

NEC

Safety Standard Certificate for Photocoupler

PS29xx



● UL Certificate

Standard
File No.

UL1577
E72422 (S) Vol1. Sec.40

Sales Engineering Group
Compound Semiconductor Device Division
NEC Electron Devices
NEC Corporation

2001 August 30

DESCRIPTION

PRODUCT COVERED:

Component - Optical Isolators, Type PS2911-1, PS2913-1, PS2915-1, PS2932-1, PS2933-1.

GENERAL:

This device is a surface mounted photocoupled isolator consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo detector such as a transistor. They are intended to be used in applications where the suitability of the combination has been determined by Underwriters Laboratories Inc. Only the insulation function for the rated dielectric insulation voltage between the input and output of the device has been investigated.

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

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

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

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

1. The short circuit interrupting capacity, or behavior under short circuit conditions, has not been evaluated for these devices. Accordingly, the end-use circuit should contain suitable impedance to eliminate the need for such testing, or appropriate tests should be conducted.
2. The device shall be installed in compliance with the enclosure, mounting, spacings and segregation requirements of the ultimate application. No spacings are specified for the device.
3. The electrical and outer surface temperature ratings recorded below shall be acceptable in the ultimate application.
4. The suitability of use when exposed to oil, chemicals and the like has not been determined by this investigation.
5. If a particular end-use application requires evaluation of "as received" case material properties not contemplated under the scope of this investigation, such properties will have to be separately investigated.

SCDLS

6. The suitability of the connections shall be determined in the end-use application.
7. The capability of the device to control a load has not been investigated.
8. The suitability of the device to be mounted over dead metal or metal of opposite polarity has not been investigated.
9. These devices are intended for factory wiring only.

Ratings:

Model/ Type Number	Current (mA)		Power (mW)		Isolation Voltage	Max Operating Temp. (°C)	Junction Temp. (°C)
	Diode	Detector	Diode	Detector			
PS2911-1	50	40	60	120	2500	100	125
PS2913-1	50	30	60	120	2500	100	125
PS2915-1	50	40	60	120	2500	100	125
PS2932-1	50	60	60	120	2500	100	125
PS2933-1	50	60	60	120	2500	100	125

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.

Marking - Recognized company name or trademark, and type designation provided on each unit, or on the smallest shipping container in which the device is shipped. See ILL. 2 for details.

Specification Sheet - Specification sheet is provided and contains the following information:

1. Maximum continuous power, a current and a 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 V ac 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.

Model Differences - All models have identical insulation systems. The only difference is the leadframe design or the size of the IC devices.

Abbreviation - R/C = Recognized Component.

Pin Connections - See ILL 3 for details.

Package Dimensions - See ILL. 4 for details.

Leadframe Connections - See ILL. 5 for details.