NOVOSENSE

# ± 0.5°C High Accurate Temperature Sensor with SMBus and I²C Interface

Datasheet (EN) 1.1

## Product Overview

The NST5851 is a low-power, high precision digital temperature sensor compatible with SMBus and I²C interfaces, and it supports up to 9 device addresses. The typical accuracy of NST5851 is ±0.5°C without requiring calibration or external component signal conditioning. It has a 12-bit analog-to-digital converter (ADC) inside, and the resolution is 0.0625°C. It is highly linear and does not require complex calculations or lookup tables to derive temperature.

It's an ideal substitute that substitute for negative temperature coefficient (NTC) and positive temperature coefficient (PTC) thermistor. NST5851 device works over a temperature range of –40°C to 125°C, which makes it suitable for onboard and off board applications in automotive, industrial, and consumer markets. Because of low power consumption, it can also be applied to IoT. The NST5851 is available in SOT23-6 package.

## Key Features

- High Accuracy over –40°C to 125°C Wide Temperature Range
  - -20°C ~ 85°C: ± 0.2°C (Typ) ± 0.5°C (Max)
  - -40°C ~125°C: ± 0.5°C (Typ) ±1°C (Max)
- Proportional to Temperature with 0.0625°C Resolution
- Power up Defaults Permit Stand-Alone Operation as Thermostat
- Supports up to 9 Device Addresses
- Supply Operation Range from 1.62V to 5.5V
- Operating Current: 27μA (Typical)
- Shutdown Current: 0.2μA (Typical)
- Digital Interface: SMBus, I²C
- Package: SOT-23-6

## Applications

- General System Thermal Management
- Computer Thermal Protection
- Portable Computers
- Industrial Internet of Things (IoT)
- Communications Infrastructure
- Power-System Monitors
- Thermal Protection
- Environmental Detection and HVAC

## Device Information

| Part Number | Package | Body Size |
|---|---|---|
| NST5851-DSTCR | SOT-23-6 | 2.90mm X 1.60mm |

## Typical Application

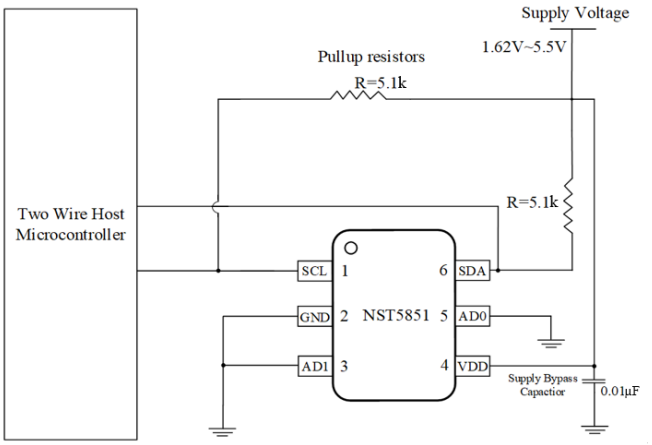


Figure 1 The Typical Application of NST5851

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# 1 Pin Configuration and Functions

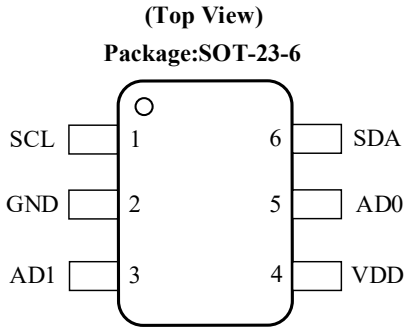



Figure 1.1 NST5851 Pin Configuration (Top View)

Table 1.1 NST5851 Pin Function Description

| *Pinout* | | *Type* | *Description* |
|---|---|---|---|
| *No.* | *Name* | | |
| 1 | SCL | I | Serial clock. Open-drain output, requires a pull up resistor |
| 2 | GND | GND | Ground |
| 3 | AD1 | I | Address selected (Connect to GND, VDD or leave these pins floating) |
| 4 | VDD | Power | Supply voltage, 1.62V to 5.5V |
| 5 | AD0 | I | Address selected (Connect to GND, VDD or leave these pins floating) |
| 6 | SDA | I/O | Serial data. Open-drain output, requires a pull up resistor |

