ABLIC
MinebeaMitsumi Group

Product Catalog

Sensors

2023

ABLIC Inc.

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S-5852A Series

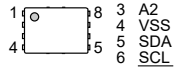
HIGH-ACCURACY DIGITAL TEMPERATURE SENSOR WITH THERMOSTAT FUNCTION

Features

- Temperature accuracy, high-accuracy temperature range*1: ±0.5°C typ. / ±1 0°C max. (Ta = 0°C to +65°C)
  ±0.5°C typ. / ±1 0°C max. (Ta = +75°C to +95°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 μA typ., I_{DD3} = 3.0 μA max.
  Active mode at serial bus non-active: I_{DD1} = 40.0 μA typ., I_{DD1} = 100.0 μA max.
- Operation voltage range: 1.7 V to 3.6 V
- Opera ion frequency: 1.0 MHz max. (V_{DD} = 2.2 V to 3.6 V)
  400 kHz max. (V_{DD} = 1.7 V to 2.2 V)
- Thermostat function: Dual trip mode, single trip mode
  (Selectable by the configuration register)
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Opera ion temperature range: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

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

HSNT-8(2030)



1	A0
2	A1
3	A2
4	VSS
5	SDA
6	SCL
7	TMS
8	VDD

S-5851A Series

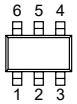
2-WIRE DIGITAL TEMPERATURE SENSOR

Features

- Low voltage operation : V_{DD} (min.) = 2.7 V
- Low current consumption : 45 μA typ. (+25°C)
  1 μA typ. (+25°C at shutdown)
- High accuracy : ±2.0°C (max.) –25°C to +85°C
  ±3.0°C (max.) –40°C to +125°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.

SOT-23-6



1	SCL
2	VSS
3	AD1
4	VDD
5	AD0
6	SDA

SNT-6A

1	AD1
2	VSS
3	SCL
4	SDA
5	AD0
6	VDD

S-58LM20A Series

CMOS TEMPERATURE SENSOR IC

Features

- Accuracy against temperature ±2.5 C (–55 C to +130 C)
- Linear output voltage –11.77 mV/ C Typ.
  Ta = –30 C : 2.205 V Typ.
  Ta = +30 C : 1.515 V Typ.
  Ta = +130 C : 0.303 V Typ.
- Nonlinearity ±0.4% Typ. (–20 to +80 C)
- Operation in wide range of power supply voltage V_{DD} = 2.4 to 5.5 V (–30 C to +130 C)
  V_{DD} = 2.7 to 5.5 V (–55 C to +130 C)
- Low current consumption 4.5 μA Typ. (+25 C) 6.0 μA Max. (–55 C to +130 C)
- 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.

SC-82AB

1	VDD
2	VSS
3	NC
4	VOUT

SNT-4A

1	VSS
2	VDD
3	VOUT
4	NC

WLP-4B

1	VDD
2	VSS
3	VSS
4	VOUT

S-8110C/8120C Series

CMOS TEMPERATURE SENSOR IC

Features

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

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

SC-82AB

1 VDD
2 VSS
3 NC
4 VOUT

SNT-4A

1 VSS
2 VDD
3 VOUT
4 NC

S-5813A/5814A Series

CMOS TEMPERATURE SENSOR IC

Features

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

SNT-4A

1 VSS
2 VDD
3 VOUT
4 NC

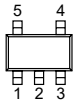
S-5844A Series

TEMPERATURE SWITCH IC (THERMOSTAT IC)

Features

- Detection temperature: T_{DET} = +50°C to +100°C, +5°C step, detection accuracy: ±2.5°C
- Low voltage operation: V_{DD} = 1.65 V min.
- Low current consumption: I_{DD} = 0.18 µA typ. (Ta = +25°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°C
- Lead-free (Sn 100%), halogen-free

SOT-23-5



1 TEST
2 VSS
3 DET
4 NC
5 VDD

SNT-4A

1 DET
2 VSS
3 TEST
4 VDD

HSNT-4(1010)

1 DET
2 VSS
3 TEST
4 VDD

S-5841 Series

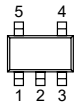
TEMPERATURE SWITCH IC (THERMOSTAT IC)

Features

- Detection temperature: T_{DET} = +40 C to +100 C, +1 C step, detection accuracy: ±2.5 C
- Low voltage operation: V_{DD} = 2.2 V min.
  (Detection temperature = +55 C to +100 C, Ta = –40 C to +100 C)
- Low current consumption: I_{DD} = 10 µA typ. (Ta = +25 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°C
- Lead-free, Sn 100%, halogen-free*1

