

Product Catalogue

Sensors

2020-2021

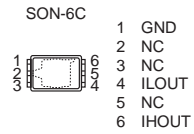


Features	Series Name	Page
Ultraviolet Light Sensors		
ULTRAVIOLET LIGHT SENSOR, UV-A to UV-B SENSING Si PHOTODIODE	S-5420	6-3
Temperature Sensor ICs		
HIGH-ACCURACY DIGITAL TEMPERATURE SENSOR WITH THERMOSTAT FUNCTION	S-5852A Series	6-4
2-WIRE DIGITAL TEMPERATURE SENSOR	S-5851A Series	6-4
CMOS TEMPERATURE SENSOR IC	S-58LM20A Series	6-4
CMOS TEMPERATURE SENSOR IC	S-8110C/8120C Series	6-5
CMOS TEMPERATURE SENSOR IC	S-5813A/5814A Series	6-5
TEMPERATURE SWITCH IC (THERMOSTAT IC)	S-5844A Series	6-5
TEMPERATURE SWITCH IC (THERMOSTAT IC)	S-5841 Series	6-5
Magnetic Sensor ICs		
LOW VOLTAGE OPERATION OMNIPOLAR / UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC WITH SWITCHABLE DETECTION POLE FUNCTION	S-5718 Series	6-6
HIGH-SPEED LOW VOLTAGE OPERATION OMNIPOLAR / UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-5712E Series	6-6
LOW VOLTAGE OPERATION OMNIPOLAR / UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-5712A/B/C Series	6-6
LOW VOLTAGE OPERATION BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC	S-5717 Series	6-6
HIGH-SPEED / MIDDLE-SPEED LOW CURRENT CONSUMPTION BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC	S-5715 Series	6-7
LOW CURRENT CONSUMPTION BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC	S-5716 Series	6-7
125°C OPERATION HIGH-SPEED UNIPOLAR DETECTION TYPE HALL IC	S-57B1 Series	6-7
LOW VOLTAGE OPERATION HIGH-SPEED BIPOLAR HALL EFFECT LATCH	S-5724 Series	6-8
HIGH-SPEED BIPOLAR HALL EFFECT LATCH	S-5725 Series	6-8
HIGH-SPEED BIPOLAR HALL EFFECT LATCH	S-57M1 Series	6-8
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, OMNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-575D B Series	6-9
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-575S/5N B Series	6-9
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-5732 B Series	6-9
HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-5732 I Series	6-9
HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC	S-5731 Series	6-10
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZERO CROSSING LATCH HALL EFFECT IC	S-576Z B Series	6-10
EXTENDED OPERATION TEMPERATURE RANGE, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZERO CROSSING LATCH HALL EFFECT IC	S-576Z R Series	6-10
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, BIPOLAR HALL EFFECT LATCH IC	S-576B B Series	6-11

Features	Series Name	Page
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC	S-5743 A Series	6-11
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, BIPOLAR HALL EFFECT LATCH IC	S-5742 B Series	6-11
HIGH-WITHSTAND VOLTAGE HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC	S-5742 I Series	6-12
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC	S-5741 B Series	6-12

S-5420**ULTRAVIOLET LIGHT SENSOR,
UV-A to UV-B SENSING Si PHOTODIODE****● Features**

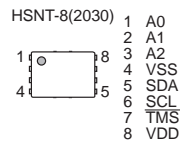
- Wide-range sensitivity wavelength: $\lambda = 250 \text{ nm to } 1000 \text{ nm}$
- High-sensitivity ultraviolet light detection: $S_H = 0.17 \text{ A/W } (\lambda = 365 \text{ nm})$
- Ultraviolet components detection: As a result of the difference of output between two types of photodiodes (Requirement: external parts)
- Lead-free, halogen-free



