



# PT3621A

## General purpose Hall-effect Switch

### Applications

- VCD/DVD loader, CD/DVD-Rom
- Cover detector
- Speed Measurement
- Home appliances
- Home safety

### Features

- 2.5V to 18V operation
- Built-in dynamic offset cancellation
- Small size
- High balance and low thermal drift magnetic sensing

### Order information

- PT3621A-LH /PKG:SOT23
- PT3621A-UA /PKG:TO92
- Temperature(T): K

### Specifications

#### Absolute Maximum Ratings (Ta=25°C)

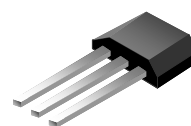
Parameter	Symbol	Conditions	Rating	Units
Maximum supply voltage	$V_{DDmax}$		18	V
Allowable power dissipation	$P_D$	TO-92(UA)	550 <sup>*1</sup>	mW
		SOT-23(LH)	300 <sup>*1</sup>	mW
Operating temperature	Ta	Suffix 'K'	-40~+125	°C
Storage temperature	Ts		-55~+150	°C
Maximum Junction temperature	Tjmax		150	°C
Max. output current	$I_{OMAX}$		25	mA

\*: On 50mm x 50mm x 1.6mm glass epoxy board

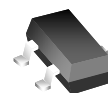
### Package Type

P/N: PT3621A-XX-X

TO92-3L (UA)



SOT23-3L (LH)



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**PROLIFIC TECHNOLOGY INC.**

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**Electrical Characteristics (T<sub>A</sub>=+25°C, V<sub>DD</sub>=12V)**

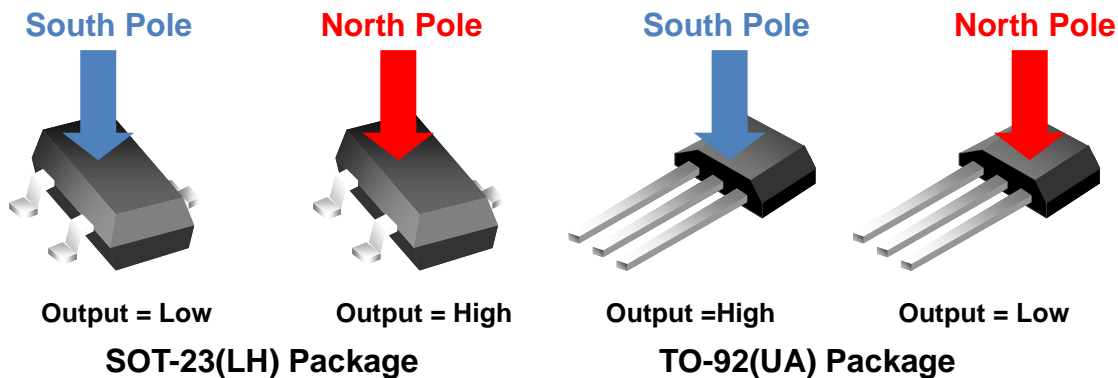
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Units
Supply Voltage	V <sub>DD</sub>		2.5		18	V
Supply Voltage	V <sub>DD</sub>	R <sub>DD</sub> ≥ 200Ω	2.5		26	V
Supply current through protection device	I <sub>DD</sub>	R <sub>DD</sub> ≥ 200Ω			50	mA
Output Sink Voltage	V <sub>DS(ON)</sub>	@ I <sub>OUT</sub> =20mA		0.3	0.5	V
Output Breakdown Voltage	V <sub>BV</sub>			22	30	V
Supply Current	I <sub>DD</sub>	Output open		6	10	mA

**Magnetic Characteristics (T<sub>A</sub>=+25°C, V<sub>DD</sub>=12V)**

Operate Point	B <sub>OP</sub>		90	105	120	G
Release Point	B <sub>RP</sub>		55	85	110	G
Hysteresis	B <sub>HYS</sub>		10	20	35	G

**Output Behavior versus Polarity (T<sub>A</sub>=-40°C~125°C, V<sub>DD</sub>=2.5V~18V)**

Parameters	Test Conditions(LH)	Output(LH)	Test Conditions(UA)	Output(UA)
South pole	B>Bop	Low	B<Brp	High
North pole	B<Brp	High	B>Bop	Low



### General Specifications

The PT3621A is designed for magnetic actuating using a unipolar magnetic field. The built-in dynamic offset cancellation of pre-amplifier stage achieves optimal symmetrical magnetic sensing. The supply voltage range is from 2.5V to 18V and the maximum output current is 25mA.

This Hall effect sensor IC integrate the sensor, pre-amplifier with dynamic offset cancellation and the hysteresis comparator in single chip. The architecture block diagram is shown in Fig. 1.

