

# Product Catalog

## Sensors

2022

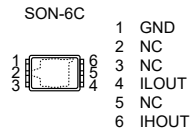


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**S-5420****ULTRAVIOLET LIGHT SENSOR,  
UV-A to UV-B SENSING SI PHOTODIODE****● Features**

- 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



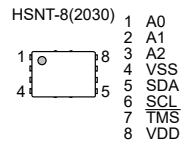
## S-5852A Series

### HIGH-ACCURACY DIGITAL TEMPERATURE SENSOR WITH THERMOSTAT FUNCTION

#### Features

- Temperature accuracy, high-accuracy temperature range<sup>\*1</sup>:  $\pm 0.5^{\circ}\text{C}$  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:  $0.5^{\circ}\text{C}$ ,  $0.25^{\circ}\text{C}$ ,  $0.125^{\circ}\text{C}$ ,  $0.0625^{\circ}\text{C}$   
(Selectable by the resolution register)
- Temperature sample rate: 7 samples / s min.
- Hysteresis width: No hysteresis,  $1.5^{\circ}\text{C}$ ,  $3.0^{\circ}\text{C}$ ,  $6.0^{\circ}\text{C}$   
(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  $3.6 \text{ V}$ )  
400 kHz max. ( $V_{DD} = 1.7 \text{ V}$  to  $2.2 \text{ V}$ )
- 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.



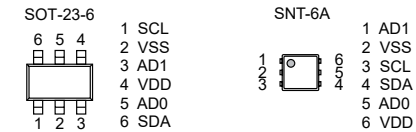
## S-5851A Series

### 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.)  $-25^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
 $\pm 3.0^{\circ}\text{C}$  (max.)  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Temperature resolution :  $0.0625^{\circ}\text{C}$
- Digital output : 2-wire serial interface
- Maximum operating frequency : 400 kHz
- Low power supply voltage detection circuit
- Lead-free, Sn 100%, halogen-free<sup>\*1</sup>

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



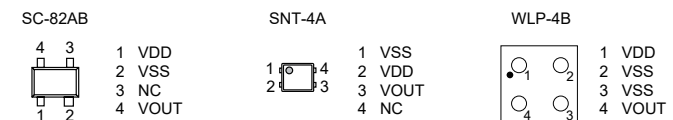
## S-58LM20A Series

### CMOS TEMPERATURE SENSOR IC

#### Features

- Accuracy against temperature :  $\pm 2.5^{\circ}\text{C}$  ( $-55^{\circ}\text{C}$  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  $5.5 \text{ V}$  ( $-30^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$ )  
 $V_{DD} = 2.7$  to  $5.5 \text{ V}$  ( $-55^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$ )  
 $4.5 \mu\text{A}$  Typ. ( $+25^{\circ}\text{C}$ )  $6.0 \mu\text{A}$  Max. ( $-55^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$ )
- Low current consumption
- Built-in operational amplifier
- Output voltage referred to  $V_{SS}$
- Lead-free, Sn 100%, halogen-free<sup>\*1</sup>

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



## S-8110C/8120C Series

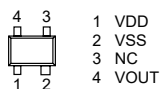
## CMOS TEMPERATURE SENSOR IC

## ● Features

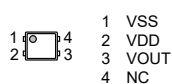
- Temperature accuracy  
S-8110C Series:  $\pm 5.0^{\circ}\text{C}$  ( $-30^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ )  
S-8120C Series:  $\pm 2.5^{\circ}\text{C}$  ( $-30^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ )
- Linear output voltage  
 $-8.20\text{ mV}/^{\circ}\text{C}$  typ.  
Ta =  $-30^{\circ}\text{C}$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

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

SC-82AB



SNT-4A



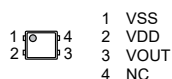
## S-5813A/5814A Series

## CMOS TEMPERATURE SENSOR IC

## ● Features

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

SNT-4A



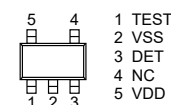
## S-5844A Series

## TEMPERATURE SWITCH IC (THERMOSTAT IC)

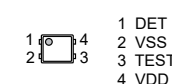
## ● Features

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

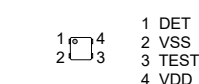
SOT-23-5



SNT-4A



HSNT-4(1010)



