9214	30	25	40 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9814-1	30	25	40 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9814-2	30	25	30 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9817-1	20	25	40 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9817A-1	20	25	40 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9817-2	15	25	30 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9817A-2	15	25	30 @10 Mbps	40 @10 Mbps	2500 V ac	85	125
9821-1	20	25	40 @15 Mbps	40 @15 Mbps	2500 V ac	85	125
9821-2	15	25	30 @15 Mbps	40 @15 Mbps	2500 V ac	85	125
9851-1	20	2	40 @15 Mbps	35 @15 Mbps	2500 V ac	100	125
9851-2	20	2	40 @15 Mbps	35 @15 Mbps	2500 V ac	100	125

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GENERAL:

These devices are optically coupled isolating devices with aluminium-gallium arsenide light emitting diodes optically coupled to silicon photo detectors. The solid state portion of these devices is encapsulated in an epoxy compound. The light emitting diode and detector are separated by an insulating window. Internal "chips" are provided with terminals molded into the enclosure.

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

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

USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, Fourth 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 temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.

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".

The general design, shape and arrangement shall be as illustrated, except where variations are specifically described.

Corrosion Protection - All ferrous parts are of corrosion resistant material or are plated or painted as corrosion protection.

Specification Sheet (See ILL. 1) - Specification sheet is provided with the product and contains the following information:

1. Maximum continuous power, a current and voltage rating for both the photo-emitter and the photo-detector.

2. A dielectric insulation-voltage rating between input and output terminals. This should be the same as the isolation voltage in ratings above.

3. Derating specifications related to ambient temperatures shall also be provided in graphic or tabular format.

4. The junction temperature for these devices is 125°C.

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Pin Identification and Package Dimensions - See ILL. 2 for details.

Product Markings - See ILL. 3 for details.

Abbreviation - R/C = Recognized Component.