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

SOT-23-5



1 HYS1
2 VSS
3 RT
4 VDD
5 DET

SNT-6A

1 RT
2 VSS
3 HYS1
4 DET
5 HYS2
6 VDD

S-585AA

BUILT-IN ARP FUNCTION 2-WIRE SERIAL E²PROM WITH TEMPERATURE SENSOR

Features

E²PROM block

- Page write: 16 bytes / page
- Sequential read
- Write protect function during low power supply voltage
- Write protect:
  Individual software data protection for each of four 128-byte blocks
- Endurance: 10^6 cycle / word*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 4 K-bit
- Initial delivery state: FFh

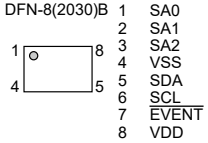
Temperature sensor block

- Temperature accuracy: ±0.25°C typ. / ±1.0°C max. (Ta = 0°C to +85°C)
  ±0.25°C typ. / ±1.5°C max. (Ta = –40°C to +125°C)
- Temperature sample rate: 8 samples / s min.
- Selectable hysteresis width: No hysteresis, 1.5°C, 3.0°C, 6.0°C

Overall

- Support for SMBus ARP function
- Support for Alert Response Address function (ARA)
- Support for Default Slave Address (DSA)
- Current consumption:
  E²PROM in standby mode and temperature sensor in shutdown mode: 3.0 µA max.
  E²PROM in standby mode and temperature sensor in active mode: 0.1 mA max.
  E²PROM in read operation mode and temperature sensor in active mode: 0.4 mA max.
  E²PROM in write operation mode and temperature sensor in active mode: 2.0 mA max.
- Operation voltage range: 1.7 V to 3.6 V
- Operation frequency: 1.0 MHz max. (V_{DD} = 2.2 V to 3.6 V)
  400 kHz max. (V_{DD} = 1.7 V to 3.6 V)
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Operation temperature range: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. For each address (Word: 8-bit)



S-5718 Series

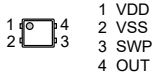
LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC WITH SWITCHABLE DETECTION POLE FUNCTION

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.

SNT-4A



S-5712E Series

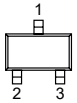
HIGH-SPEED LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC

Features

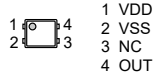
- Pole detection [1]: Detection of omnipolar, S pole or N pole
- Output logic [1]: Active "L", active "H"
- Output form [1]: Nch open-drain output, CMOS output
- Magnetic sensitivity [1]: B_{OP} = 3 0 mT typ.
  B_{OP} = 4 5 mT typ.
  B_{OP} = 7 0 mT typ.
- Operating cycle (current consumption): Product 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.

SOT-23-3



SNT-4A



S-5712A/B/C Series

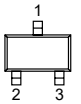
LOW VOLTAGE OPERATION
OMNIPOLAR / UNIPOLAR DETECTION TYPE
HALL EFFECT SWITCH IC

Features

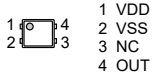
- Pole detection [1]: Detection of omnipolar, S pole or N pole
- Output logic [1]: Active "L", active "H"
- Output form [1]: Nch open-drain output, CMOS output
- Magnetic sensitivity [1]: B_{OP} = 1 8 mT typ.
  B_{OP} = 3 0 mT typ.
  B_{OP} = 4 5 mT typ.
  B_{OP} = 7 0 mT typ.
- Operating cycle (current 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.

SOT-23-3



SNT-4A



S-5717 Series

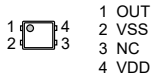
LOW VOLTAGE OPERATION
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC

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.

SNT-4A



S-5715 Series

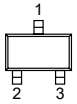
HIGH-SPEED / MIDDLE-SPEED LOW CURRENT CONSUMPTION BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC

Features

- Pole detection [1]: Detection of both poles, S pole or N pole
- Detection logic for magne ism [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 consump ion) [1]: Product with both poles detection
  t_{CYCLE} = 0.10 ms (1400 μA) typ.
  t_{CYCLE} = 0.90 ms (155 μA) typ.
  t_{CYCLE} = 5.70 ms (26 μA) typ.
  Product with S pole or N pole detection
  t_{CYCLE} = 0.05 ms (1400 μA) typ.
  t_{CYCLE} = 1.25 ms (60 μA) typ.
  t_{CYCLE} = 6.05 ms (13 μA) typ.
- Power supply voltage range: V_{DD} = 2.7 V to 5.5 V
- Operation temperature range: Ta = −40 C to +85 C
- Lead-free (Sn 100%), halogen-free [2]

