

# 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

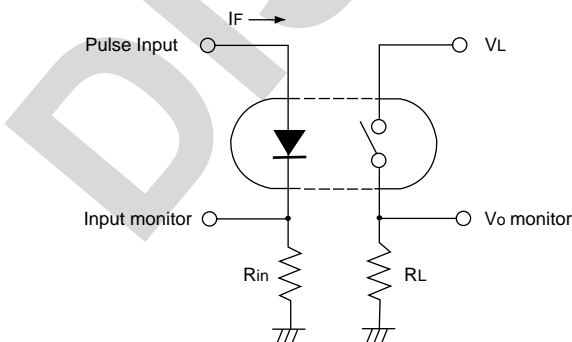
- EXCHANGE EQUIPMENT
- MEASUREMENT EQUIPMENT
- FA/OA EQUIPMENT

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

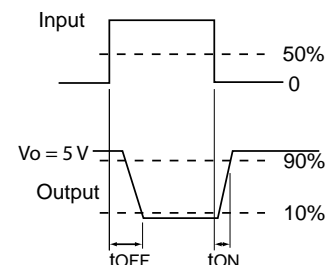
PART NUMBER			PS7341A-1B, PS7341AL-1B			
	SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX
Diode	VF	Forward Voltage, IF = 10 mA	V		1.2	1.4
	IR	Reverse Current, VR = 5 V	μA			5.0
MOS FET	ILOFF	Off-State Leakage Current, IF = 10 mA, VD = 400 V	μA			10
	COUT	Output Capacitance, IF = 10 mA, VD = 0 V, f = 1 MHz	pF		100	
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					
	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

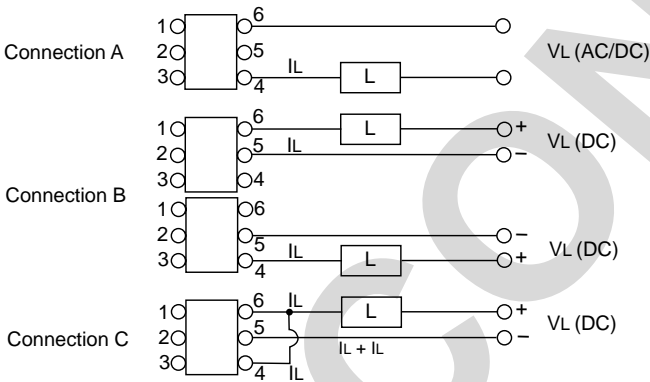


**ABSOLUTE MAXIMUM RATINGS<sup>1</sup>** (TA = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS	
			PS7341A-1B	PS7341AL-1B
Diode				
VR	Reverse Voltage	V	5.0	
IF	Forward Current (DC)	mA	50	
PD	Power Dissipation	mW	50	
IFP	Peak Forward Current <sup>2</sup>	A	1	
MOSFET				
VL	Break Down Voltage	V	400	
IL	Continuous Load Current <sup>3</sup>	mA	120	
	Connection A		160	
	Connection B		240	
ILP	Pulse Load Current <sup>4</sup>	mA	240	
PD	Power Dissipation	mW	560	
Coupled				
BV	Isolation Voltage <sup>5</sup>	Vr.m.s.	3,750	
PT	Total Power Dissipation	mW	610	
TA	Operating Ambient Temp.	°C	-40 to +85	
TSTG	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: IF ≥ 2 mA. The following types of load connections are available.



4. PW = 100 ms, 1 shot
5. AC voltage for 1 minute at TA = 25 °C, RH = 60 % between input and output.

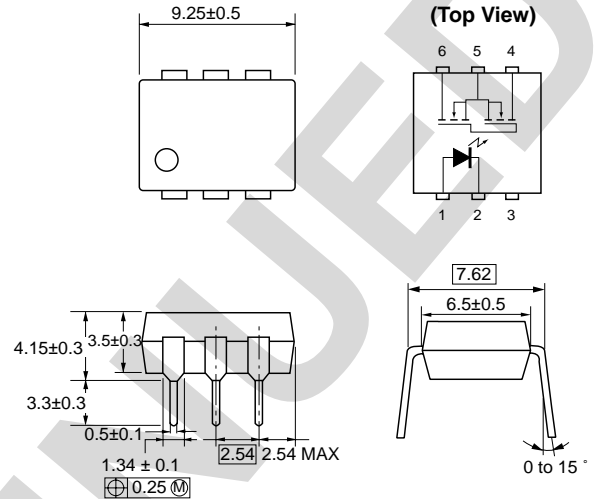
**RECOMMENDED OPERATING CONDITIONS** (TA = 25 °C)

SYMBOL	PARAMETER	UNITS	MIN	TYP	MAX
IF	LED Operating Current	mA	2	10	20
VF	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