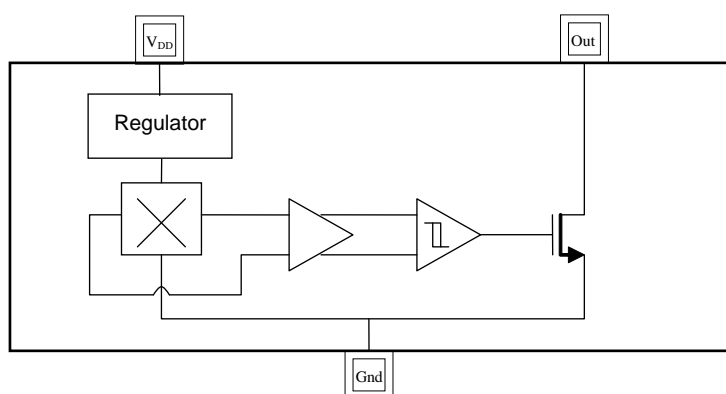
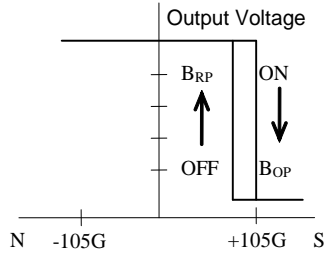
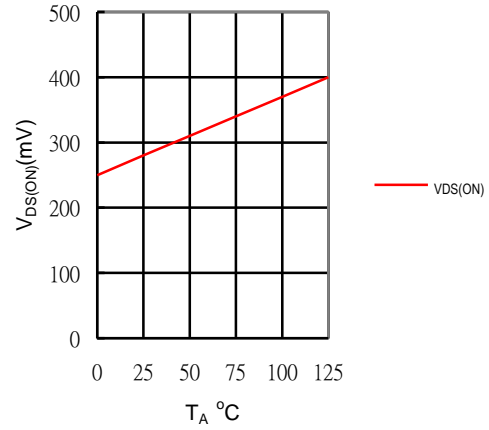


Fig. 1. Functional diagram

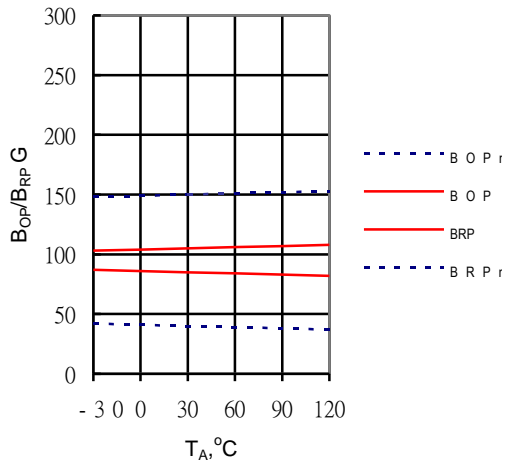
Magnetic Flux Density in Gauss



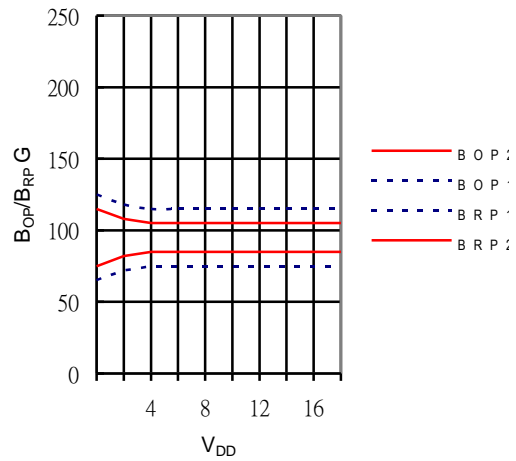
Output sink voltage versus temperature



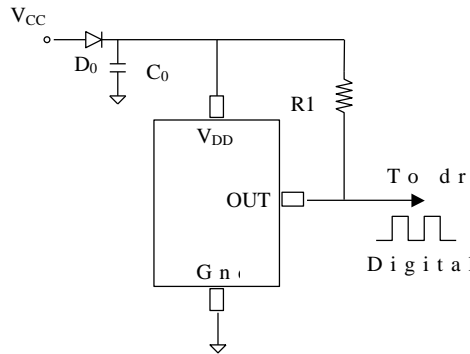
B<sub>OP</sub>, B<sub>RP</sub> versus temperature