S-5852A Series**HIGH-ACCURACY DIGITAL TEMPERATURE SENSOR WITH THERMOSTAT FUNCTION****Features**

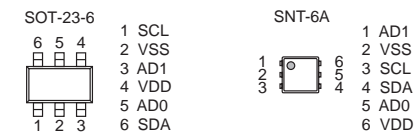
- Temperature accuracy, high-accuracy temperature range^{*1}: $\pm 0.5^{\circ}\text{C}$ typ. / $\pm 1.0^{\circ}\text{C}$ max. ($T_a = 0^{\circ}\text{C}$ to $+65^{\circ}\text{C}$)
 $\pm 0.5^{\circ}\text{C}$ typ. / $\pm 1.0^{\circ}\text{C}$ max. ($T_a = +75^{\circ}\text{C}$ to $+95^{\circ}\text{C}$)
- Temperature resolution: 0.5°C , 0.25°C , 0.125°C , 0.0625°C
(Selectable by the resolution register)
- Temperature sample rate: 7 samples / s min.
- Hysteresis width: No hysteresis, 1.5°C , 3.0°C , 6.0°C
(Selectable by the configuration register)
- Current consumption:
Shutdown mode at serial bus non-active: $I_{DD3} = 0.3 \mu\text{A}$ typ., $I_{DD3} = 3.0 \mu\text{A}$ max.
Active mode at serial bus non-active: $I_{DD1} = 40.0 \mu\text{A}$ typ., $I_{DD1} = 100.0 \mu\text{A}$ max.
- Operation voltage range: 1.7 V to 3.6 V
- Operation frequency: 1.0 MHz max. ($V_{DD} = 2.2 \text{ V}$ to 3.6 V)
 400 kHz max. ($V_{DD} = 1.7 \text{ V}$ to 2.2 V)
- Thermostat function: Dual trip mode, single trip mode
(Selectable by the configuration register)
Schmitt trigger and noise filter on input pins (SCL, SDA)
 $T_a = -40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$
- Noise suppression:
- Operation temperature range:
- Lead-free (Sn 100%), halogen-free

*1. The option of the high-accuracy temperature range can be selected.

**S-5851A Series****2-WIRE DIGITAL TEMPERATURE SENSOR****Features**

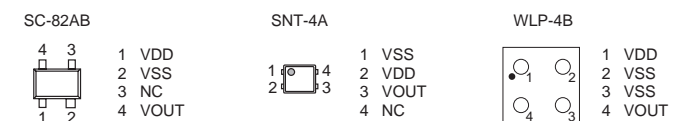
- Low voltage operation : V_{DD} (min.) = 2.7 V
- Low current consumption : $45 \mu\text{A}$ typ. ($+25^{\circ}\text{C}$)
 $1 \mu\text{A}$ typ. ($+25^{\circ}\text{C}$ at shutdown)
- High accuracy : $\pm 2.0^{\circ}\text{C}$ (max.) -25°C to $+85^{\circ}\text{C}$
 $\pm 3.0^{\circ}\text{C}$ (max.) -40°C to $+125^{\circ}\text{C}$
- Temperature resolution : 0.0625°C
- Digital output : 2-wire serial interface
- Maximum operating frequency : 400 kHz
- Low power supply voltage detection circuit
- Lead-free, Sn 100%, halogen-free^{*1}

*1. Refer to "■ Product Name Structure" for details.

**S-58LM20A Series****CMOS TEMPERATURE SENSOR IC****Features**

- Accuracy against temperature : $\pm 2.5^{\circ}\text{C}$ (-55°C to $+130^{\circ}\text{C}$)
- Linear output voltage : $-11.77 \text{ mV}/^{\circ}\text{C}$ Typ.
 $T_a = -30^{\circ}\text{C}$: 2.205 V Typ.
 $T_a = +30^{\circ}\text{C}$: 1.515 V Typ.
 $T_a = +130^{\circ}\text{C}$: 0.303 V Typ.
- Nonlinearity : $\pm 0.4\%$ Typ. (-20 to $+80^{\circ}\text{C}$)
- Operation in wide range of power supply voltage : $V_{DD} = 2.4$ to 5.5 V (-30°C to $+130^{\circ}\text{C}$)
 $V_{DD} = 2.7$ to 5.5 V (-55°C to $+130^{\circ}\text{C}$)
 $4.5 \mu\text{A}$ Typ. ($+25^{\circ}\text{C}$) $6.0 \mu\text{A}$ Max. (-55°C to $+130^{\circ}\text{C}$)
- Low current consumption
- Built-in operational amplifier
- Output voltage referred to V_{SS}
- Lead-free, Sn 100%, halogen-free^{*1}

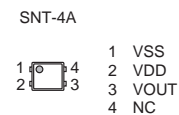
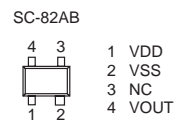
*1. Refer to "■ Product Name Structure" for details.



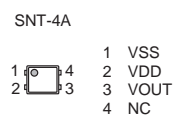
S-8110C/8120C Series**CMOS TEMPERATURE SENSOR IC****Features**

- Temperature accuracy
S-8110C Series: $\pm 5.0^{\circ}\text{C}$ (-30°C to $+100^{\circ}\text{C}$)
S-8120C Series: $\pm 2.5^{\circ}\text{C}$ (-30°C to $+100^{\circ}\text{C}$)
-8.20 mV/ $^{\circ}\text{C}$ typ.
- Linear output voltage
Ta = -30°C : 1.951 V typ.
Ta = $+30^{\circ}\text{C}$: 1.474 V typ.
Ta = $+100^{\circ}\text{C}$: 0.882 V typ.
 $\pm 0.5\%$ typ. (-20°C to $+80^{\circ}\text{C}$)
- Nonlinearity
- Wide power supply voltage operation V_{DD} = 2.4 V to 10.0 V
- Low current consumption 4.5 μA typ. ($+25^{\circ}\text{C}$)
- Built-in operational amplifier
- V_{SS} standard output
- Lead-free, Sn 100%, halogen-free^{*1}

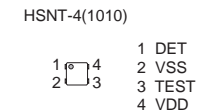
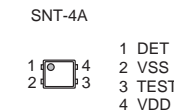
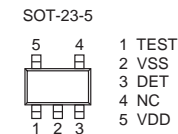
*1. Refer to "■ Product Name Structure" for details.

