



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)

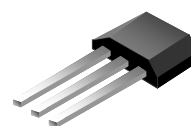
Parameter	Symbol	Conditions	Rating	Units
Maximum supply voltage	V_{DDmax}		18	V
Allowable power dissipation	P_D	TO-92(UA)	550 ^{*1}	mW
		SOT-23(LH)	300 ^{*1}	mW
Operating temperature	Ta	Suffix 'K'	-40~+125	°C
Storage temperature	Ts		-55~+150	°C
Maximum Junction temperature	Tjmax		150	°C
Max. output current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

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

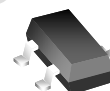
Package Type

P/N: PT3621A-XX-X

TO92-3L (UA)



SOT23-3L (LH)



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Electrical Characteristics ($T_A=+25^{\circ}\text{C}$, $V_{DD}=12\text{V}$)

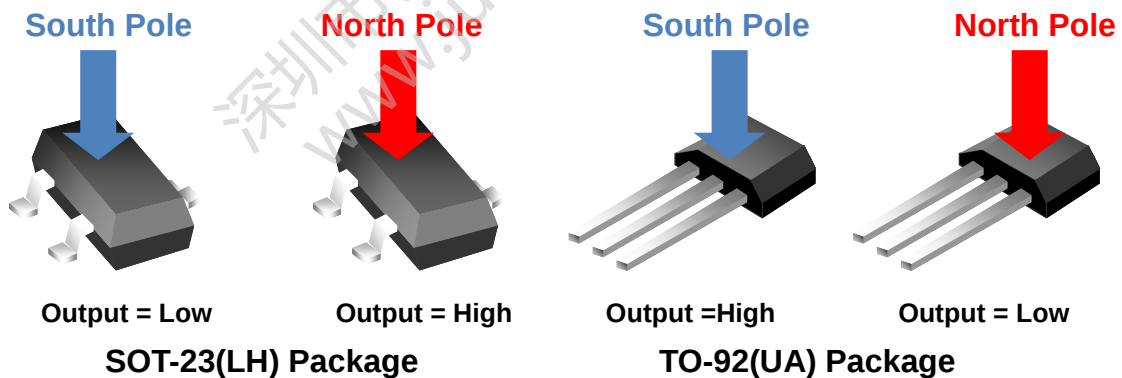
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Units
Supply Voltage	V_{DD}		2.5		18	V
Supply Voltage	V_{DD}	$R_{DD} \geq 200\Omega$	2.5		26	V
Supply current through protection device	I_{DD}	$R_{DD} \geq 200\Omega$			50	mA
Output Sink Voltage	$V_{DS(ON)}$	@ $I_{OUT} = 20\text{mA}$		0.3	0.5	V
Output Breakdown Voltage	V_{BV}			22	30	V
Supply Current	I_{DD}	Output open		6	10	mA

Magnetic Characteristics ($T_A=+25^{\circ}\text{C}$, $V_{DD}=12\text{V}$)

Operate Point	B_{OP}		90	105	120	G
Release Point	B_{RP}		55	85	110	G
Hysteresis	B_{HYS}		10	20	35	G

Output Behavior versus Polarity ($T_A=-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$, $V_{DD}=2.5\text{V} \sim 18\text{V}$)

Parameters	Test Conditions(LH)	Output(LH)	Test Conditions(UA)	Output(UA)
South pole	$B > B_{op}$	Low	$B < B_{rp}$	High
North pole	$B < B_{rp}$	High	$B > B_{op}$	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.

