

# NEC

## 6-PIN DIP, 20Ω LOW ON-STATE RESISTANCE 100 pF LOW OUTPUT CAPACITANCE 1-ch OPTICAL COUPLED MOS FET

PS7341A-1B  
PS7341AL-1B

### FEATURES

- **HIGH ISOLATION VOLTAGE**  
BV = 3,750 Vr.m.s.
- **1 CHANNEL TYPE**  
1 B output
- **DESIGNED FOR AC/DC SWITCHING LINE CHANGER**
- **SMALL PACKAGE**  
6 pin DIP
- **LOW OUTPUT CAPACITANCE**  
Cout = 100 pF TYP
- **LOW ON-STATE RESISTANCE**  
Ron2 = 20 Ω TYP
- **LOW LED OPERATING CURRENT**  
IF = 2 mA
- **LOW OFFSET VOLTAGE**
- **SURFACE MOUNT TYPE LEAD AVAILABLE**  
PS7341AL-1B

### DESCRIPTION

The PS7341A-1B and PS7341AL-1B are solid state relays containing a 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.

### APPLICATIONS

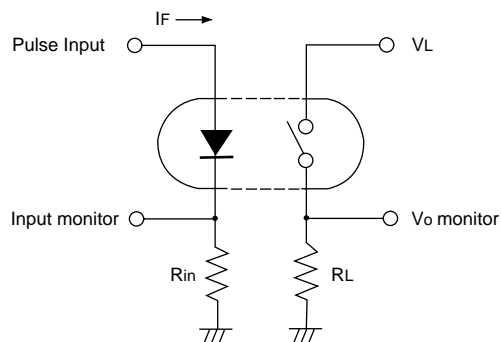
- EXCHANGE EQUIPMENT
- MEASUREMENT EQUIPMENT
- FA/OA EQUIPMENT

### ELECTRICAL CHARACTERISTICS (TA = 25°C)

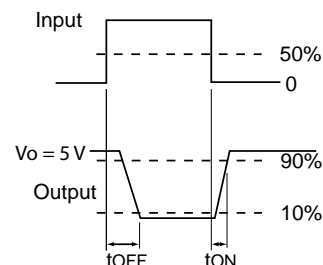
PART NUMBER			PS7341A-1B, PS7341AL-1B			
SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX	
Diode	VF	Forward Voltage, IF = 10 mA	V	1.2	1.4	
	IR	Reverse Current, VR = 5 V	μA		5.0	
MOS FET	ILOFF	Off-State Leakage Current, IF = 10 mA, VD = 400 V	μA		10	
	COUT	Output Capacitance, IF = 10 mA, VD = 0 V, f = 1 MHz	pF	100		
Coupled	RON1	On-State Resistance, IF = 0 mA, IL = 10 mA	Ω	26	35	
	RON2	On-State Resistance, IF = 0 mA, IL = 120 mA, t ≤ 10 ms	Ω	20	30	
	ton	Turn-On Time <sup>1</sup> IF = 10 mA, Vo = 5 V, PW ≥ 10 ms	ms		0.2	
	toff		ms		1.5	
	RI-O	Isolation Resistance, VI-o = 1.0 kVdc	Ω	10 <sup>9</sup>		
	CI-O	Isolation Capacitance, V = 0 V, f = 1 MHz	pF		1.1	

Notes:

1. Test Circuit for switching Time



PS7341A-1B, PS7341AL-1B



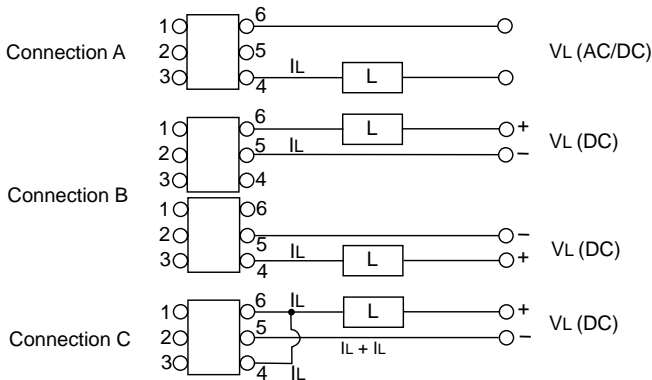
# PS7341A-1B, PS7341AL-1B

## ABSOLUTE MAXIMUM RATINGS<sup>1</sup> (T<sub>A</sub> = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS	
			PS7341A-1B	PS7341AL-1B
Diode				
V <sub>R</sub>	Reverse Voltage	V	5.0	
I <sub>F</sub>	Forward Current (DC)	mA	50	
P <sub>D</sub>	Power Dissipation	mW	50	
I <sub>FP</sub>	Peak Forward Current <sup>2</sup>	A	1	
MOSFET				
V <sub>L</sub>	Break Down Voltage	V	400	
I <sub>L</sub>	Continuous Load Current <sup>3</sup>	mA	120	
	Connection A		160	
	Connection B		240	
I <sub>LP</sub>	Pulse Load Current <sup>4</sup>	mA	240	
P <sub>D</sub>	Power Dissipation	mW	560	
Coupled				
BV	Isolation Voltage <sup>5</sup>	Vr.m.s.	3,750	
P <sub>T</sub>	Total Power Dissipation	mW	610	
T <sub>A</sub>	Operating Ambient Temp.	°C	-40 to +85	
T <sub>STG</sub>	Storage Temperature	°C	-40 to +125	

### Notes:

1. Operation in excess of any one of these parameters may result in permanent damage.
2. PW = 100 μs, Duty Cycle = 1%
3. Conditions: I<sub>F</sub> ≥ 2 mA. The following types of load connections are available.



4. PW = 100 ms, 1 shot
5. AC voltage for 1 minute at T<sub>A</sub> = 25 °C, RH = 60 % between input and output.

## RECOMMENDED

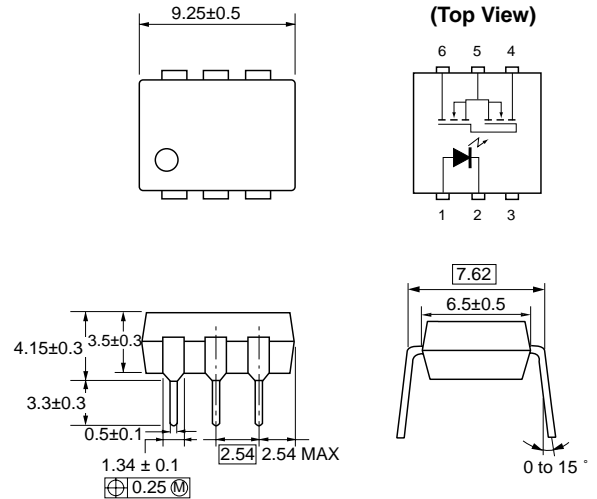
## OPERATING CONDITIONS (T<sub>A</sub> = 25 °C)

SYMBOL	PARAMETER	UNITS	MIN	TYP	MAX
I <sub>F</sub>	LED Operating Current	mA	2	10	20
V <sub>F</sub>	LED Off Voltage	V	0		0.5

## OUTLINE DIMENSIONS (Units in mm)

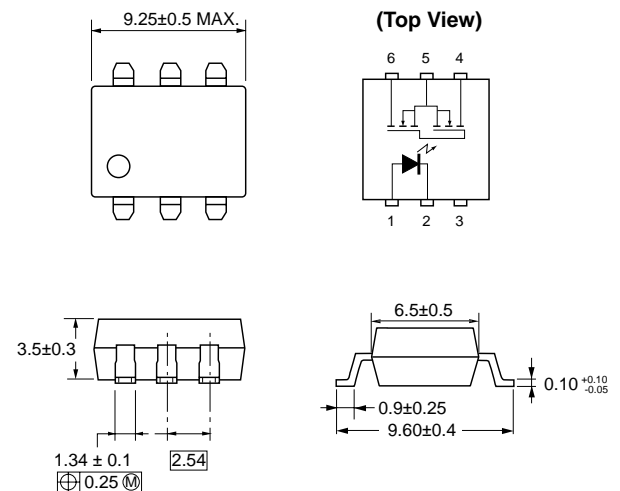
### PS7341A-1B

1. LED Anode
2. LED Cathode
3. NC
4. MOSFET Drain
5. MOSFET Source
6. MOSFET Drain



### PS7341AL-1B

1. LED Anode
2. LED Cathode
3. NC
4. MOSFET Drain
5. MOSFET Source
6. MOSFET Drain



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07/27/2001