

HS4021- High voltage, with temperature compensated unipolar hall switch(S pole)

HS4021 is highly integrated, high voltage unipolar hall switch, it includes a voltage adjusting element, a temperature compensating element, a dynamic bias elimination unit, and an open collector output of the 20mA. It uses a unique temperature compensated circuit, operating temperature range of -40 to 150 degrees.

It uses a unique and proprietary voltage resistance technology, the working voltage can reach -70 ~ 80Vdc(1 seconds), reach continuous -35 ~ 65Vdc, operation and release magnetic field is not affected by any effect.

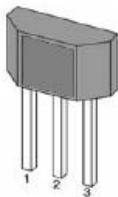
This unipolar hall switch, is refers to the S pole magnetic field induce, and the magnetic field strength is greater than operate point B_{op}, Hall output to a low level; when magnetic field strength is less than release point B_{rp}, Hall output to a high level.

| Feature | Typical application |
|---|---|
| <ul style="list-style-type: none">● -35 ~ 65V continuous work (-75 ~ 80V can work in 1s)● -40° 到 150° C working temp● Unipolar● Open collector output of 20mA● SMT and SIP3, 2 packages | <ul style="list-style-type: none">- Solid state switch- Flow sensor- PG fan motor in air conditioner- Angle sensor |

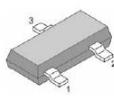
It has 2 types of packaging, both are consistent with RoHS standards:

HS4021A(SIP T092S) :Bulk, 1Kpcs/bag

HS4021B(SMT SOT23-3L) :Reel, 3Kpcs/reel

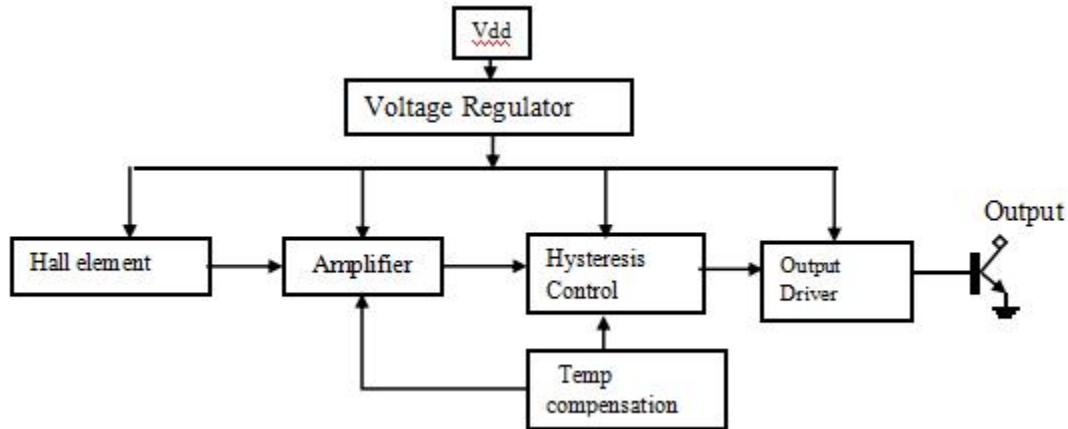


HS4021A (T092S)



HS4021B (SOT23-3L)

Functional Block Diagram:



Absolute Maximum Ratings:

| Characteristic | Symbol | Rating |
|--------------------|--------|-------------------------------------|
| Supply voltage | Vdd | -65 to 90V (90V can bear 1 seconds) |
| Supply current | Idd | 10mA |
| Output off Voltage | Vout | 89.4V |
| Output current | Iout | 20mA |
| Saturation Voltage | Vsat | 0.4V |

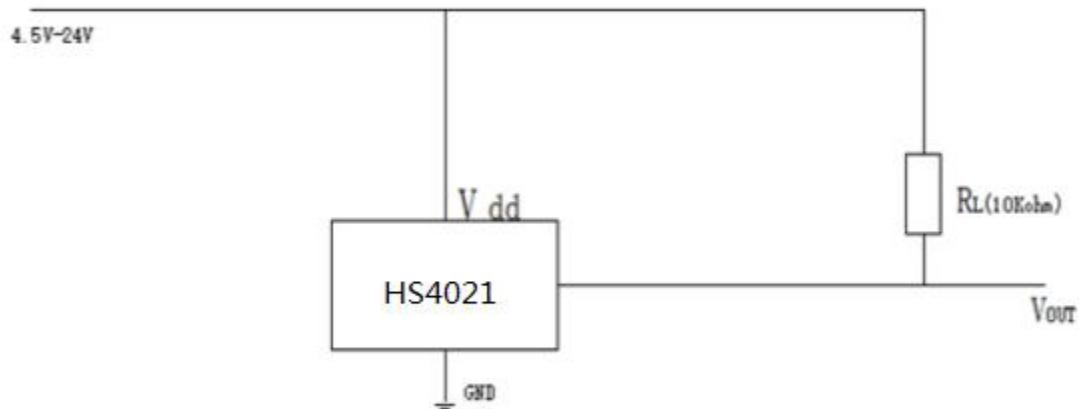
Operating Characteristics: (25° C)

| Characteristic | Symbol | Rating |
|------------------------------|--------|--------------------------|
| Supply voltage | Vdd | 4.5–24V (continuous 24V) |
| Output Leakage current | Ileak | 10uA |
| Operating & Compensated temp | Top | -40 到 150° C |
| Output Rise Time(10% to 90%) | Trise | 1.5us |
| Output Fall Time(90% to 10%) | Tfall | 1.5us |
| Supply Current (mA) | Icc | 4–6mA |