***1**. The op ion can be selected.
***2**. Refer to "■ **Product Name Structure**" for details.

SOT-23-3



1 VSS
2 VDD
3 OUT

SNT-4A

1 VDD
2 VSS
3 NC
4 OUT

S-5716 Series

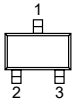
LOW CURRENT CONSUMPTION OMNIPOLAR / UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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} = 3.4 mT typ.
  B_{OP} = 4.5 mT typ.
  B_{OP} = 7.0 mT typ.
- Operating cycle (current consumption): Product with omnipolar detection
  t_{CYCLE} = 50.50 ms (I_{DD} = 4.0 μA) typ.
  Product with S pole or N pole detection
  t_{CYCLE} = 50.85 ms (I_{DD} = 2.6 μA) typ.
- Power supply voltage range: V_{DD} = 2.7 V to 5 5 V
- Operation temperature range: Ta = −40°C to +85°C
- Lead-free (Sn 100%), halogen-free

***1**. The option can be selected.

SOT-23-3



1 VSS
2 VDD
3 OUT

SNT-4A

1 VDD
2 VSS
3 NC
4 OUT

S-57B1 Series

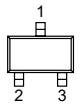
125°C OPERATION HIGH-SPEED UNIPOLAR DETECTION TYPE HALL IC

Features

- Pole detection: Detec ion 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.
- Opera ing cycle: t_{CYCLE} = 50 μs typ.
- Power supply voltage range: V_{DD} = 2.7 V to 5.5 V
- Opera ion temperature range: Ta = −40 C to +125 C
- Lead-free (Sn 100%), halogen-free

***1**. The Option can be selected.

SOT-23-3



1 VSS
2 VDD
3 OUT

S-5724 Series

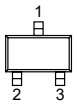
LOW VOLTAGE OPERATION HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

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, CMOS output
- Magnetic sensitivity: B_{OP} = 3.0 mT typ.
- Operating cycle (current consumption)*1: t_{CYCLE} = 50 µs (I_{DD} = 640.0 µA) typ.
  t_{CYCLE} = 1.25 ms (I_{DD} = 26.0 µA) typ.
  t_{CYCLE} = 6.05 ms (I_{DD} = 6.0 µA) typ.
- Power supply voltage range: V_{DD} = 1.6 V to 3 5 V
- Operation temperature range: Ta = –40°C to +85°C
- Built-in power-down circuit: Extends battery life (only SNT-4A)
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

SOT-23-3



1 VSS
2 VDD
3 OUT

SNT-4A

1 VDD
2 VSS
3 CE
4 OUT

S-5725 Series

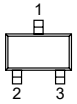
HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

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, 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 µs (I_{DD} = 1400.0 µA) typ.
  t_{CYCLE} = 1 25 ms (I_{DD} = 60.0 µA) typ.
  t_{CYCLE} = 6 05 ms (I_{DD} = 13.0 µA) typ.
- Power supply voltage range: V_{DD} = 2.7 V to 5.5 V
- Operation temperature range: Ta = –40°C to +85°C
- Built-in power-down circuit: Extends battery life (only SNT-4A)
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

SOT-23-3



1 VSS
2 VDD
3 OUT

SNT-4A

1 VDD
2 VSS
3 CE
4 OUT

S-57M1 Series

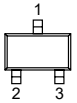
HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

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, CMOS output
- Magnetic sensitivity: B_{OP} = 3.0 mT typ.
- Operation cycle (current consumption): t_{CYCLE} = 50 µs (1400 µA) typ.
- Power supply voltage range: V_{DD} = 2.7 V to 5.5 V
- Operation temperature range: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

SOT-23-3



1 VSS
2 VDD
3 OUT

SNT-4A

1 VDD
2 VSS
3 NC
4 OUT

S-575D B Series

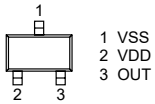
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, OMNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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: Ta = –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.)

TSOT-23-3S



1 VSS
2 VDD
3 OUT

HSNT-6(2025)

1 VDD
2 NC
3 OUT
4 NC
5 VSS
6 NC

S-575S/5N B Series

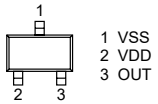
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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: Ta = –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.)

TSOT-23-3S



1 VSS
2 VDD
3 OUT

HSNT-6(2025)

1 VDD
2 NC
3 OUT
4 NC
5 VSS
6 NC

S-5733 B Series

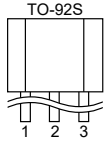
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

Features

- Pole detection: Detection of S pole
- 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} = 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: Ta = –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.)