**S-5813A/5814A Series****CMOS TEMPERATURE SENSOR IC****Features**

- Temperature accuracy
S-5813A Series: $\pm 5.0^{\circ}\text{C}$ (-30°C to $+100^{\circ}\text{C}$)
S-5814A Series: $\pm 2.5^{\circ}\text{C}$ (-30°C to $+100^{\circ}\text{C}$)
-11.04 mV/ $^{\circ}\text{C}$ typ.
- Linear output voltage
Ta = -30°C : 2.582 V typ.
Ta = $+30^{\circ}\text{C}$: 1.940 V typ.
Ta = $+100^{\circ}\text{C}$: 1.145 V typ.
 $\pm 0.5\%$ typ. (-20°C to $+80^{\circ}\text{C}$)
- Nonlinearity
- Wide power supply voltage operation V_{DD} = 2.4 V to 10.0 V ($+25^{\circ}\text{C}$)
- Low current consumption 4.0 μA typ. ($+25^{\circ}\text{C}$)
- Built-in operational amplifier
- Output voltage referred to V_{SS}
- Lead-free (Sn 100%), halogen-free

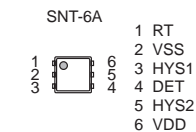
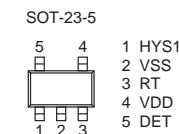
**S-5844A Series****TEMPERATURE SWITCH IC (THERMOSTAT IC)****Features**

- Detection temperature: T_{DET} = $+50^{\circ}\text{C}$ to $+100^{\circ}\text{C}$, $+5^{\circ}\text{C}$ step, detection accuracy: $\pm 2.5^{\circ}\text{C}$
- Low voltage operation: V_{DD} = 1.65 V min.
- Low current consumption: I_{DD} = 0.18 μA typ. (Ta = $+25^{\circ}\text{C}$)
- Hysteresis temperature: selectable in 5°C , 10°C , 15°C or 20°C
- Selectable output logic in active "H" or active "L"
- Selectable output form in CMOS or Nch open-drain
- Operation temperature range: Ta = -40°C to $+125^{\circ}\text{C}$
- Lead-free (Sn 100%), halogen-free

**S-5841 Series****TEMPERATURE SWITCH IC (THERMOSTAT IC)****Features**

- Detection temperature: T_{DET} = $+40^{\circ}\text{C}$ to $+100^{\circ}\text{C}$, $+1^{\circ}\text{C}$ step, detection accuracy: $\pm 2.5^{\circ}\text{C}$
- Low voltage operation: V_{DD} = 2.2 V min.
(Detection temperature = $+55^{\circ}\text{C}$ to $+100^{\circ}\text{C}$, Ta = -40°C to $+100^{\circ}\text{C}$)
- Low current consumption: I_{DD} = 10 μA typ. (Ta = $+25^{\circ}\text{C}$)
- Hysteresis temperature can be switched in 0°C , 2°C , 4°C and 10°C .
- Selectable output logic in active "H" or "L"
- Selectable output form in CMOS or Nch open drain
- Operation temperature range: Ta = -40°C to $+125^{\circ}\text{C}$
- Lead-free, Sn 100%, halogen-free^{*1}

*1. Refer to "■ Product Name Structure" for details.



S-5718 Series

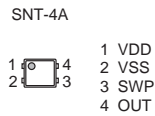
LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC WITH SWITCHABLE DETECTION POLE FUNCTION

Features

- Switchable detection pole function: Omnipolar detection, S pole detection, N pole detection
- Output logic^{*1}: Active "L"
Active "H"
- Output form: CMOS output
- Magnetic sensitivity (hysteresis width)^{*1}:
B_{OP} = 1.8 mT typ. (B_{HYS} = 0.7 mT typ.)
B_{OP} = 3.0 mT typ. (B_{HYS} = 0.8 mT typ.)
B_{OP} = 3.0 mT typ. (B_{HYS} = 1.3 mT typ.)
B_{OP} = 4.5 mT typ. (B_{HYS} = 1.0 mT typ.)
B_{OP} = 4.5 mT typ. (B_{HYS} = 2.5 mT typ.)
- Operating cycle (current consumption)^{*1}:
t_{CYCLE} = 102.1 ms typ. (I_{DD} = 1.4 μA typ.)
t_{CYCLE} = 50.5 ms typ. (I_{DD} = 2.0 μA typ.)
t_{CYCLE} = 5.7 ms typ. (I_{DD} = 12.0 μA typ.)
- Power supply voltage range^{*2}: V_{DD} = 1.45 V to 3.6 V
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

*2. Power supply voltage range is different by optional combination.