# 2 Specifications

## 2.1 Absolute Maximum Ratings

| Parameters | Symbol | Min | Typ | Max | Unit | Comments |
|---|---|---|---|---|---|---|
| Supply Voltage Pin (VDD) | VDD | -0.3 | | 6.5 | V | |
| Voltage at AD0, AD1 Pins | AD0, AD1 | -0.3 | | 6.5 | V | |
| Voltage at SCL and SDA Pins | SCL, SDA | -0.3 | | 6.5 | V | |
| Storage Temperature | | -60 | | 155 | °C | |
| Operation Temperature | $TB_{operation}$ | -40 | | 125 | °C | |
| Maximum Junction Temperature | | | | 155 | °C | |

## 2.2 ESD Ratings

| Parameters | Symbol | Max | Unit |
|---|---|---|---|
| Electrostatic discharge(ESD) | Human Body Model(HBM)[1] | ±4 | kV |
| | Charged Device Model(CDM)[2] | ±2 | kV |

[1]Refer to *ESDA/JEDEC JS-001-2017*

[2]Refer to *ESDA/JEDEC JS-002-2018*

## 2.3 Electrical Characteristics

at $T_A$ = +25°C and VDD = +1.62V to +5.5V, $R_{pu}$ = 5.1kohm, unless otherwise noted.

| Parameters | Symbol | Min | Typ | Max | Unit | Comments |
|---|---|---|---|---|---|---|
| **Supply** | | | | | | |
| Supply Voltage Range | VDD | 1.62 | 3.3 | 5.5 | V | |
| Supply Sensitivity | | | 16 | | m°C/V | |
| Operation Current | $R_{CONV}$ | | 27 | 40 | μA | |
| Shutdown Current | $I_{SD}$ | | 0.2 | | μA | Serial Bus Inactive |
| | $I_{SD}$ | | 10 | | μA | Serial Bus Active, SCL Frequency = 400 kHz |
| **Temperature Range and Resolution** | | | | | | |
| Temperature Range | | -40 | | 125 | °C | |
| Resolution | | | 0.0625 | | °C | |
| Accuracy | | | ±0.2 | ±0.5 | °C | -20°C to 85°C |
| | | | ±0.5 | ±1 | °C | -40°C to 125°C |
| Conversion Time | $T_{CONV}$ | | 30 | 40 | ms | |
| Timeout Time | $T_{TIMEOUT}$ | | 54 | | ms | |
| **Digital DC Characteristics** | | | | | | |
| High-level Input Voltage | $V_H$ | VDD*0.7 | | VDD+0.3 | V | |
| Low-level Input Voltage | $V_L$ | -0.3 | | VDD*0.3 | V | |

| | | | | | | |
|---|---|---|---|---|---|---|
| High-level Input Current | | | | 1 | μA | |
| Low-level Input Current | | | | -1 | μA | |
| Digital Inputs Capacitance | $C_{IN}$ | | 5 | | pF | |
| Output Leakage Current | $I_{OH}$ | | | 1 | μA | $V_{OH}$ = 5V |
| Low-level Output Voltage | $V_{OL}$ | | | 0.4 | V | $I_{OL}$ = 3mA |
| **Thermal Response** | | | | | | |
| Thermal Response Time | | | 0.9 | | s | Stirred Oil Thermal Setting to 63% of Final Value |
| **Drift** | | | | | | |
| Drift (1) | | | 0.05 | | °C | |

Notes: (1). Drift data is based on a 1000-hour stress test at +150°C.