## S-5841 Series

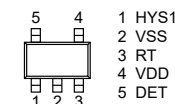
## TEMPERATURE SWITCH IC (THERMOSTAT IC)

## ● Features

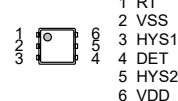
- Detection temperature:  $T_{\text{DET}} = +40^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ ,  $+1^{\circ}\text{C}$  step, detection accuracy:  $\pm 2.5^{\circ}\text{C}$
- Low voltage operation:  $V_{\text{DD}} = 2.2\text{ V}$  min.  
(Detection temperature =  $+55^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$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

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

SOT-23-5



SNT-6A



**S-585AA****BUILT-IN ARP FUNCTION  
2-WIRE SERIAL E<sup>2</sup>PROM  
WITH TEMPERATURE SENSOR****● Features****E<sup>2</sup>PROM 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<sup>6</sup> cycle / word\*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 4 K-bit
- Initial delivery state: FFh

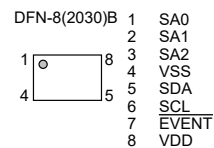
**Temperature sensor block**

- 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:
  - E<sup>2</sup>PROM in standby mode and temperature sensor in shutdown mode: 3.0 μA max.
  - E<sup>2</sup>PROM in standby mode and temperature sensor in active mode: 0.1 mA max.
  - E<sup>2</sup>PROM in read operation mode and temperature sensor in active mode: 0.4 mA max.
  - E<sup>2</sup>PROM 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<sub>DD</sub> = 2.2 V to 3.6 V)  
400 kHz max. (V<sub>DD</sub> = 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

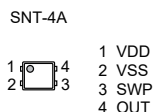
LOW VOLTAGE OPERATION  
OMNIPOLAR / UNIPOLAR DETECTION TYPE  
HALL EFFECT SWITCH IC WITH SWITCHABLE DETECTION POLE FUNCTION

### Features

- Switchable detection pole function: Omnipolar detection, S pole detection, N pole detection
- Output logic<sup>\*1</sup>: Active "L"
- Output form: CMOS output
- Magnetic sensitivity (hysteresis width)<sup>\*1</sup>:
  - B<sub>OP</sub> = 1.8 mT typ. (B<sub>HYS</sub> = 0.7 mT typ.)
  - B<sub>OP</sub> = 3.0 mT typ. (B<sub>HYS</sub> = 0.8 mT typ.)
  - B<sub>OP</sub> = 3.0 mT typ. (B<sub>HYS</sub> = 1.3 mT typ.)
  - B<sub>OP</sub> = 4.5 mT typ. (B<sub>HYS</sub> = 1.0 mT typ.)
  - B<sub>OP</sub> = 4.5 mT typ. (B<sub>HYS</sub> = 2.5 mT typ.)
- Operating cycle (current consumption)<sup>\*1</sup>:
  - t<sub>CYCLE</sub> = 102.1 ms typ. (I<sub>DD</sub> = 1.4 μA typ.)
  - t<sub>CYCLE</sub> = 50.5 ms typ. (I<sub>DD</sub> = 2.0 μA typ.)
  - t<sub>CYCLE</sub> = 5.7 ms typ. (I<sub>DD</sub> = 12.0 μA typ.)
- Power supply voltage range<sup>\*2</sup>: V<sub>DD</sub> = 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.



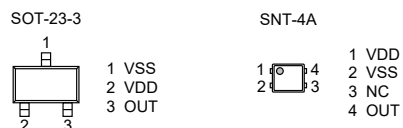
## S-5712E Series

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

### Features

- Pole detection<sup>\*1</sup>: Detection of omnipolar, S pole or N pole
- Output logic<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output, CMOS output
- Magnetic sensitivity<sup>\*1</sup>:
  - B<sub>OP</sub> = 3.0 mT typ.
  - B<sub>OP</sub> = 4.5 mT typ.
  - B<sub>OP</sub> = 7.0 mT typ.
- Operating cycle (current consumption):
  - Product with omnipolar detection
    - t<sub>CYCLE</sub> = 0.10 ms (I<sub>DD</sub> = 640 μA) typ.
  - Product with S pole or N pole detection
    - t<sub>CYCLE</sub> = 0.05 ms (I<sub>DD</sub> = 640 μA) typ.
- Power supply voltage range: V<sub>DD</sub> = 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.