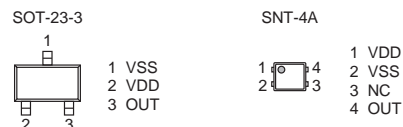
S-5712E Series

HIGH-SPEED LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC

Features

- Pole detection^{*1}: Detection of omnipolar, S pole or N pole
- Output logic^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity^{*1}:
B_{OP} = 3.0 mT typ.
B_{OP} = 4.5 mT typ.
B_{OP} = 7.0 mT typ.
- Operating cycle (current consumption):
Product with omnipolar detection
t_{CYCLE} = 0.10 ms (I_{DD} = 640 μA) typ.
Product with S pole or N pole detection
t_{CYCLE} = 0.05 ms (I_{DD} = 640 μA) typ.
- Power supply voltage range: V_{DD} = 1.6 V to 3.5 V
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



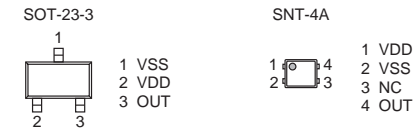
S-5712A/B/C Series

LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC

Features

- Pole detection^{*1}: Detection of omnipolar, S pole or N pole
- Output logic^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity^{*1}:
B_{OP} = 1.8 mT typ.
B_{OP} = 3.0 mT typ.
B_{OP} = 4.5 mT typ.
B_{OP} = 7.0 mT typ.
- Operating cycle (current consumption)^{*1}:
Product with omnipolar detection
t_{CYCLE} = 5.70 ms (I_{DD} = 12.0 μA) typ.
t_{CYCLE} = 50.50 ms (I_{DD} = 2.0 μA) typ.
t_{CYCLE} = 204.10 ms (I_{DD} = 1.0 μA) typ.
Product with S pole or N pole detection
t_{CYCLE} = 6.05 ms (I_{DD} = 6.0 μA) typ.
t_{CYCLE} = 50.85 ms (I_{DD} = 1.4 μA) typ.
t_{CYCLE} = 204.05 ms (I_{DD} = 1.0 μA) typ.
- Power supply voltage range: V_{DD} = 1.6 V to 3.5 V
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



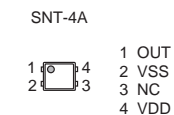
S-5717 Series

LOW VOLTAGE OPERATION
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC

Features

- Pole detection^{*1}: Detection of both poles, S pole or N pole
- Detection logic for magnetism^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity:
B_{OP} = 3.3 mT typ.
- Operating cycle (current consumption)^{*1}:
Product with both poles detection
t_{CYCLE} = 50.50 ms (I_{DD} = 2.0 μA) typ.
Product with S pole or N pole detection
t_{CYCLE} = 50.85 ms (I_{DD} = 1.4 μA) typ.
- Power supply voltage range: V_{DD} = 1.6 V to 3.6 V
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



S-5715 Series

**HIGH-SPEED / MIDDLE-SPEED LOW CURRENT CONSUMPTION
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC**

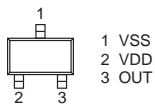
Features

- Pole detection^{*1}: Detection of both poles, S pole or N pole
- Detection logic for magnetism^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity: $B_{OP} = 3.0$ mT typ.
- Operating cycle (current consumption)^{*1}:
 - Product with both poles detection
 - $t_{CYCLE} = 0.10$ ms (1400 μ A) typ.
 - $t_{CYCLE} = 0.90$ ms (155 μ A) typ.
 - $t_{CYCLE} = 5.70$ ms (26 μ A) typ.
 - Product with S pole or N pole detection
 - $t_{CYCLE} = 0.05$ ms (1400 μ A) typ.
 - $t_{CYCLE} = 1.25$ ms (60 μ A) typ.
 - $t_{CYCLE} = 6.05$ ms (13 μ A) typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 5.5 V
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free^{*2}

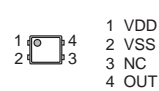
*1. The option can be selected.

*2. Refer to "■ Product Name Structure" for details.

