PT3602
General purpose Hall-effect Latch

Applications
- DC brushless motor
- VCD/DVD loader, CD/DVD-Rom
- Cover detector
- Speed Measurement
- Home appliances
- Home safety

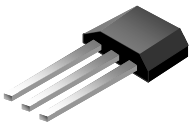
Features
- 2.5V to 18V operation
- Built-in dynamic offset cancellation
- Small size
- High balance and low thermal drift magnetic sensing
- Output with pull-up resistor

Order information
- PT3602-LH /PKG:SOT23
- PT3602-UA /PKG:TO92

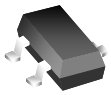
Package Type

P/N: PT3602-XX-X

TO92-3L (UA)



SOT23-3L (LH)



Specifications

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Conditions	Rating	Units
Maximum supply voltage	V_{DD}max		18	V
Allowable power dissipation	Pd	SOT23	300*	mW
		TO92	550*	mW
Operating temperature	Ta	Suffix 'K'	-40~+125	℃
Storage temperature	Ts		-50~+150	℃
Max. output current	I_{OMAX}		25	mA

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

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Electrical Characteristics (T_A=+25°C, V_{DD}=12V)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Units
Supply Voltage	V_{DD}		2.5		18	V
Output Sink Voltage	$V_{DS(ON)}$	@ I_{OUT} =15mA		0.3	0.5	V
Output Breakdown Voltage	V_{BV}		18			V
Supply Current	I_{DD}	Output open		6	8	mA
Internal Pull-up resistor	R_L		6		14	KΩ
Magnetic Characteristics (T_A=+25°C, V_{DD}=12V)						
Operate Point	B_{OP}		-	30	60	G
Release Point	B_{RP}		-60	-30	-	G
Hysteresis	B_{HYS}		20	60	100	G

General Specifications

The PT3602 is designed for magnetic actuating using a bipolar magnetic field. The built-in dynamic offset cancellation of pre-amplifier stage achieves optimal symmetrical magnetic sensing. This Hall effect IC is optimal for DC brushless fan application . 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.

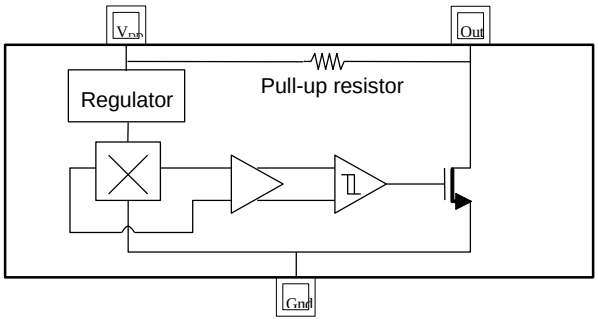
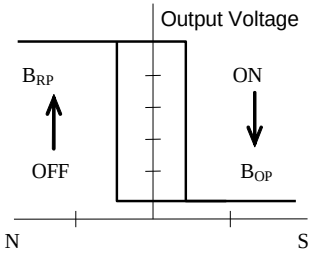
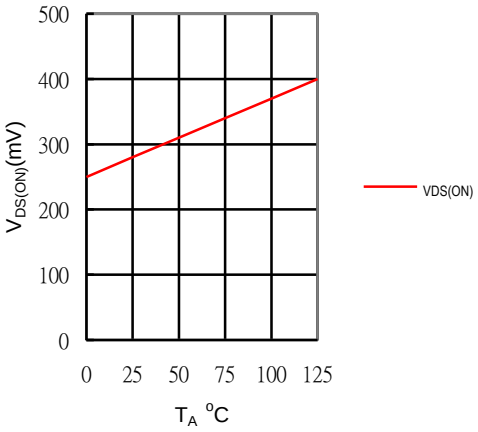