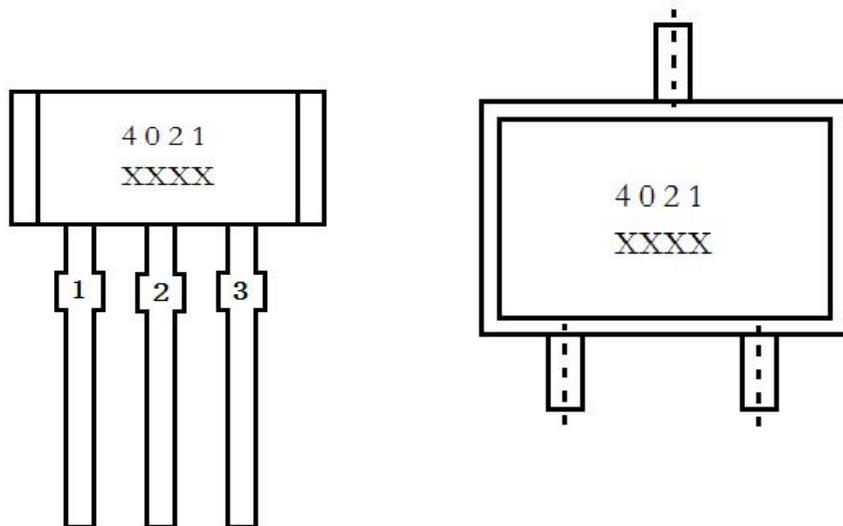
Magnetic Characteristics: (Gauss)

| ° C | Operate Point | | | Release Point | | | Hysteresis | | |
|-----|---------------|-----|-----|---------------|-----|-----|------------|-----|-----|
| | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max |
| -40 | | 63 | 83 | | 33 | 53 | | 30 | 40 |
| 25 | | 60 | 80 | | 30 | 50 | | 30 | 40 |
| 125 | | 57 | 77 | | 27 | 47 | | 30 | 40 |
| 150 | | 50 | | | 20 | | | 30 | 40 |

Circuitry:

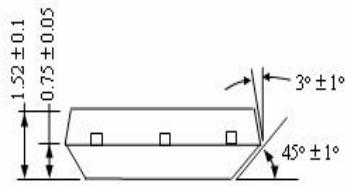


Mark: XXXX – yyww, e. g: 1518(2015, the 18th weeks)

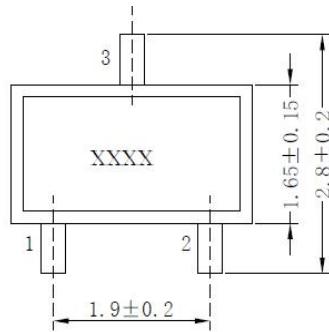
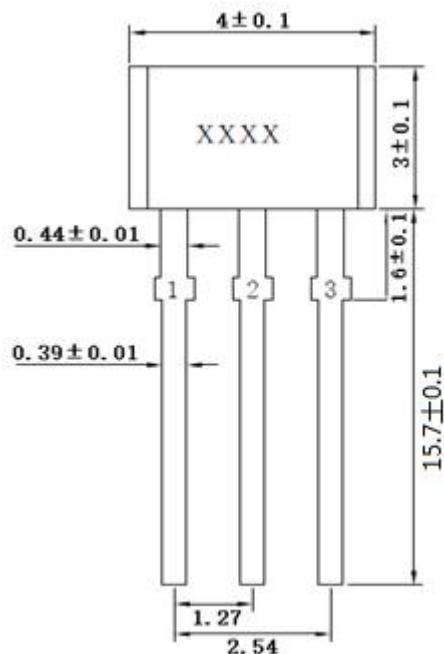
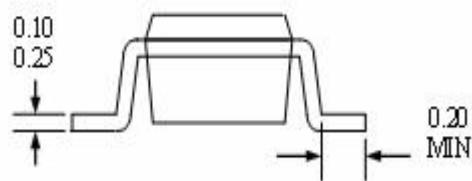


Dimension:

HS4021A (T092S)



HS4021B (SOT23-3L)



#1: Supply voltage – Vdd

#2: Ground – GND

#3: Output

#1: Supply voltage – Vdd

#2: Output

#3: Ground – GND

Suzhou Senstek Measurement & Control Technology Co., Ltd

North wing, 1st Floor, No.15, GangAo Rd, ZhangJiaGang Bonded Area, JiangSu Prov

Tel: 0086-512-89595980, 0086-13801780820