## 2.4 I²C Timing Characteristics

at $T_A$ = +25°C and VDD = +1.62V to +5.5V, $R_{pu}$ = 5.1kohm, unless otherwise noted.

| Parameters | Symbol | Stardard Mode | | Fast Mode | | High-Speed Mode | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Min | Max | Min | Max | |
| SCL operating frequency | $F_{SCL}$ | 0.001 | 0.1 | 0.001 | 0.4 | 0.001 | 2 | MHz |
| Bus-free time between STOP and START conditions | $t_{(BUF)}$ | 4.7 | - | 1300 | - | 160 | - | ns |
| Hold time after repeated START condition, after this period, the first clock is generated | $t_{(HDSTA)}$ | 4000 | - | 600 | - | 160 | - | ns |
| Repeated START condition setup time | $t_{(SUSTA)}$ | 4700 | - | 600 | - | 160 | - | ns |
| STOP condition setup time | $t_{(SUSTO)}$ | 4000 | - | 600 | - | 160 | - | ns |
| Data hold time | $t_{(HDDAT)}$ | 0 | - | 4 | 900 | 4 | 120 | ns |
| Data setup time | $t_{(SUDAT)}$ | 250 | - | 100 | - | 10 | - | ns |
| SCL clock low period | $t_{(LOW)}$ | 4700 | - | 1300 | - | 280 | - | ns |
| SCL clock high period | $t_{(HIGH)}$ | 4000 | - | 600 | - | 60 | - | ns |
| Data fall time | $t_{FD}$ | - | 300 | - | 300 | - | 150 | ns |
| Clock rise time | $t_{RC}$ | - | 1000 | - | 300 | - | 40 | ns |
| Clock fall time | $t_{FC}$ | - | 300 | - | 300 | - | 40 | ns |

**Notes:**

- A device must internally provide a hold time of at least 300ns for the SDA signal (referred to the $V_{IHmin}$ of the SCL signal) to bridge the undefined region of the falling edge of SCL.
- The maximum $t_{(HDDAT)}$ has only to be met if the device does not stretch the LOW period ($t_{(LOW)}$) of the SCL signal.
- A Fast-mode $I^2C$-bus device can be used in a Standard-mode $I^2C$ -bus system, but the requirement $t_{(SUDAT)}$ >250ns must then be met. This will automatically be the case if the device does not stretch the LOW period of the SCL signal.

If such a device does stretch the LOW period of the SCL signal, it must output the next data bit to the SDA line tr max + $t_{(SUDAT)}$ = 1000 + 250 = 1250ns (according to the Standard-mode $I^2C$ -bus specification) before the SCL line is released.