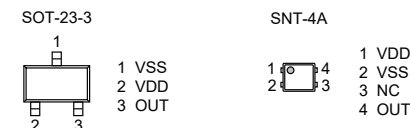
## S-5712A/B/C Series

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

### Features

- Pole detection<sup>\*1</sup>: Detection of omnipolar, S pole or N pole
- Output logic<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output, CMOS output
- Magnetic sensitivity<sup>\*1</sup>:
  - B<sub>OP</sub> = 1.8 mT typ.
  - B<sub>OP</sub> = 3.0 mT typ.
  - B<sub>OP</sub> = 4.5 mT typ.
  - B<sub>OP</sub> = 7.0 mT typ.
- Operating cycle (current consumption)<sup>\*1</sup>:
  - Product with omnipolar detection
    - t<sub>CYCLE</sub> = 5.70 ms (I<sub>DD</sub> = 12.0 μA) typ.
    - t<sub>CYCLE</sub> = 50.50 ms (I<sub>DD</sub> = 2.0 μA) typ.
    - t<sub>CYCLE</sub> = 204.10 ms (I<sub>DD</sub> = 1.0 μA) typ.
  - Product with S pole or N pole detection
    - t<sub>CYCLE</sub> = 6.05 ms (I<sub>DD</sub> = 6.0 μA) typ.
    - t<sub>CYCLE</sub> = 50.85 ms (I<sub>DD</sub> = 1.4 μA) typ.
    - t<sub>CYCLE</sub> = 204.05 ms (I<sub>DD</sub> = 1.0 μA) typ.
- Power supply voltage range: V<sub>DD</sub> = 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.



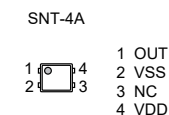
## S-5717 Series

LOW VOLTAGE OPERATION  
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC

### Features

- Pole detection<sup>\*1</sup>: Detection of both poles, S pole or N pole
- Detection logic for magnetism<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output, CMOS output
- Magnetic sensitivity: B<sub>OP</sub> = 3.3 mT typ.
- Operating cycle (current consumption)<sup>\*1</sup>:
  - Product with both poles detection
    - t<sub>CYCLE</sub> = 50.50 ms (I<sub>DD</sub> = 2.0 μA) typ.
  - Product with S pole or N pole detection
    - t<sub>CYCLE</sub> = 50.85 ms (I<sub>DD</sub> = 1.4 μA) typ.
- Power supply voltage range: V<sub>DD</sub> = 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

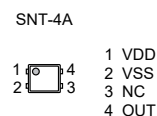
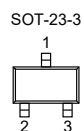
**HIGH-SPEED / MIDDLE-SPEED LOW CURRENT CONSUMPTION  
BOTH POLES / UNIPOLAR DETECTION TYPE HALL IC**

### Features

- Pole detection<sup>\*1</sup>: Detection of both poles, S pole or N pole
- Detection logic for magnetism<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output, CMOS output
- Magnetic sensitivity:  $B_{OP} = 3.0$  mT typ.
- Operating cycle (current consumption)<sup>\*1</sup>:
  - Product with both poles detection
    - $t_{CYCLE} = 0.10$  ms (1400  $\mu$ A) typ.
    - $t_{CYCLE} = 0.90$  ms (155  $\mu$ A) typ.
    - $t_{CYCLE} = 5.70$  ms (26  $\mu$ A) typ.
  - Product with S pole or N pole detection
    - $t_{CYCLE} = 0.05$  ms (1400  $\mu$ A) typ.
    - $t_{CYCLE} = 1.25$  ms (60  $\mu$ A) typ.
    - $t_{CYCLE} = 6.05$  ms (13  $\mu$ 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<sup>\*2</sup>

\*1. The option can be selected.