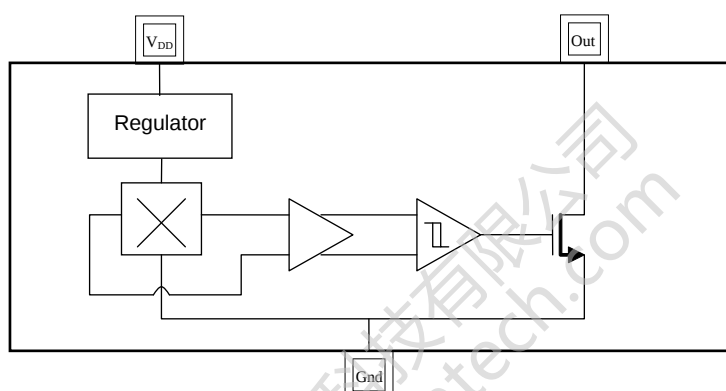
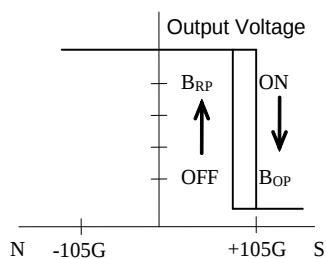
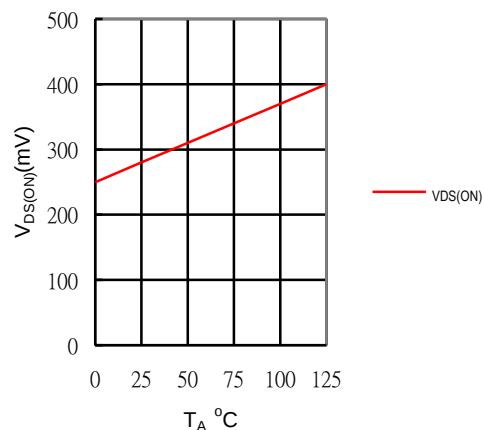
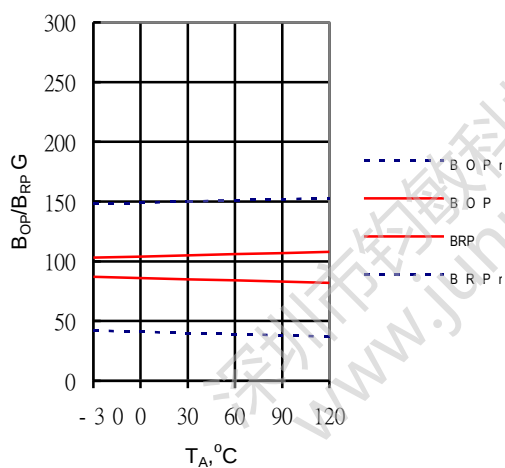
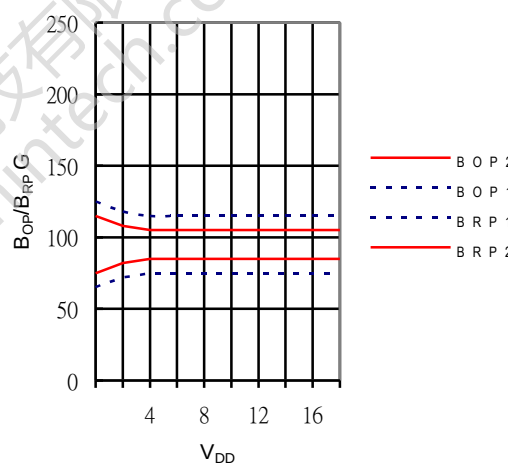