SOT-23-3



SNT-4A



S-5716 Series

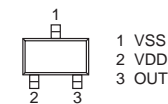
**LOW CURRENT CONSUMPTION
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC**

Features

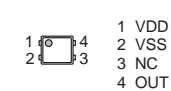
- Pole detection^{*1}: Detection of both poles, S pole or N pole
- Detection logic for magnetism^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity^{*1}:
 - $B_{OP} = 1.8$ mT typ.
 - $B_{OP} = 3.0$ mT typ.
 - $B_{OP} = 3.4$ mT typ.
 - $B_{OP} = 4.5$ mT typ.
 - $B_{OP} = 7.0$ mT typ.
- Operating cycle (current consumption):
 - Product with both poles detection
 - $t_{CYCLE} = 50.50$ ms ($I_{DD} = 4.0$ μ A) typ.
 - Product with S pole or N pole detection
 - $t_{CYCLE} = 50.85$ ms ($I_{DD} = 2.6$ μ A) typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 5.5 V
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

SOT-23-3



SNT-4A



S-57B1 Series

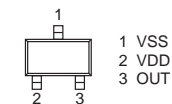
**125°C OPERATION HIGH-SPEED
UNIPOLAR DETECTION TYPE HALL IC**

Features

- Pole detection: Detection of S pole
- Detection logic for magnetism^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open drain output, CMOS output
- Magnetic sensitivity^{*1}:
 - $B_{OP} = 3.0$ mT typ.
 - $B_{OP} = 4.5$ mT typ.
 - $B_{OP} = 7.0$ mT typ.
- Operating cycle: $t_{CYCLE} = 50$ μ s typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 5.5 V
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The Option can be selected.

SOT-23-3



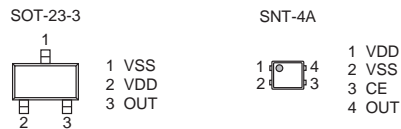
S-5724 Series

LOW VOLTAGE OPERATION HIGH-SPEED BIPOLAR HALL EFFECT LATCH

● Features

- Pole detection:
- Detection logic for magnetism^{*1}: Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity: $B_{OP} = 3.0$ mT typ.
- Operating cycle (current consumption)^{*1}:
 $t_{CYCLE} = 50$ μ s ($I_{DD} = 640.0$ μ A) typ.
 $t_{CYCLE} = 1.25$ ms ($I_{DD} = 26.0$ μ A) typ.
 $t_{CYCLE} = 6.05$ ms ($I_{DD} = 6.0$ μ A) typ.
- Power supply voltage range: $V_{DD} = 1.6$ V to 3.5 V
- Operation temperature range: $T_a = -40^{\circ}$ C to $+85^{\circ}$ C
- Built-in power-down circuit: Extends battery life (only SNT-4A)
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



S-57M1 Series

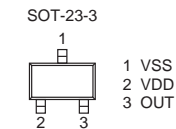
HIGH-SPEED BIPOLAR HALL EFFECT LATCH

● Features

- Pole detection:
- Detection logic for magnetism^{*1}: Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity: $B_{OP} = 3.0$ mT typ.
- Operation cycle (current consumption): $t_{CYCLE} = 50$ μ s (1400 μ A) typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 5.5 V
- Operation temperature range: $T_a = -40^{\circ}$ C to $+125^{\circ}$ C
- Lead-free (Sn 100%), halogen-free^{*2}

*1. The option can be selected.

*2. Refer to "■ Product Name Structure" for details.



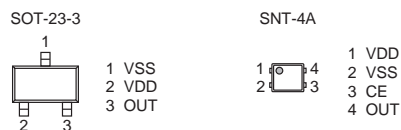
S-5725 Series

HIGH-SPEED BIPOLAR HALL EFFECT LATCH

● Features

- Pole detection:
- Detection logic for magnetism^{*1}: Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output, CMOS output
- Magnetic sensitivity^{*1}: $B_{OP} = 0.8$ mT typ.
 $B_{OP} = 1.8$ mT typ.
 $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 7.0$ mT typ.
- Operating cycle (current consumption)^{*1}:
 $t_{CYCLE} = 50$ μ s ($I_{DD} = 1400.0$ μ A) typ.
 $t_{CYCLE} = 1.25$ ms ($I_{DD} = 60.0$ μ A) typ.
 $t_{CYCLE} = 6.05$ ms ($I_{DD} = 13.0$ μ A) typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 5.5 V
- Operation temperature range: $T_a = -40^{\circ}$ C to $+85^{\circ}$ C
- Built-in power-down circuit: Extends battery life (only SNT-4A)
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



S-575D B Series

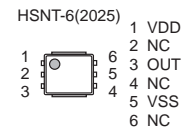
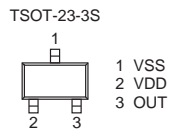
125°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
OMNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection: Omnipolar detection
- Output logic^{*1}: Active "L"
Active "H"
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity^{*1}: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
 $B_{OP} = 15.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 16.0$ μs typ.
- Power supply voltage range^{*2}: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40$ °C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



S-575S/5N B Series

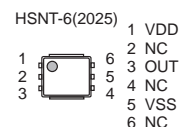
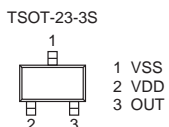
125°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection: Unipolar detection
- Output logic^{*1}: Active "L"
Active "H"
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity^{*1}: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
 $B_{OP} = 15.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μs typ.
- Power supply voltage range^{*2}: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40$ °C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