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



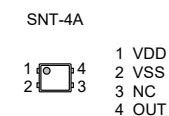
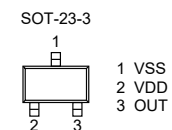
## S-5716 Series

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

### Features

- Pole detection<sup>\*1</sup>: Detection of omnipolar, S pole or N pole
- Output logic<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output, CMOS output
- Magnetic sensitivity<sup>\*1</sup>:
  - $B_{OP} = 1.8$  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 ( $I_{DD} = 4.0$   $\mu$ A) typ.
  - Product with S pole or N pole detection
    - $t_{CYCLE} = 50.85$  ms ( $I_{DD} = 2.6$   $\mu$ 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.



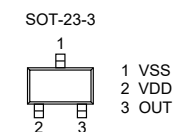
## S-57B1 Series

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

### Features

- Pole detection: Detection of S pole
- Detection logic for magnetism<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open drain output, CMOS output
- Magnetic sensitivity<sup>\*1</sup>:
  - $B_{OP} = 3.0$  mT typ.
  - $B_{OP} = 4.5$  mT typ.
  - $B_{OP} = 7.0$  mT typ.
- Operating cycle:  $t_{CYCLE} = 50$   $\mu$ 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.





## S-5724 Series

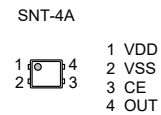
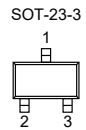
### LOW VOLTAGE OPERATION HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

#### ● Features

- Pole detection:
- Output logic\*1:
- Output form\*1:
- Magnetic sensitivity:
- Operating cycle (current consumption)\*1:
- Power supply voltage range:
- Operation temperature range:
- Built-in power-down circuit:
- 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, CMOS output  
 $B_{OP} = 3.0 \text{ mT typ.}$   
 $t_{CYCLE} = 50 \mu\text{s}$  ( $I_{DD} = 640.0 \mu\text{A}$ ) typ.  
 $t_{CYCLE} = 1.25 \text{ ms}$  ( $I_{DD} = 26.0 \mu\text{A}$ ) typ.  
 $t_{CYCLE} = 6.05 \text{ ms}$  ( $I_{DD} = 6.0 \mu\text{A}$ ) typ.  
 $V_{DD} = 1.6 \text{ V to } 3.5 \text{ V}$   
 $T_a = -40^\circ\text{C to } +85^\circ\text{C}$   
 Extends battery life (only SNT-4A)

\*1. The option can be selected.



## S-57M1 Series

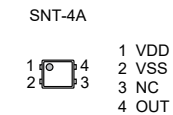
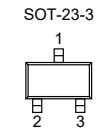
### HIGH-SPEED BIPOLAR HALL EFFECT LATCH

#### ● Features

- Pole detection:
- Output logic\*1:
- Output form\*1:
- Magnetic sensitivity:
- Operation cycle (current consumption):
- Power supply voltage range:
- 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, CMOS output  
 $B_{OP} = 3.0 \text{ mT typ.}$   
 $t_{CYCLE} = 50 \mu\text{s}$  ( $1400 \mu\text{A}$ ) typ.  
 $V_{DD} = 2.7 \text{ V to } 5.5 \text{ V}$   
 $T_a = -40^\circ\text{C to } +125^\circ\text{C}$

\*1. The option can be selected.



## S-5725 Series

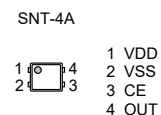
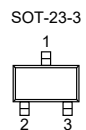
### HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