TO-92S



1 VDD
2 VSS
3 OUT

S-5732 B Series

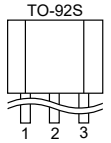
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

TO-92S



1 VDD
2 VSS
3 OUT

S-5732 I Series

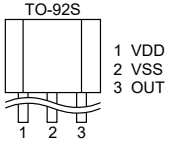
HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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: Ta = −40°C to +85°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

TO-92S



S-5731 Series

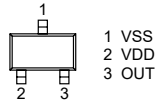
HIGH-WITHSTAND VOLTAGE HIGH-SPEED UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

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 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: Ta = −40°C to +85°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

SOT-23-3



S-576Z B Series

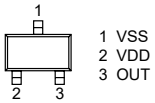
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZCL™ HALL EFFECT IC

Features

- Pole detection: ZCL detection
- 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 kΩ typ.)
- Zero crossing latch point: B_Z = 0 0 mT typ.
- Release point (S pole) [1]: B_{RS} = 3.0 mT typ.
  B_{RS} = 6.0 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: Ta = –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.)

TSOT-23-3S



1 VSS
2 VDD
3 OUT

HSNT-6(2025)

1 VDD
2 NC
3 OUT
4 NC
5 VSS
6 NC

S-576Z R Series

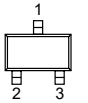
EXTENDED OPERATION TEMPERATURE RANGE, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, ZCL™ HALL EFFECT IC

Features

- Pole detection: ZCL detection
- 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 kΩ typ.)
- Zero crossing latch point: B_Z = 0 0 mT typ.
- Release point (S pole) [1]: B_{RS} = 3.0 mT typ.
  B_{RS} = 6.0 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: Ta = –50°C to +150°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.)

TSOT-23-3S



1 VSS
2 VDD
3 OUT

S-576B B Series

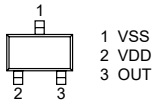
125°C OPERATION, HIGH-WITHSTAND VOLTAGE, HIGH-SPEED, BIPOLAR HALL EFFECT LATCH IC

Features

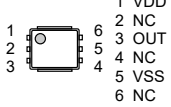
- Pole detection: Bipolar latch
- Output logic [1]: V_{OUT} = "L" at S pole detection
  V_{OUT} = "H" at S pole detection
- Output form [1]: Nch open-drain output
  Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity [1]: B_{OP} = 0 5 mT typ.
  B_{OP} = 2 2 mT typ.
  B_{OP} = 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 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: Ta = –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.)

TSOT-23-3S



HSNT-6(2025)



S-5743 A Series

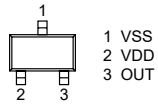
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

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 µs 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: Ta = –40°C to +125°C
- Lead-free (Sn 00%), halogen-free

***1.** The option can be selected.

SOT-23-3S



S-5742 B Series

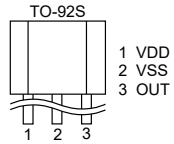
125°C OPERATION HIGH-WITHSTAND VOLTAGE HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

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 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: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

TO-92S



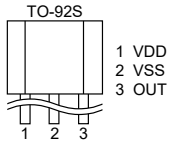
S-5742 I Series

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

Features

• Pole detection:	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 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:	Ta = –40 C to +85 C
• Lead-free (Sn 100%), halogen-free	

***1.** The option can be selected.



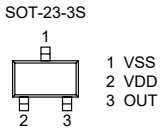
S-5741 B Series

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

Features

• Pole detection:	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 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:	Ta = –40°C to +125°C
• Lead-free (Sn 100%), halogen-free	

***1.** The option can be selected.



S-5701 B Series

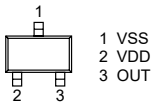
125°C OPERATION, SUPER LOW CURRENT CONSUMPTION, LOW VOLTAGE OPERATION, OMNIPOLAR DETECTION TYPE TMR MAGNETIC SENSOR IC

Features

- Detection direction: Horizontal direction (Refer to "■ **Operation**" for details)
- Pole detection: Omnipolar detection
- Output logic: Active "L"
- Output form: CMOS output
- Magnetic sensitivity*1: B_{OP} = 1.0 mT typ. / B_{OP} = 1.7 mT typ. / B_{OP} = 3.0 mT typ.
- Operating cycle (current consumption): t_{CYCLE} = 100 ms (I_{DD} = 160 nA) typ.
- Power supply voltage range: V_{DD} = 1.7 V to 5.5 V
- Operation temperature range: Ta = –40°C to +125°C
- Lead-free (Sn 100%), halogen-free

***1.** The option can be selected.

TSOT-23-3S

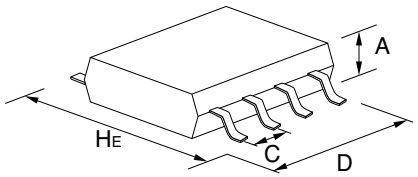


Package List

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			HE	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)
			HE	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-6A	2.46	1.96	0.5	0.5
	6	HSNT-6(1212)	1.2	1.2	0.4	0.4
	6	HSNT-6D (HSNT-6(1618))	1.8	1.6	0.4	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.



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