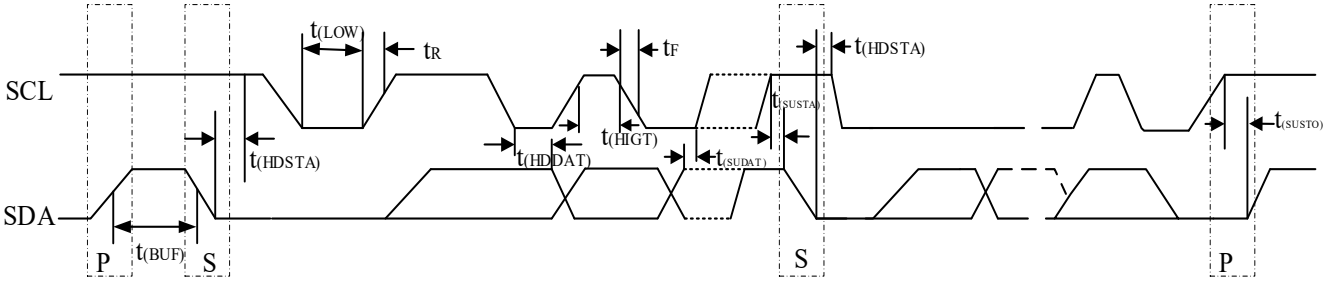
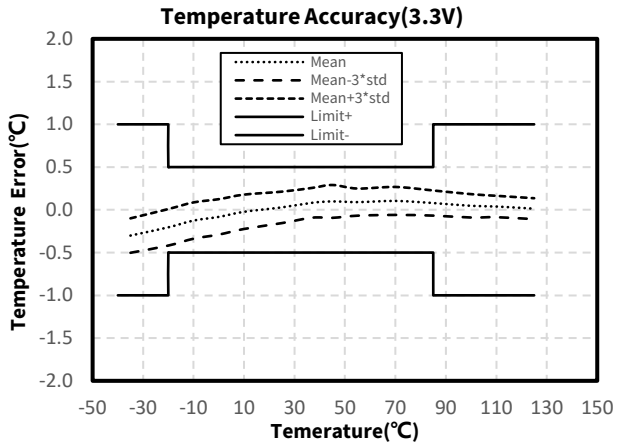
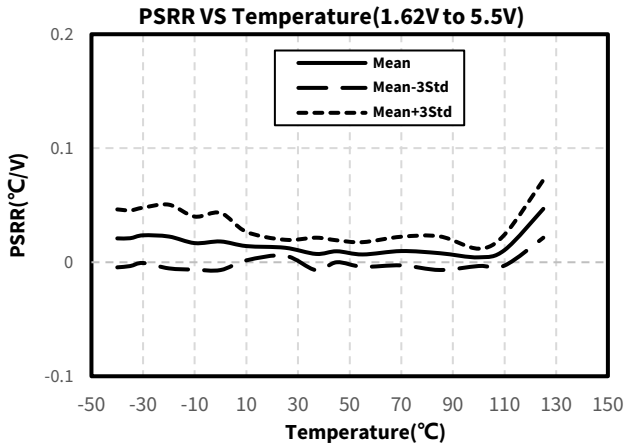


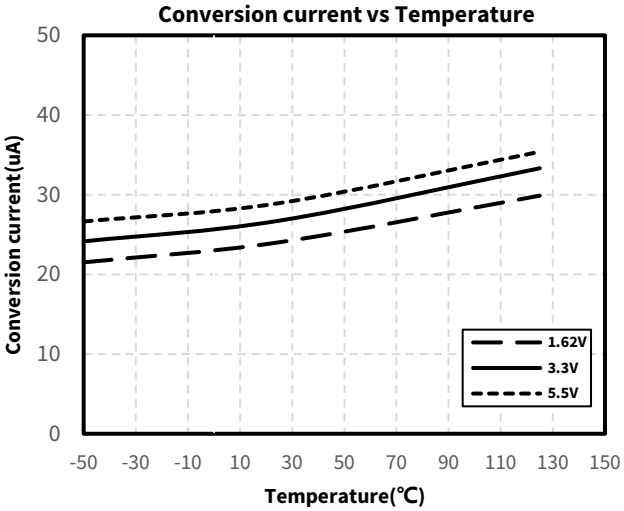

Figure 2.1 $I^2C$ Timing Diagram

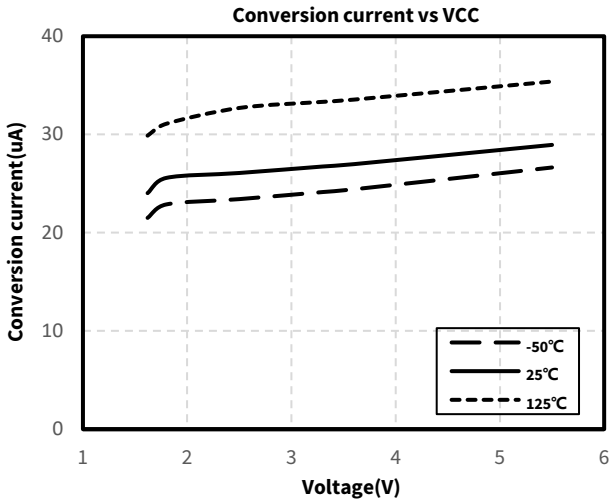
## 2.5 Typical Characteristics

at $T_A$ = +25°C and VDD = 3.3 V, $R_{pu}$ = 5.1kohm, unless otherwise noted.