Fig. 1. Functional

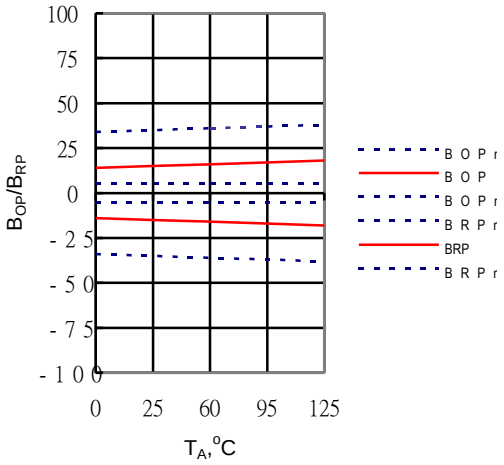
Magnetic Flux Density in Gauss



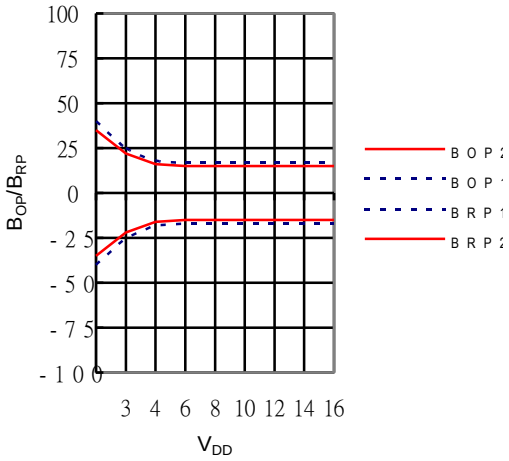
Output sink voltage versus temperature



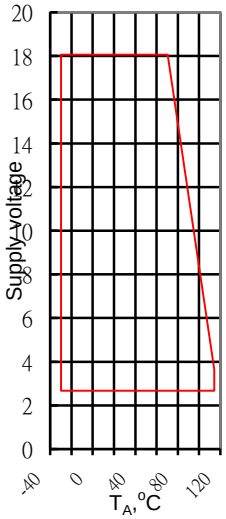
B_{OP}, B_{RP} versus temperature



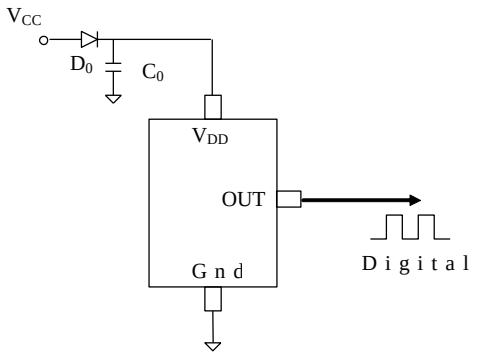
B_{OP}, B_{RP} versus supply voltage



Supply voltage vs T_A C



Application circuits



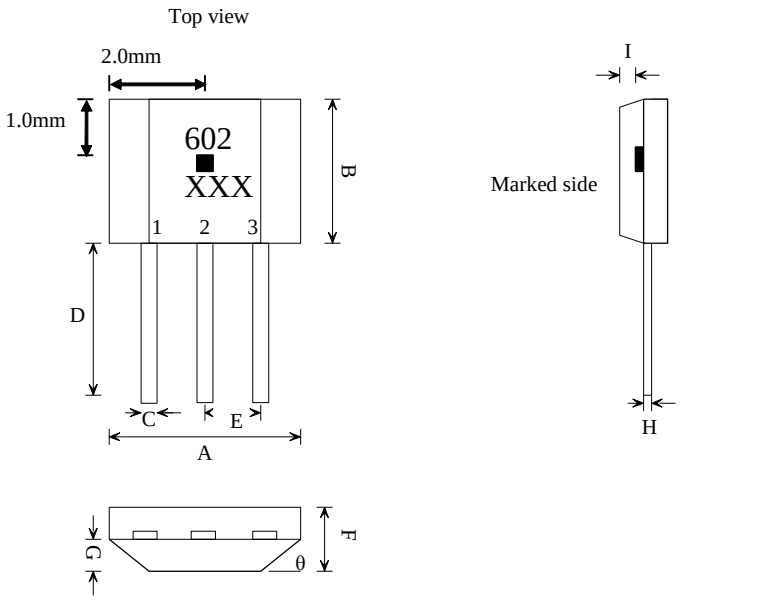
NOTE :

D0: general diode

C0: decoupling capacitor 1uF (recommended)

Package Outline

TO-92(UL)



Marking:
Part Number : 602
Date Code : X(Year) XX(Week)

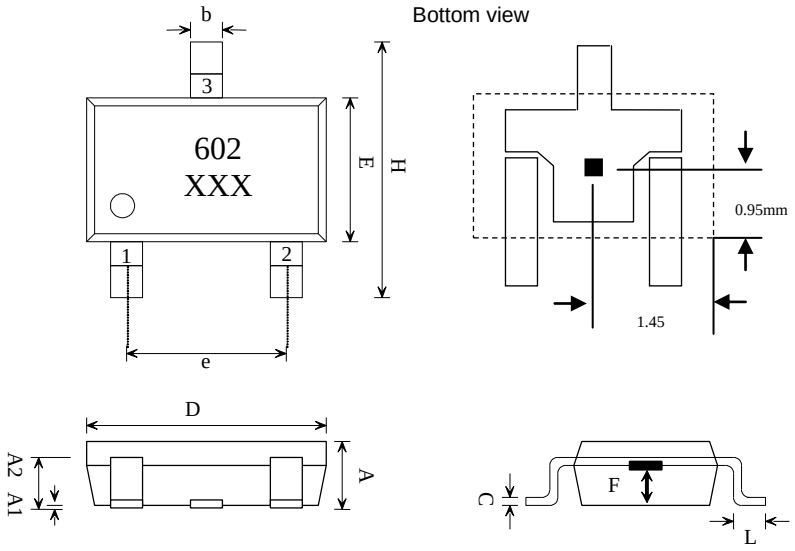
1. VDD/DC power supply
2. GND/DC ground
3. OUT/output pin

SYMBOLS	DIMENSIONS IN MILLIMETERS(mm)		
	MIN	NOM	MAX
A	3.80	4.00	4.20
B	2.80	3.00	3.20
C	0.33	0.40	0.47
D	18.20	18.70	19.20
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	0.33	0.40	0.47
θ		45°	

Package Outline

SOT-23(LH)

Sensor Location



Marking:
Part Number : 602
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	-	-

Order information

Part Number	Temperature Range	Package Type	Package Qty
PT3602UAK	-40°C~+125°C	TO92-3L	1000pcs/Bulk
PT3602LHK	-40°C~+125°C	SOT23-3L	3000pcs/Reel

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