#### ● Features

- Pole detection:
- Output logic\*1:
- Output form\*1:
- Magnetic sensitivity\*1:
- Operating cycle (current consumption)\*1:
- Power supply voltage range:
- Operation temperature range:
- Built-in power-down circuit:
- 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, CMOS output  
 $B_{OP} = 0.8 \text{ mT typ.}$   
 $B_{OP} = 1.8 \text{ mT typ.}$   
 $B_{OP} = 3.0 \text{ mT typ.}$   
 $B_{OP} = 7.0 \text{ mT typ.}$   
 $t_{CYCLE} = 50 \mu\text{s}$  ( $I_{DD} = 1400.0 \mu\text{A}$ ) typ.  
 $t_{CYCLE} = 1.25 \text{ ms}$  ( $I_{DD} = 60.0 \mu\text{A}$ ) typ.  
 $t_{CYCLE} = 6.05 \text{ ms}$  ( $I_{DD} = 13.0 \mu\text{A}$ ) typ.  
 $V_{DD} = 2.7 \text{ V to } 5.5 \text{ V}$   
 $T_a = -40^\circ\text{C to } +85^\circ\text{C}$   
 Extends battery life (only SNT-4A)

\*1. The option can be selected.



## S-575D B Series

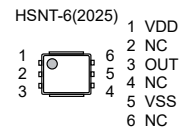
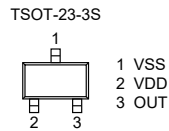
125°C OPERATION,  
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,  
OMNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

### Features

- Pole detection: Omnipolar detection
- Output logic<sup>\*1</sup>: Active "L"  
Active "H"
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity<sup>\*1</sup>: B<sub>OP</sub> = 3.0 mT typ.  
B<sub>OP</sub> = 6.0 mT typ.  
B<sub>OP</sub> = 10.0 mT typ.  
B<sub>OP</sub> = 15.0 mT typ.
- Chopping frequency: f<sub>c</sub> = 500 kHz typ.
- Output delay time: t<sub>d</sub> = 16.0 μs typ.
- Power supply voltage range<sup>\*2</sup>: V<sub>DD</sub> = 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<sub>DD</sub> = 2.7 V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



## S-5733 B Series

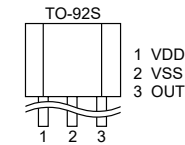
125°C OPERATION,  
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,  
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

### Features

- Pole detection: Detection of S pole
- Output logic<sup>\*1</sup>: Active "L"  
Active "H"
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity<sup>\*1</sup>: B<sub>OP</sub> = 10.0 mT typ.  
B<sub>OP</sub> = 15.0 mT typ.
- Chopping frequency: f<sub>c</sub> = 500 kHz typ.
- Output delay time: t<sub>d</sub> = 8.0 μs typ.
- Power supply voltage range<sup>\*2</sup>: V<sub>DD</sub> = 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<sub>DD</sub> = 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

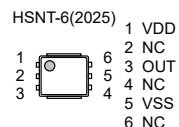
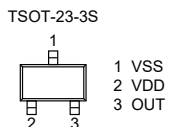
125°C OPERATION,  
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,  
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

### Features

- Pole detection: Unipolar detection
- Output logic<sup>\*1</sup>: Active "L"  
Active "H"
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity<sup>\*1</sup>: B<sub>OP</sub> = 3.0 mT typ.  
B<sub>OP</sub> = 6.0 mT typ.  
B<sub>OP</sub> = 10.0 mT typ.  
B<sub>OP</sub> = 15.0 mT typ.
- Chopping frequency: f<sub>c</sub> = 500 kHz typ.
- Output delay time: t<sub>d</sub> = 8.0 μs typ.
- Power supply voltage range<sup>\*2</sup>: V<sub>DD</sub> = 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<sub>DD</sub> = 2.7 V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)



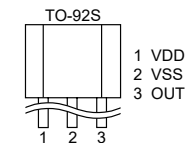
## S-5732 B Series

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

### Features

- Pole detection<sup>\*1</sup>: Detection of S pole  
Detection of N pole
- Output logic<sup>\*1</sup>: Active "L"  
Active "H"
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor
- Magnetic sensitivity<sup>\*1</sup>: B<sub>OP</sub> = 3.0 mT typ.  
B<sub>OP</sub> = 6.0 mT typ.
- Chopping frequency: f<sub>c</sub> = 250 kHz typ.
- Output delay time: t<sub>d</sub> = 16.0 μs typ.
- Power supply voltage range: V<sub>DD</sub> = 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.