# 3 Function Description

## 3.1 Overview

The Digital temperature sensor NST5851 has a wide supply voltage range of 1.62V to 5.5V. NST5851 measures temperature using a band-gap structure and 12-bit, delta-sigma (ΔΣ) analog-to-digital converter (ADC). In the range of –20°C to 85°C, the typical accuracy is ± 0.5°C, and in the range of –40°C to 125°C the maximum accuracy is ±1°C.

The NST5851 communicates with the master device through a 2-wire interface (SMBus and I²C), which operates up to 400kHz in I²C fast mode and 2MHz in I²C High speed mode. On the same 2-wire bus, the NST5851 allows up to 9 devices, by two address pins. The NST5851 has a bus fault timeout feature, if the SDA line remains low for more than $T_{TIMEOUT}$ (see specification), it will reset to the IDLE state (SDA set to high impedance) and wait for a new start condition, and it should be noted that when in Shutdown Mode, the TIMEOUT feature is not functional. An integrated low-pass filter on both the SDA and the SCL line of the NST5851, its communications are reliable in noisy environments by these filters.

## 3.2 Functional Block Diagram

The NST5851 Functional Block Diagram as shown in Figure 3.1.

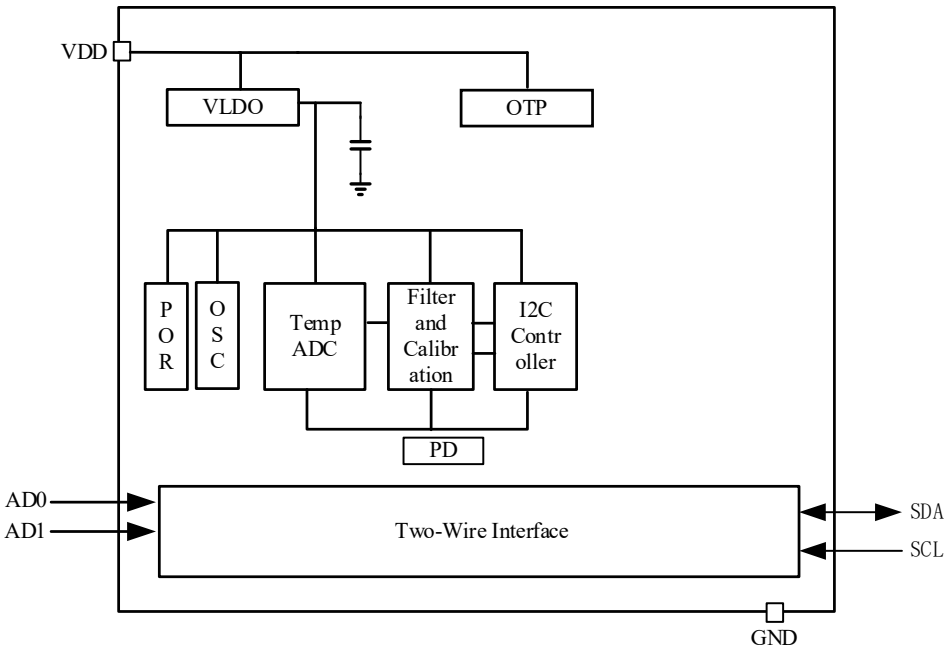



Figure 3.1 NST5851 Functional Block Diagram

## 3.3 Device Functions

### 3.3.1 Shutdown Mode (SD)

For power-sensitive applications, The NST5851 device offers a low-power shutdown mode, which reducing current consumption to typically less than 0.1 μA. Shutdown mode is enabled when write 1 to SD bit of the configuration register. In shutdown mode a One-shot command can be sent to perform a temperature transition, and the device shuts down automatically when the temperature transition is complete. When SD write to 0, the device maintains a continuous conversion state. For the NST5851, Time-out feature is turned off in Shutdown Mode.