B<sub>OP</sub>, B<sub>RP</sub> versus supply voltage



### Application circuits



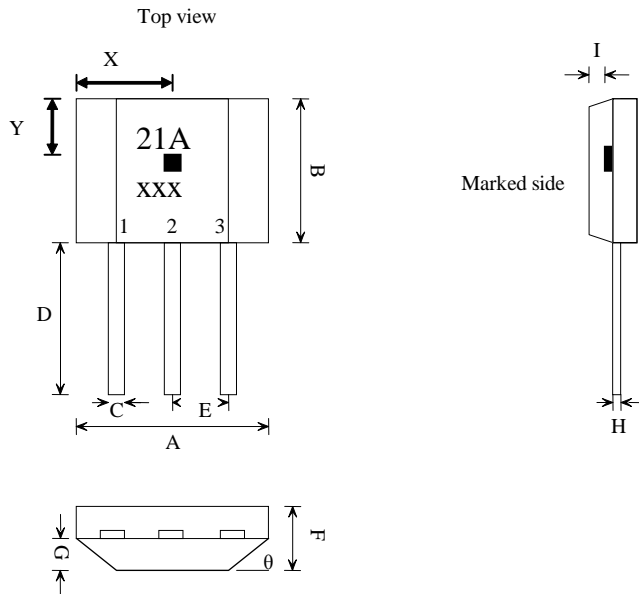
NOTE :

D0: general diode

C0: decoupling capacitor 1uF(recommended)

R1: 1K~10Kohm (recommended)

**Package Outline  
TO-92(UA)**



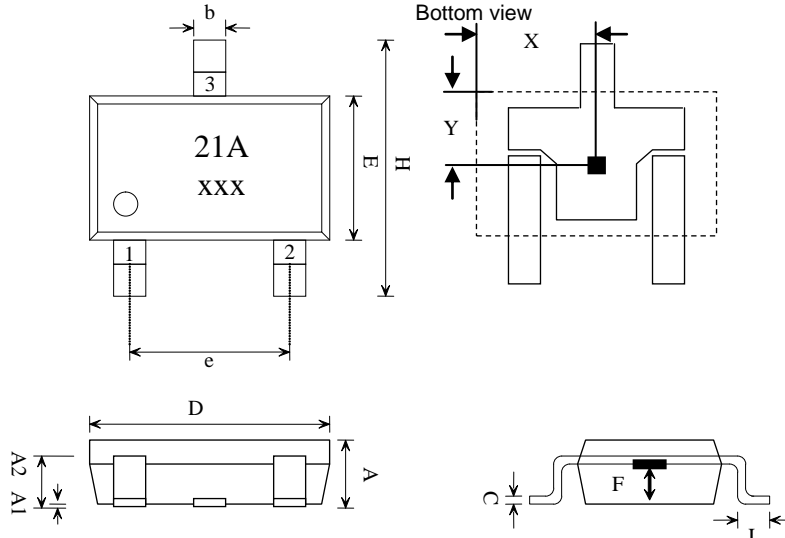
Marking:  
Part Number : 21A  
Date Code : x(Year) xx(Week)

1. VDD/DC power supply
2. GND/DC ground
3. OUT/output pin

SYMBOLS	DIMENSIONS IN MILLIMETERS(mm)		
	MIN	NOM	MAX
A	3.80	4.00	4.20
B	2.90	3.10	3.30
C	0.38	0.45	0.52
D	15.10	15.30	15.50
E	1.24	1.27	1.30
F	1.45	1.50	1.55
G	0.68	0.73	0.78
H	0.36	0.43	0.50
I	0.41	0.43	0.45
$\theta$		45°	
Sensor Location			
X	1.85	2.0	2.15
Y	0.85	1.0	1.15

**Package Outline**  
**SOT-23(LH)**

**Sensor Location**



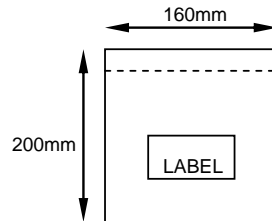
Marking:  
Part Number : 21A  
Date Code : x(Year) xx(Week)