Fig. 1. Functional diagram

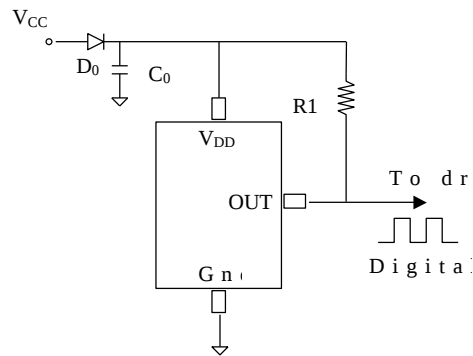
Magnetic Flux Density in Gauss



Output sink voltage versus temperature


 B_{OP} , B_{RP} versus temperature

 B_{OP} , B_{RP} versus supply voltage


Application circuits



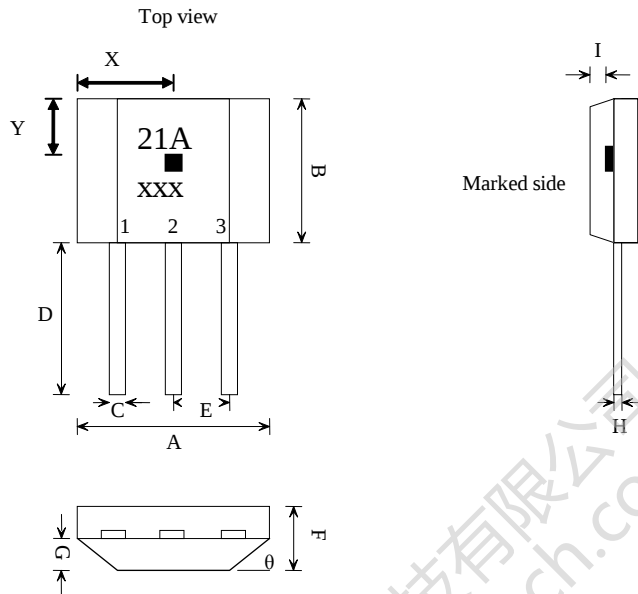
NOTE :

D₀: general diode

C₀: decoupling capacitor 1uF(recommended)

R₁: 1K~10Kohm (recommended)

Package Outline TO-92(UA)



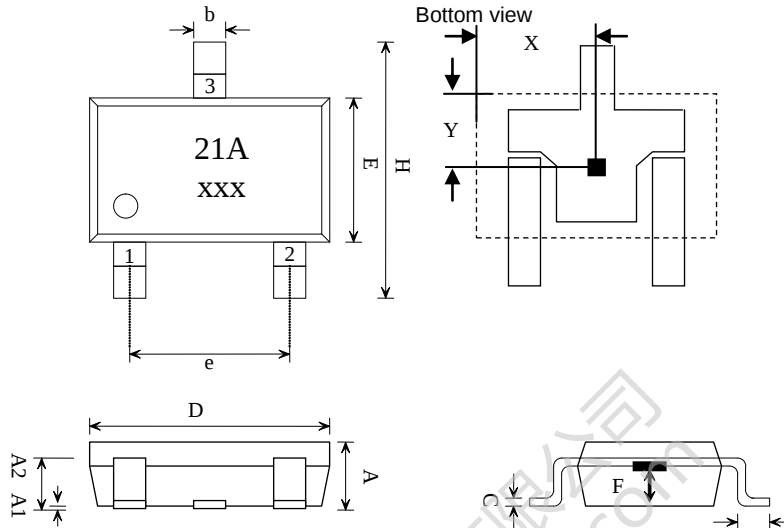
Marking:
Part Number : 21A
Date Code : x(Year) xx(Week)

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
θ		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)

