

NEC

Safety Standard Certificate for Photocoupler

PS2503



- **UL Certificate**

Standard
File No.

UL1577
E72422 (S) Vol.1 Sec.14

Microwave and Optical Devices Department
Semiconductor Solution Engineering Division
NEC Corporation

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D E S C R I P T I O NPRODUCT COVERED:

* Optical Isolators, Type 2503, may have prefix "PS" and may have suffix L, L1, L2 and/or -1, -2, -3, -4

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 silicon 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.

These products were investigated under the Standard for Optical Isolators, UL 1577, dated 5-9-89.

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.
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.

RATINGS:

<u>Type Designation</u>	<u>Current, mA</u>		<u>Power, mW</u>		<u>Isolation Voltage (ac)</u>	<u>Temperature, °C</u>
	<u>Diode</u>	<u>Detector</u>	<u>Diode</u>	<u>Detector</u>		
*PS2503-1	80	30	150	150	5000	0 to 100
*PS2503-2,-3,-4	80	30	120	120	5000	0 to 100

BB/KBP:lms
SCDLS

CONSTRUCTION DETAILS:

General - The general design, shape and arrangement shall be as illustrated in the following photograph and descriptive pages. All dimensions are approximate.

Marking - Recognized company name or trademark, and type designation provided on each unit.

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-sensor.
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. The maximum operating temperature as specified in above ratings.
4. Derating specification related to ambient temperatures.

* Model Differences - All types have identical insulation systems. The only difference is in the output circuit configuration. L, L1, L2 represent lead bending variations.

Abbreviations - R/C - Recognized Component

Pin Connections - See ILL. 1 for details.

Lead Dimensions - See ILL. 2 for details.