

**PS7341B-1B, PS7341BL-1B****6-PIN DIP, 50 pF LOW OUTPUT CAPACITANCE  
35 Ω LOW ON-STATE RESISTANCE  
1-ch Optical Coupled MOS FET****DESCRIPTION**

The PS7341B-1B and PS7341BL-1B are solid state relays containing GaAs LEDs on the light emitting side (input side) and normally close (N.C.) contact MOS FETs on the output side.

They are suitable for analog signal control because of their low offset and high linearity.

The PS7341BL-1B has a surface mount type lead.

**FEATURES**

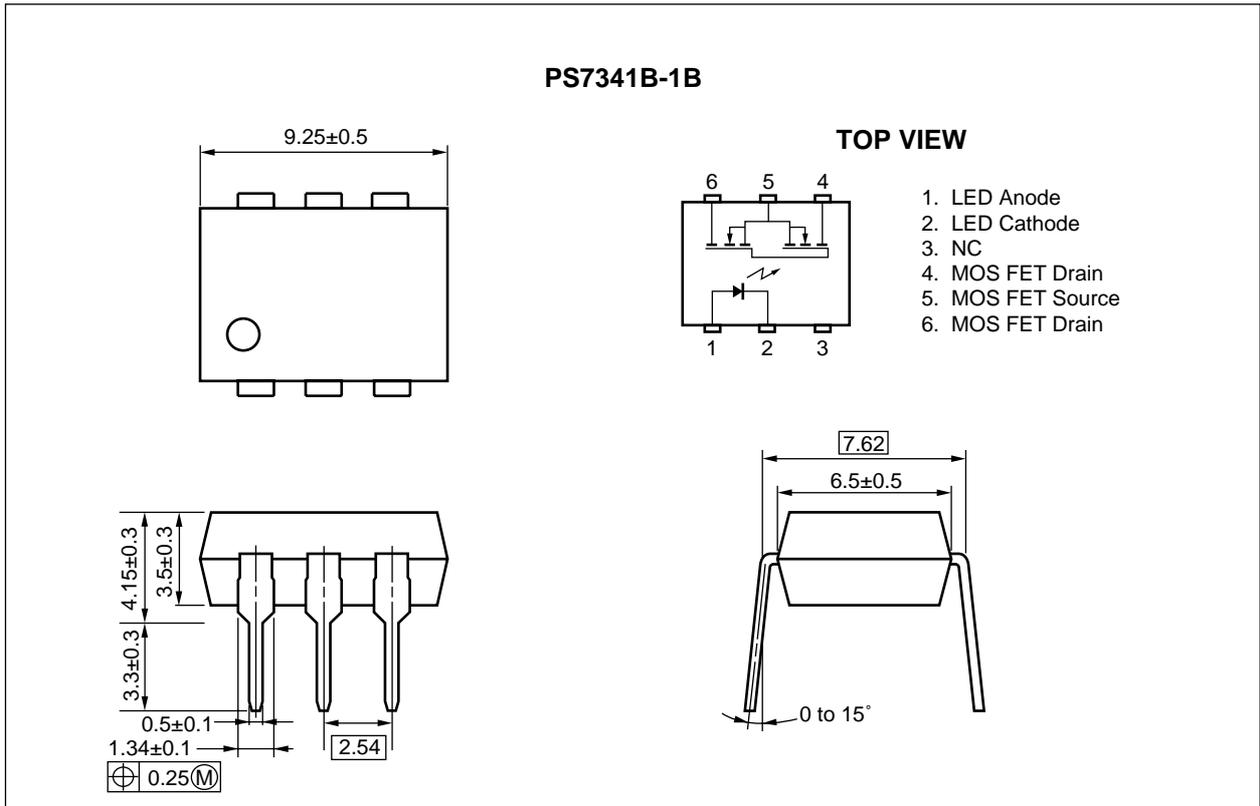
- Low output capacitance ( $C_{out} = 50 \text{ pF TYP.}$ )
- Low on-state resistance ( $R_{on2} = 35 \Omega \text{ TYP.}$ )
- High isolation voltage ( $BV = 3\,750 \text{ Vr.m.s.}$ )
- 1 channel type (1 b output)
- Low LED operating current ( $I_F = 2 \text{ mA}$ )
- Designed for AC/DC switching line changer
- Small package (6-pin DIP)
- Low offset voltage
- PS7341BL-1B: Surface mount type

**APPLICATIONS**

- Exchange equipment
- Measurement equipment
- FA/OA equipment

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Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

PACKAGE DIMENSIONS (in millimeters)