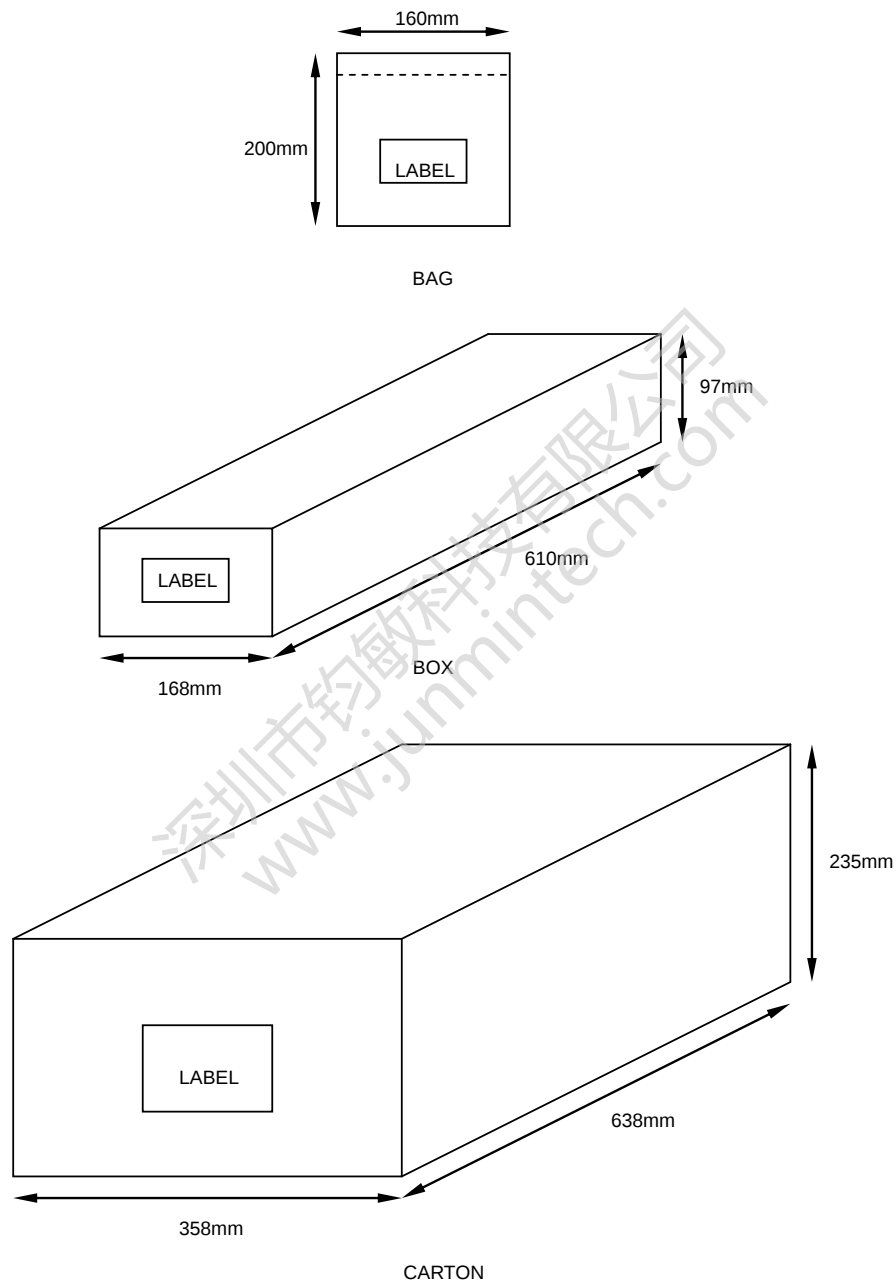
1. VDD/DC power supply
2. OUT/output pin
3. GND/DC ground

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:



3. Quantity:

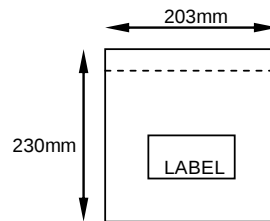
1BAG=1000EA

1BOX=20BAGS

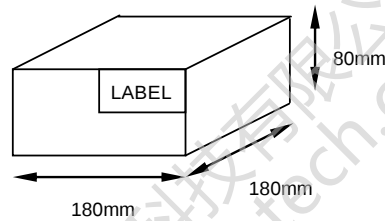
1CARTON=4BOXES

SOT-23(LH) packing specification

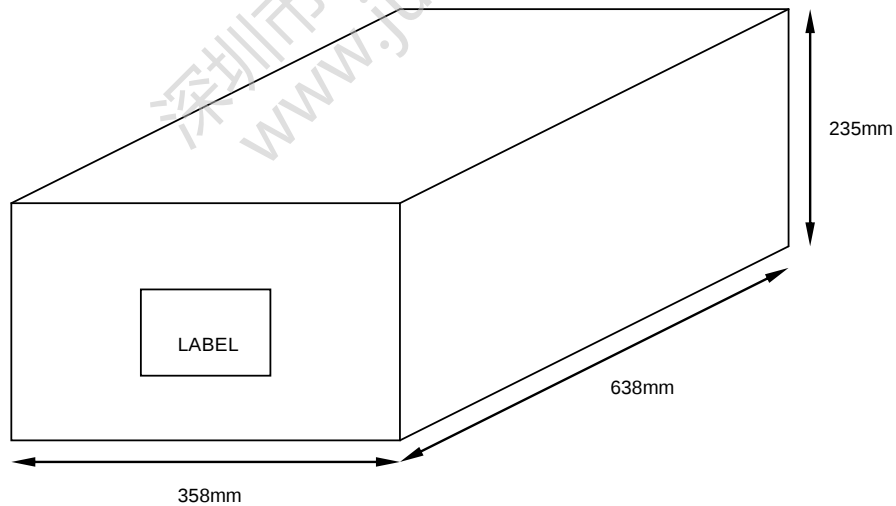
1. Reference document: PD-3-75-010
2. Dimension:



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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