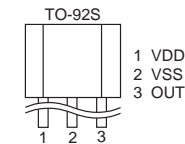
S-5732 B Series

125°C OPERATION
HIGH-WITHSTAND VOLTAGE HIGH-SPEED
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection^{*1}: Detection of S pole
Detection of N pole
- Output logic^{*1}: Active "L"
Active "H"
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor
- Magnetic sensitivity^{*1}: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
- Chopping frequency: $f_C = 250$ kHz typ.
- Output delay time: $t_D = 16.0$ μs typ.
- Power supply voltage range: $V_{DD} = 3.5$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40$ °C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



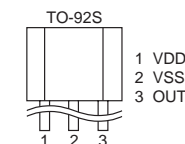
S-5732 I Series

HIGH-WITHSTAND VOLTAGE HIGH-SPEED
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection^{*1}: Detection of S pole
Detection of N pole
- Output logic^{*1}: Active "L"
Active "H"
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor
- Magnetic sensitivity^{*1}: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
- Chopping frequency: $f_C = 250$ kHz typ.
- Output delay time: $t_D = 16.0$ μs typ.
- Power supply voltage range: $V_{DD} = 3.5$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40$ °C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



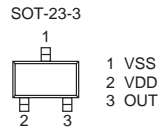
S-5731 Series

HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection^{*1}: Detection of S pole, detection of N pole
- Output logic^{*1}: Active "L", active "H"
- Output form^{*1}: Nch open-drain output, Nch driver + built-in pull-up resistor
- Magnetic sensitivity^{*1}: $B_{OP} = 3.0 \text{ mT typ.}$, $B_{OP} = 6.0 \text{ mT typ.}$
- Chopping frequency: $f_C = 250 \text{ kHz typ.}$
- Output delay time: $t_D = 16.0 \mu\text{s typ.}$
- Power supply voltage range: $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C to } +85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.



S-576Z B Series

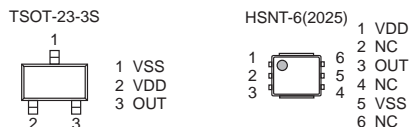
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZERO CROSSING LATCH HALL EFFECT IC

Features

- Pole detection: Zero Crossing Latch detection
- Output logic^{*1}: $V_{OUT} = \text{"L"}$ at S pole detection, $V_{OUT} = \text{"H"}$ at S pole detection
- Output form^{*1}: Nch open-drain output, Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Zero crossing latch point: $B_Z = 0.0 \text{ mT typ.}$
- Release point (S pole)^{*1}: $B_{RS} = 3.0 \text{ mT typ.}$, $B_{RS} = 6.0 \text{ mT typ.}$
- Chopping frequency: $f_C = 500 \text{ kHz typ.}$
- Output delay time: $t_D = 8.0 \mu\text{s typ.}$
- Power supply voltage range^{*2}: $V_{DD} = 2.7 \text{ V to } 26.0 \text{ V}$
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C to } +125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

*2. $V_{DD} = 2.7 \text{ V to } 5.5 \text{ V}$ when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



S-576Z R Series

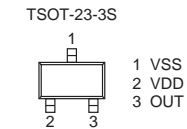
EXTENDED OPERATION TEMPERATURE RANGE, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZERO CROSSING LATCH HALL EFFECT IC

Features

- Pole detection: Zero Crossing Latch detection
- Output logic^{*1}: $V_{OUT} = \text{"L"}$ at S pole detection, $V_{OUT} = \text{"H"}$ at S pole detection
- Output form^{*1}: Nch open-drain output, Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Zero crossing latch point: $B_Z = 0.0 \text{ mT typ.}$
- Release point (S pole)^{*1}: $B_{RS} = 3.0 \text{ mT typ.}$, $B_{RS} = 6.0 \text{ mT typ.}$
- Chopping frequency: $f_C = 500 \text{ kHz typ.}$
- Output delay time: $t_D = 8.0 \mu\text{s typ.}$
- Power supply voltage range^{*2}: $V_{DD} = 2.7 \text{ V to } 26.0 \text{ V}$
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -50^\circ\text{C to } +150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

*2. $V_{DD} = 2.7 \text{ V to } 5.5 \text{ V}$ when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



S-576B B Series

125°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
BIPOLAR HALL EFFECT LATCH IC

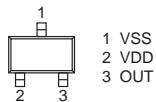
Features

- Pole detection: Bipolar latch
- Output logic^{*1}: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 k Ω typ.)
- Magnetic sensitivity^{*1}: $B_{OP} = 0.5$ mT typ.
 $B_{OP} = 2.2$ mT typ.
 $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μ s typ.
- Power supply voltage range^{*2}: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

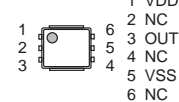
*1. The option can be selected.

