GET-SB-0291

NEC

Safety Standard Certificate for Photocoupler

PS250x, PS250xA, PS2513

● UL Certificate

Standard	UL1577
File No.	E72422 (S) Vol.1 Sec.7

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CP(K)

D E S C R I P T I O N

PRODUCT COVERED:

Double protected optical isolated switches, Package 1, Types: 2501, 2502, 2505, 2506 and 2513 Series, may be followed by L, L1, L2 and/or -1, -2, -3, -4; may have a prefix of PS. Package 2, Types: 2501, 2502, 2505 and 2506 Series, may be followed by L, L1, L2 and/or -1, -4; may have a prefix of PS.

* One level protected optical isolator model 2501A, may be followed by L, followed by -1; may have a prefix of PS.

RATINGS:

MODEL NO.	CURRENT (mA)		POWER (mW)		ISOLATION VOLTAGE (ac)	STORAGE TEMP. (°C)	JUNCTION TEMP. (°C)	OPERATING TEMP. (°C)
	DIODE	DETECTOR	DIODE	DETECTOR				
2501	80	50	150	150	5000	150	125	100
2502	80	200	150	200	5000	150	125	100
2505	±80	50	150	150	5000	150	125	100
2506	±80	200	150	200	5000	150	125	100
2513	50	30	150	150	5000	150	125	100
*2501A	30	30	150	150	5000	--	125	100

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.

Type 2501 was tested to represent all types marked by laser.

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. (For application data, see Ills.).

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. The device is intended for factory installation in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.

10. For Double Protected Models Only - The optical isolator enclosure is considered acceptable for only one level of protection. The double protection requirements for the end-use product are to be given further consideration with regards to the optical isolator enclosure.

CONSTRUCTION DETAILS:

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

* Model Differences - The -1, -2, -3, and -4 numbers define the channel numbers. See ILLs. 2 and 3. Models 2505 are similar to Models 2501, except for circuit parameters. The PS represents the name photo switch. Comes in two different packages. The only difference between the packages is the lead frame shape and size, the lead frame material and the marking. See ILLs. 1 and 4 for frame shape. L, L1, L2 represent lead bending variations.

Specification for 2501, 2502, 2505, 2506. and Report Rev. (12-9-98)

Type Designation	Parts Number	Current Max $I_{F(mA)}/I_{C(mA)}$	Isolation Voltage	Line Voltage	Topt	Construction & Material
2501	PS2501-1	80/ 50	$5KV_{AC}$	$377V_{AC}$	-55 ~ 100°C	Fig-1
	PS2501-2					-2
	PS2501-3					-5
	PS2501-4					
	PS2501L-1					Fig-3
	PS2501L-2					-4
	PS2501L-3					-5
	PS2501L-4					
2502	PS2502-1	80/200 *1	$5KV_{AC}$	$377V_{AC}$	-55 ~ 100°C	Fig-1
	PS2502-2					-2
	PS2502-3					-5
	PS2502-4					
	PS2502L-1					Fig-3
	PS2502L-2					-4
	PS2502L-3					-5
	PS2502L-4					
2505	PS2505-1	80/50	$5KV_{AC}$	$377V_{AC}$	-55 ~ 100°C	
	PS2505-2					Fig-1
	PS2505-3					-2
	PS2505-4					-5
	PS2505L-1					Fig-3
	PS2505L-2					-4
	PS2505L-3					-5
	PS2505L-4					
2506	PS2506-1	80/200 *2	$5KV_{AC}$	$377V_{AC}$	-55 ~ 100°C	
	PS2506-2					Fig-1
	PS2506-3					-2
	PS2506-4					-5
	PS2506L-1					
	PS2506L-2					-3
	PS2506L-3					-4
	PS2506L-4					-5

*2 $I_{C(max)}$ for PS2506-1, PS2506L-1 are 200mA and
$I_{C(max)}$ for others are 160mA/unit