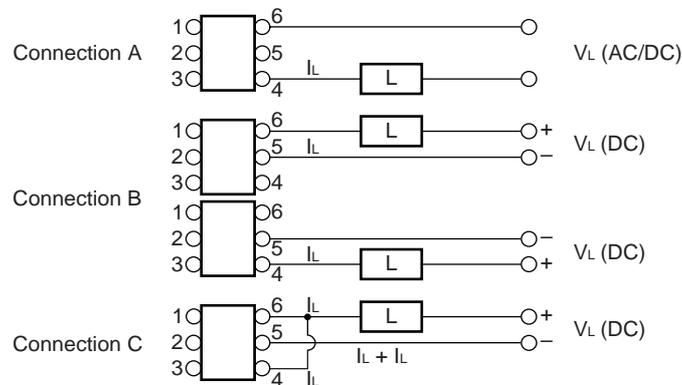


**ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25 °C, unless otherwise specified)**

Parameter		Symbol	Ratings	Unit	
Diode	Forward Current (DC)	I <sub>F</sub>	50	mA	
	Reverse Voltage	V <sub>R</sub>	5.0	V	
	Power Dissipation	P <sub>D</sub>	50	mW	
	Peak Forward Current <sup>*1</sup>	I <sub>FP</sub>	1	A	
MOS FET	Break Down Voltage	V <sub>L</sub>	400	V	
	Continuous Load Current <sup>*2</sup>	Connection A	I <sub>L</sub>	90	mA
		Connection B		120	
		Connection C		180	
	Pulse Load Current <sup>*3</sup> (AC/DC Connection)	I <sub>LP</sub>	180	mA	
Power Dissipation	P <sub>D</sub>	560	mW		
Isolation Voltage <sup>*4</sup>		BV	3 750	Vr.m.s.	
Total Power Dissipation		P <sub>T</sub>	610	mW	
Operating Ambient Temperature		T <sub>A</sub>	-40 to +85	°C	
Storage Temperature		T <sub>stg</sub>	-40 to +125	°C	

\*1 PW = 100 μs, Duty Cycle = 1 %

\*2 Conditions: I<sub>F</sub> ≥ 2 mA. The following types of load connections are available.



\*3 PW = 100 ms, 1 shot

\*4 AC voltage for 1 minute at T<sub>A</sub> = 25 °C, RH = 60 % between input and output

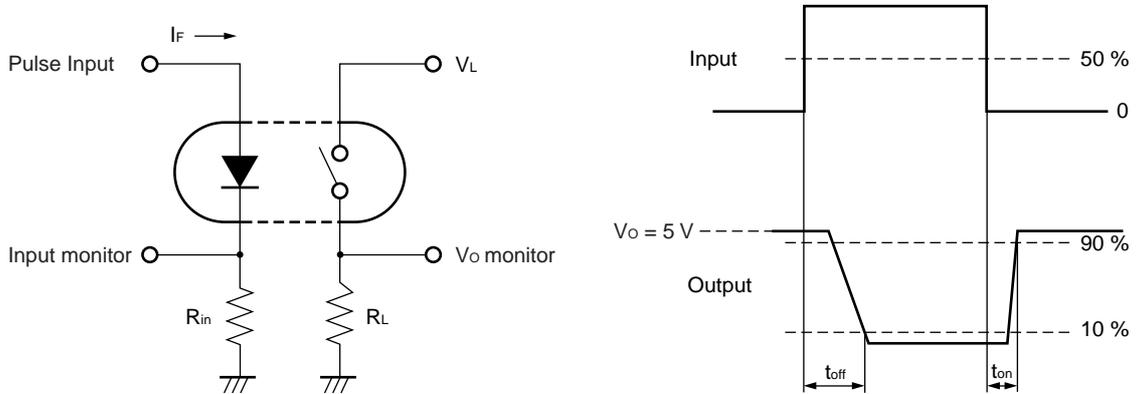
**RECOMMENDED OPERATING CONDITIONS (T<sub>A</sub> = 25 °C)**

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
LED Operating Current	I <sub>F</sub>	2	10	20	mA
LED Off Voltage	V <sub>F</sub>	0		0.5	V

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)**

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Diode	Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10 mA		1.2	1.4	V
	Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5 V			5.0	μA
MOS FET	Off-state Leakage Current	I <sub>Loff</sub>	I <sub>F</sub> = 10 mA, V <sub>D</sub> = 400 V			10	μA
	Output Capacitance	C <sub>out</sub>	I <sub>F</sub> = 10 mA, V <sub>D</sub> = 0 V, f = 1 MHz		50		pF
Coupled	On-state Resistance	R <sub>on1</sub>	I <sub>F</sub> = 0 mA, I <sub>L</sub> = 10 mA		50	70	Ω
		R <sub>on2</sub>	I <sub>F</sub> = 0 mA, I <sub>L</sub> = 90 mA, t ≤ 10 ms		35	55	
	Turn-on Time *1	t <sub>on</sub>	I <sub>F</sub> = 10 mA, V <sub>O</sub> = 5 V, PW ≥ 10 ms			0.2	ms
	Turn-off Time *1	t <sub>off</sub>				1.5	
	Isolation Resistance	R <sub>I-O</sub>	V <sub>I-O</sub> = 1.0 kV <sub>DC</sub>	10 <sup>9</sup>			Ω
	Isolation Capacitance	C <sub>I-O</sub>	V = 0 V, f = 1 MHz		1.1		pF

\*1 Test Circuit for Switching Time



[MEMO]

[MEMO]

[MEMO]

**CAUTION**

**Within this device there exists GaAs (Gallium Arsenide) material which is a harmful substance if ingested. Please do not under any circumstances break the hermetic seal.**

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