*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 k Ω typ.)

TSOT-23-3S



HSNT-6(2025)



S-5743 A Series

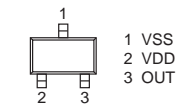
125°C OPERATION
HIGH-WITHSTAND VOLTAGE HIGH-SPEED
BIPOLAR HALL EFFECT LATCH IC

Features

- Pole detection: Bipolar latch
- Output logic^{*1}: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form: Nch open-drain output
- Magnetic sensitivity^{*1}: $B_{OP} = 0.5$ mT typ.
 $B_{OP} = 1.5$ mT typ.
 $B_{OP} = 2.2$ mT typ.
 $B_{OP} = 3.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μ s typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

SOT-23-3S



S-5742 B Series

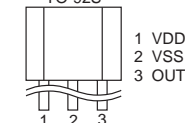
125°C OPERATION
HIGH-WITHSTAND VOLTAGE HIGH-SPEED
BIPOLAR HALL EFFECT LATCH IC

Features

- Pole detection: Bipolar latch
- Output logic^{*1}: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor
- Magnetic sensitivity^{*1}: $B_{OP} = 1.8$ mT typ.
 $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μ s typ.
- Power supply voltage range: $V_{DD} = 3.5$ V to 26.0 V
- Built-in regulator
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

*1. The option can be selected.

TO-92S



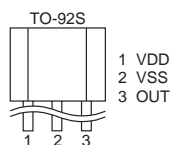
S-5742 I Series

HIGH-WITHSTAND VOLTAGE HIGH-SPEED
BIPOLAR HALL EFFECT LATCH IC

● Features

- Pole detection:
 - Output logic^{*1}:
 - Output form^{*1}:
 - Magnetic sensitivity^{*1}:
 - Chopping frequency:
 - Output delay time:
 - Power supply voltage range:
 - Built-in regulator
 - Built-in output current limit circuit
 - Operation temperature range:
 - Lead-free (Sn 100%), halogen-free
- Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
 Nch open-drain output
 Nch driver + built-in pull-up resistor
 $B_{OP} = 1.8 \text{ mT typ.}$
 $B_{OP} = 3.0 \text{ mT typ.}$
 $B_{OP} = 6.0 \text{ mT typ.}$
 $f_C = 500 \text{ kHz typ.}$
 $t_D = 8.0 \mu\text{s typ.}$
 $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- $T_a = -40^\circ\text{C to } +85^\circ\text{C}$

*1. The option can be selected.



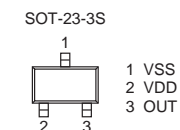
S-5741 B Series

125°C OPERATION
HIGH-WITHSTAND VOLTAGE HIGH-SPEED
BIPOLAR HALL EFFECT LATCH IC

● Features

- Pole detection:
 - Output logic^{*1}:
 - Output form^{*1}:
 - Magnetic sensitivity^{*1}:
 - Chopping frequency:
 - Output delay time:
 - Power supply voltage range:
 - Built-in regulator
 - Built-in output current limit circuit
 - Operation temperature range:
 - Lead-free (Sn 100%), halogen-free
- Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
 Nch open-drain output
 Nch driver + built-in pull-up resistor
 $B_{OP} = 1.8 \text{ mT typ.}$
 $B_{OP} = 3.0 \text{ mT typ.}$
 $B_{OP} = 6.0 \text{ mT typ.}$
 $f_C = 500 \text{ kHz typ.}$
 $t_D = 8.0 \mu\text{s typ.}$
 $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- $T_a = -40^\circ\text{C to } +125^\circ\text{C}$

*1. The option can be selected.