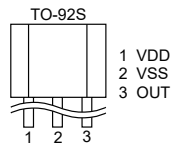


**S-5732 I Series****HIGH-WITHSTAND VOLTAGE HIGH-SPEED  
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC****● Features**

- Pole detection<sup>\*1</sup>: Detection of S pole  
Detection of N pole
- Output logic<sup>\*1</sup>: Active "L"  
Active "H"
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor
- Magnetic sensitivity<sup>\*1</sup>:  $B_{OP} = 3.0 \text{ mT typ.}$   
 $B_{OP} = 6.0 \text{ mT typ.}$   
 $f_C = 250 \text{ kHz typ.}$   
 $t_D = 16.0 \mu\text{s typ.}$   
 $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- 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

$T_a = -40^\circ\text{C to } +85^\circ\text{C}$

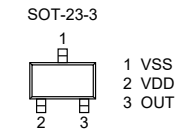
\*1. The option can be selected.

**S-5731 Series****HIGH-WITHSTAND VOLTAGE HIGH-SPEED  
UNIPOLAR DETECTION TYPE  
HALL EFFECT SWITCH IC****● Features**

- Pole detection<sup>\*1</sup>: Detection of S pole, detection of N pole
- Output logic<sup>\*1</sup>: Active "L", active "H"
- Output form<sup>\*1</sup>: Nch open-drain output,  
Nch driver + built-in pull-up resistor
- Magnetic sensitivity<sup>\*1</sup>:  $B_{OP} = 3.0 \text{ mT typ.}$   
 $B_{OP} = 6.0 \text{ mT typ.}$   
 $f_C = 250 \text{ kHz typ.}$   
 $t_D = 16.0 \mu\text{s typ.}$   
 $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- 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

$T_a = -40^\circ\text{C to } +85^\circ\text{C}$

\*1. The option can be selected.



## S-576Z B Series

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

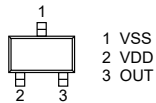
### ● Features

- Pole detection: ZCL detection
- Output logic<sup>\*1</sup>:  $V_{OUT} = "L"$  at S pole detection  
 $V_{OUT} = "H"$  at S pole detection
- Output form<sup>\*1</sup>: 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)<sup>\*1</sup>:  $B_{RS} = 3.0$  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<sup>\*2</sup>:  $V_{DD} = 2.7$  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

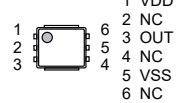
\*1. The option can be selected.

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

TSOT-23-3S



HSNT-6(2025)



## S-576Z R Series

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

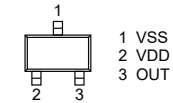
### ● Features

- Pole detection: ZCL detection
- Output logic<sup>\*1</sup>:  $V_{OUT} = "L"$  at S pole detection  
 $V_{OUT} = "H"$  at S pole detection
- Output form<sup>\*1</sup>: 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)<sup>\*1</sup>:  $B_{RS} = 3.0$  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<sup>\*2</sup>:  $V_{DD} = 2.7$  V to 26.0 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.  $V_{DD} = 2.7$  V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)

TSOT-23-3S



## S-576B B Series

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

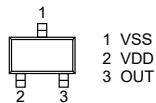
### Features

- Pole detection: Bipolar latch
- Output logic<sup>\*1</sup>:  $V_{OUT} = "L"$  at S pole detection  
 $V_{OUT} = "H"$  at S pole detection
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor (1.2 k $\Omega$  typ.)
- Magnetic sensitivity<sup>\*1</sup>:  $B_{OP} = 0.5$  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:  $t_D = 8.0$   $\mu$ s typ.
- Power supply voltage range<sup>\*2</sup>:  $V_{DD} = 2.7$  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

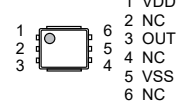
\*1. The option can be selected.