- 1. VDD/DC power supply
- 2. OUT/output pin
- 3. GND/DC ground

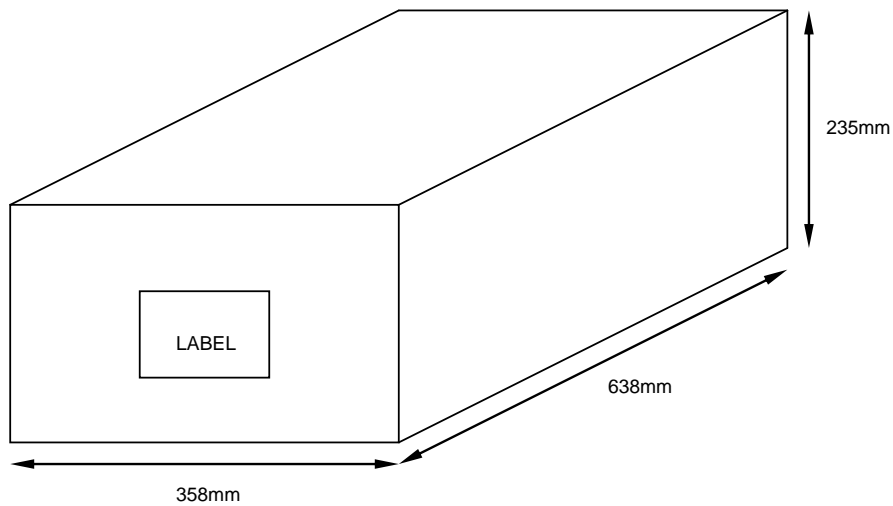
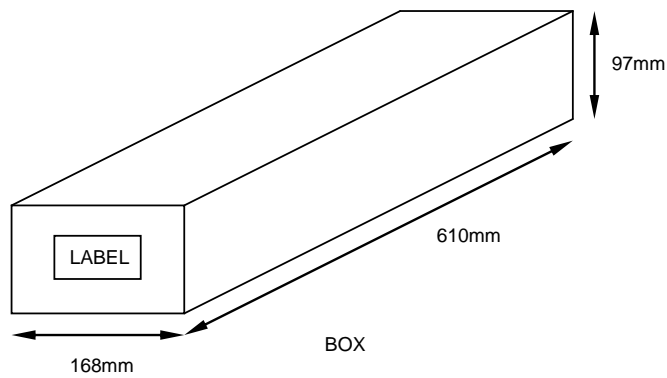
SYMBOLS	DIMENSIONS IN MILLIMETERS(mm)		
	MIN	NOM	MAX
A	1.00	1.10	1.30
A1	0.00	-	0.10
A2	0.70	0.80	0.90
b	0.35	0.40	0.50
C	0.10	0.15	0.25
D	2.70	2.90	3.10
E	1.40	1.80	2.00
F	0.35	0.50	0.65
H	2.60	2.8	3.00
e	1.7	1.9	2.1
L	0.20	-	-
Sensor Location			
X	1.3	1.45	1.6
Y	0.7	0.85	1.0

## TO-92(UA) packing specification

1. Reference document: PD-3-75-010
2. Dimension:



BAG



3. Quantity:

1BAG=1000EA

1BOX=20BAGS

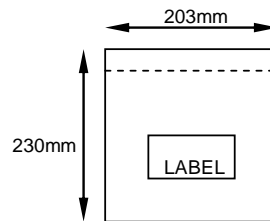
1CARTON=4BOXES



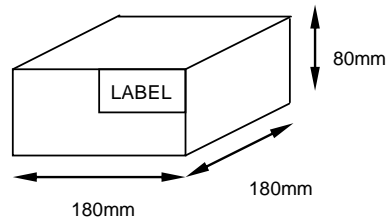
**SOT-23(LH) packing specification**

1. Reference document: PD-3-75-010

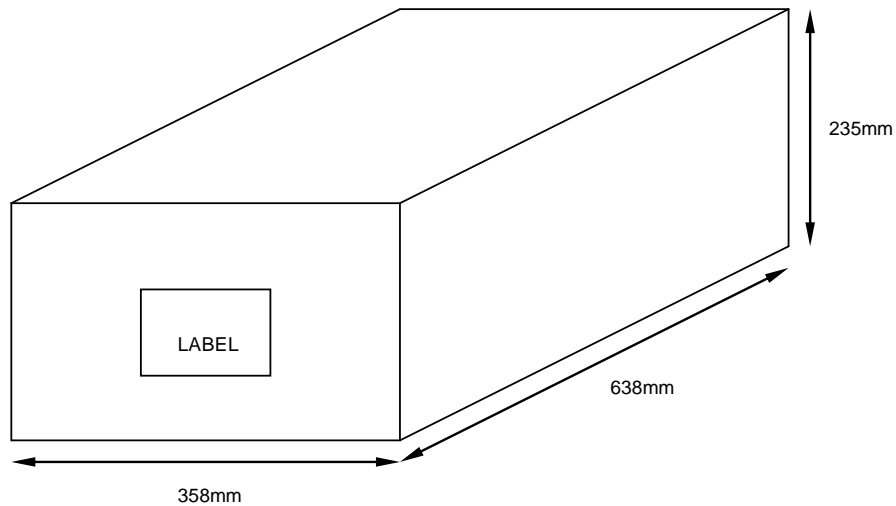
2. Dimension:



BAG



BOX



CARTON

3. Quantity:

1REEL=3000EA

1BOX=5 REELS

1CARTON=14BOXES

**Order information**

Part Number	Temperature Range	Package Type	Package Qty
PT3621A-UAK	-40°C~+125°C	TO92-3L	1000pcs/Bulk
PT3621A-LHK	-40°C~+125°C	SOT23-3L	3000pcs/Reel

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