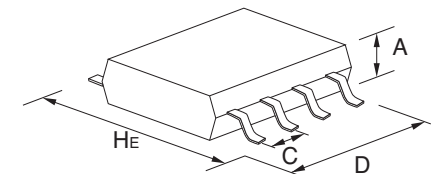


Package List

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			H _E	D	A (max.)	C
Lead insertion type	3	TO-92	7.0	5.2	4.2	2.5/1.27
	3	TO-92S	4.95	4.1	1.62	2.5/1.27
Flat-lead type	3	SOT-89-3	4.0	4.5	1.6	1.5
	5	SOT-89-5	4.5	4.5	1.6	1.5
Gull-wing type	4	SC-82AB	2.1	2.0	1.1	1.3
	5	SC-88A	2.1	2.0	1.1	0.65
	3	SOT-23-3	2.8	2.9	1.3	1.9
	3	SOT-23-3S	2.8	2.9	1.2	1.9
	3	TSOT-23-3S	2.85	2.9	0.8	1.9
	5	SOT-23-5	2.8	2.9	1.3	0.95
	6	SOT-23-6	2.8	2.9	1.35	0.95
	6	SOT-23-6W	2.8	2.9	1.3	0.95
	8	8-Pin SOP (JEDEC)	6.0	5.02	1.75	1.27
	8	8-Pin TSSOP	6.4	3.0	1.1	0.65
	8	8-Pin TSSOP	6.4	3.0	1.1	0.65
	16	16-Pin TSSOP	6.4	5.1	1.1	0.65
	20	20-Pin TSSOP	6.4	6.5	1.2	0.65
	24	24-Pin SSOP	7.6	7.9	1.4	0.65
	8	TMSOP-8	4.0	2.9	0.8	0.65
	8	HTMSOP-8	4.0	2.9	0.8	0.65
	16	HTSSOP-16	6.4	5.12	1.1	0.65
	6	HSOP-6	6.0	5.02	1.75	1.91
	8	HSOP-8A	6.0	5.02	1.68	1.27
	8	HSOP-8A	6.0	5.02	1.65	1.27
	8	HSOP-8Q	6.0	5.02	1.68	1.27
	5	TO-252-5S(A)	6.5	6.5	1.4	1.27
	9	TO-252-9S	6.5	6.5	1.4	0.65

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			H _E	D	A (max.)	C
Non-lead type	6	6-Pin HSON(A)	3.0	2.9	0.9	0.95
	6	SON-6C	2.55	1.56	0.65	0.5
	4	SNT-4A	1.6	1.2	0.5	0.65
	6	SNT-6A SNT-6A(H)	1.8	1.57	0.5	0.5
	8	SNT-8A	2.46	1.97	0.5	0.5
	4	HSNT-4(0808)	0.8	0.8	0.4	0.4
	4	HSNT-4(0808)B	0.8	0.8	0.41	0.4
	4	HSNT-4(1010)	1.0	1.0	0.4	0.65
	4	HSNT-4(1010)B	1.0	1.0	0.41	0.65
	6	HSNT-6(1212)	1.2	1.2	0.4	0.4
	6	HSNT-6A	2.46	1.96	0.5	0.5
	6	HSNT-6(2025)	2.46	1.96	0.5	0.5
	8	HSNT-8(1616)	1.6	1.6	0.4	0.4
	8	HSNT-8(2030)	3.0	2.0	0.5	0.5
	6	DFN-6(1414)A	1.4	1.4	0.6	0.5
	6	DFN-6(1518)A	1.8	1.5	0.33	0.5
	8	DFN-8(1616)A	1.6	1.6	0.6	0.4
	8	DFN-8(2030)	3.0	2.0	0.5	0.5
	8	DFN-8(2030)A	3.0	2.0	0.6	0.5
	8	DFN-8(2030)B	3.0	2.0	0.8	0.5

Remark Please contact our sales representatives regarding WLP package products.



- The information herein is subject to change without notice.
- Neither reproduction, duplication nor unauthorized use of this catalog in whole or part is allowed without the prior written approval of ABLIC Inc.
- The colors of the products reproduced herein ("Products") may be different from the actual colors. Check colors on actual products before using the Products.
- Circuits and respective application methods described herein are for reference only. ABLIC Inc. shall not be liable for any damages or losses resulting from any claim by third parties that any Products or application methods described herein infringe any right intellectual property right. All intellectual property rights with respect to the Products belong exclusively to ABLIC Inc. ABLIC Inc. does not grant users of the Products any right or license to the Products hereunder.
- When Products include Strategic Products (or Services) stipulated in the Foreign Exchange and Trade Control Law, they shall not be exported without permission of governmental authorities.
- The Products cannot be used as part of any device or equipment which influences the human body or requires a significantly high reliability, such as physical exercise equipment, medical equipment, disaster prevention equipment, gas related equipment, vehicles, in-vehicle equipment, aviation equipment, aerospace equipment, and nuclear-related equipment.
- The products described herein are not designed to be radiation-proof.
- Although ABLIC Inc. exerts the greatest possible effort to ensure high quality and reliability, the failure or malfunction of semiconductor products may occur. The user of these products should therefore give thorough consideration to safety design, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue.



Smaller footprint. Energy efficiency. Safe, reliable, dependable.

ABLIC world class watch manufacturing yielded ultra low current consumption, low voltage operation, and super-small package technology for ABLIC's solutions.

Fine craftsmanship delivering the highest quality and reliability semiconductor products meeting and exceeding industry standards for automotive, consumer, and other demanding applications. ABLIC's solutions - moving technology forward.



Be sure to dispose of products described in this catalog in accordance with the laws and local ordinances of your county.



ABLIC Inc.

www.ablic.com

Contact us

www.ablic.com/en/semicon/sales



Released in February 2021

ABLIC Inc. is a group company of MinebeaMitsumi Inc.



(Specifications are subject to change without notice.)