### 3.3.2 One-shot (OS)

The NST5851 supports a one-shot temperature measurement mode when continuous temperature monitoring is not required. First set the chip into shutdown mode, write 1 to the OS bit to wake up the chip once and perform a temperature conversion. During the conversion, the OS bit reads 0. After the single conversion is complete, the device returns to the Shutdown state. At the end of the conversion, the OS bit reads 1.

### 3.3.3 Converter Resolution

The converter resolution bits control the resolution of the internal ADC. This control allows the user to maximize efficiency by programming for higher resolution or faster conversion time. The resolution bits and the relationship between resolution and conversion time, please refer to Congfiguration Register.

## 3.4 Serial Bus

The NST5851 is compatible with SMBus and I²C interfaces. data on the I²C-bus can be transferred at rates of up to 100kbit/s in the Standard-mode, up to 400kbit/s in the Fast-mode, or up to 2Mbit/s in the High-speed mode. All data bytes are transmitted MSB-firstly.

### 3.4.1 Bus Overview

The device on the bus that initiates the transmission is referred to as the master device, and the devices controlled by the master are slaves. The bus must be controlled by a master device that generates the serial clock (SCL), controls bus access and generates START and STOP conditions.

### 3.4.2 Bus Address

For communication between the master and the slave, a byte address needs to be sent first, including 7bit slave address bits and 1bit read and write direction bits. NST5851 has two address pins, allowing up to 9 devices to be addressed on one bus interface. Table 3.1 describes the pin logic levels used to properly connect up to 9 devices. “1” indicates the pin is connected to the supply (VDD); “0” indicates the pin is connected to GND; “float” indicates the pin is left unconnected. The state of pins AD0, AD1 is sampled on every bus communication and must be set prior to any activity on the interface.

Table 3.1 Address Pins and Slave Addresses for the NST5851

| *AD0* | *AD1* | *Slave Address* | |
|---|---|---|---|
| | | *Binary* | *Hex* |
| 0 | 0 | 1001000 | 48 |
| 1 | 0 | 1001010 | 4A |
| 0 | 1 | 1001100 | 4C |
| 1 | 1 | 1001110 | 4E |
| 0 | Float | 1110000 | 70 |
| 1 | Float | 1110011 | 73 |
| Float | Float | 1110110 | 76 |
| Float | 0 | 0101000 | 28 |
| Float | 1 | 0101010 | 2A |

### 3.4.3 Bus Function

#### 3.4.3.1 Writing and Reading to the NST5851

Writing operation is triggered by sending the slave address in write mode (R/W=0), then the master sends pointer register, and send the data byte afterwards. The transaction is ended by a STOP condition.

During writing operation, NST5851 is used as the slave receiver. The master transfers the slave address byte firstly, including 7 address bits and 1bit write direction bits, NST5851 acknowledges after receiving the valid address. the second byte transmitted by master is the pointer register address, then NST5851 acknowledges and the next byte of data is written to the pointer register. The master can terminate communication by generating a STOP condition. The details of this sequence are shown in Figure 3.3.

To be able to read registers, firstly the register address must be sent in write mode (R/W=0), then either a stop or a repeated start condition must be generated. When the slave is addressed as read mode (R/W=1), then the slave sends out 1 byte data. After reading the data the master needs to generate the NACK and stop condition to end the transaction. The details of this sequence are shown in Figure 3.4.

If repeated reads from the same register are required, it is not necessary to send the pointer register byte repeatedly because the NST5851 remembers the pointer register value until it is changed by the next write operation.

### 3.4.3.2 General Call

The NST5851 provides the general call function. when the general call address (0 000 000) sent by host is received and the R/W bit is 0, the device replies to the command. If the second byte is 00000110, the NST5851 latches the state of its address pins and resets its internal registers to the value at power-up.