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

TSOT-23-3S



HSNT-6(2025)



## S-5743 A Series

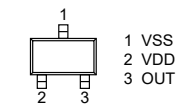
125°C OPERATION  
HIGH-WITHSTAND VOLTAGE HIGH-SPEED  
BIPOLAR HALL EFFECT LATCH IC

### Features

- Pole detection: Bipolar latch
- Output logic<sup>\*1</sup>:  $V_{OUT} = "L"$  at S pole detection  
 $V_{OUT} = "H"$  at S pole detection
- Output form: Nch open-drain output
- Magnetic sensitivity<sup>\*1</sup>:  $B_{OP} = 0.5$  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:  $t_D = 8.0$   $\mu$ 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

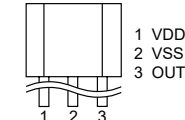
125°C OPERATION  
HIGH-WITHSTAND VOLTAGE HIGH-SPEED  
BIPOLAR HALL EFFECT LATCH IC

### Features

- Pole detection: Bipolar latch
- Output logic<sup>\*1</sup>:  $V_{OUT} = "L"$  at S pole detection  
 $V_{OUT} = "H"$  at S pole detection
- Output form<sup>\*1</sup>: Nch open-drain output  
Nch driver + built-in pull-up resistor
- Magnetic sensitivity<sup>\*1</sup>:  $B_{OP} = 1.8$  mT typ.  
 $B_{OP} = 3.0$  mT typ.  
 $B_{OP} = 6.0$  mT typ.
- Chopping frequency:  $f_C = 500$  kHz typ.
- Output delay time:  $t_D = 8.0$   $\mu$ 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.

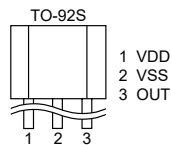
TO-92S



**S-5742 I Series****HIGH-WITHSTAND VOLTAGE HIGH-SPEED  
BIPOLAR HALL EFFECT LATCH IC****● Features**

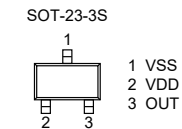
- Pole detection:
  - Output logic\*1:
  - Output form\*1:
  - Magnetic sensitivity\*1:
  - Chopping frequency:
  - Output delay time:
  - Power supply voltage range:
  - Built-in regulator
  - Built-in output current limit circuit
  - Operation temperature range:
  - Lead-free (Sn 100%), halogen-free
- 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.



## S-5701 B Series

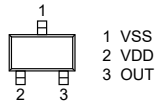
125°C OPERATION,  
SUPER LOW CURRENT CONSUMPTION, LOW VOLTAGE OPERATION,  
OMNIPOLAR DETECTION TYPE TMR MAGNETIC SENSOR IC

### ● 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:  $B_{OP} = 1.0 \text{ mT typ.}$   
 $B_{OP} = 3.0 \text{ mT typ.}$
- Operating cycle (current consumption):  $t_{CYCLE} = 100 \text{ ms (} I_{DD} = 160 \text{ nA) typ.}$
- Power supply voltage range:  $V_{DD} = 1.7 \text{ V to } 5.5 \text{ V}$
- 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.

TSOT-23-3S

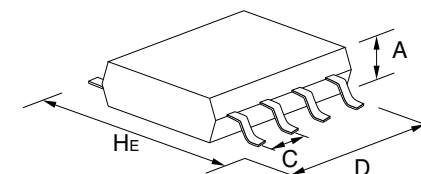


## Package List

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			H <sub>E</sub>	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 <sub>E</sub>	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

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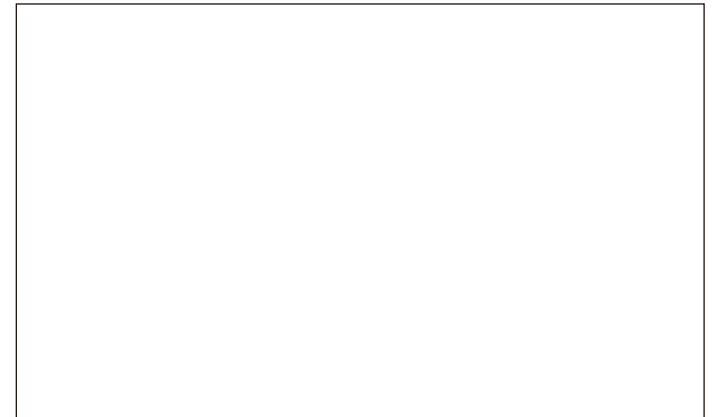
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