### 3.4.3.3 High-Speed Mode

The NST5851 supports bus operation above 400 kHz, requiring that the master device must switch the bus to high-speed mode operation by issuing a high-speed mode master code (00001XXX) in the first byte after the START condition. The NST5851 does not acknowledge this byte, the NST5851 switches the input filter of SCL, SDA and output filter of SDA to high-speed mode, allowing data transfer up to 2MHz(For VDD<1.8V, the Hs-mode up to 1.6MHz). After issuing the master code for high-speed mode, the master will transmit a two-wire slave address to initiate the data transfer operation. The bus will continue to operate in high-speed mode until a stop signal appears on the bus. Once the stop signal is received, the SCL, SDA input filter and SDA output filter of the NST5851 switch to the fast mode.

### 3.4.3.4 Time-out Function

The NST5851 resets the I²C interface when the SCL or SDA is continuously pulled low for 54ms (typical) between the START and STOP signals, the NST5851 release the SDA and SCL line and waits for the master to initiate a START condition. To avoid activating the timeout function, the SCL operating frequency must be maintained at a rate of at least 1kHz.

### 3.4.3.5 I²C Timing

The NST5851 devices supports SMBus and I²C interfaces. Figure 3.2 to Figure 3.4 describe the various Bus operations on the NST5851. The following list provides bus definitions. Parameters for Figure 3.2 are defined in the I²C Timing Requirements.

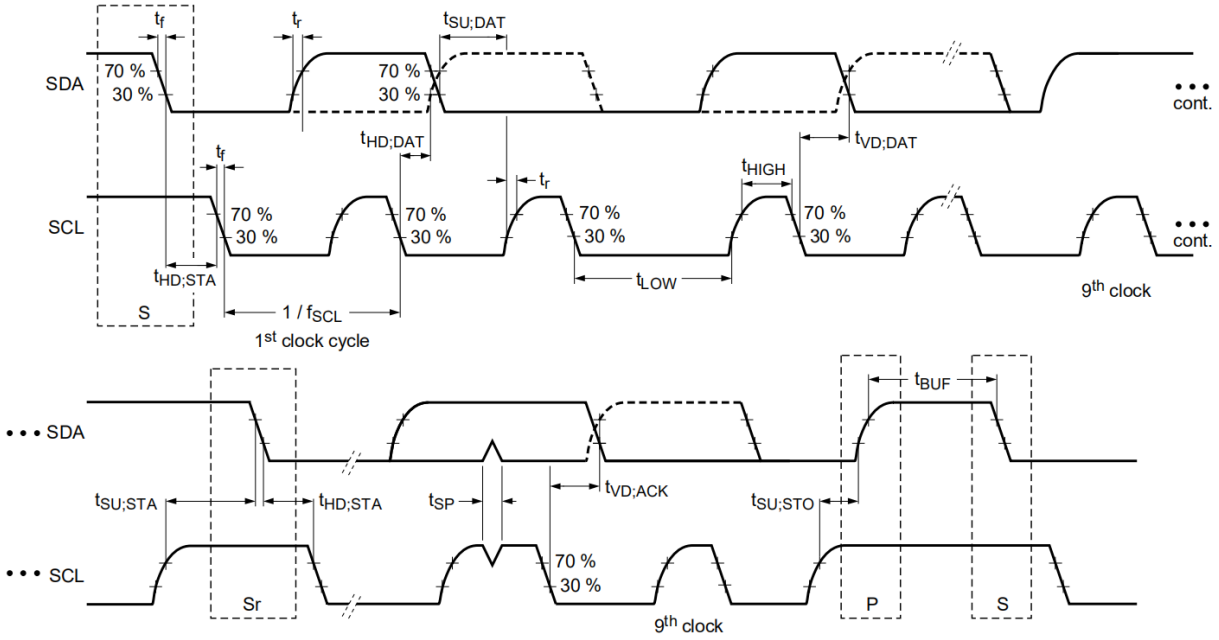



Figure 3.2 I²C Timing Diagram

**Bus Idle**: Both SDA and SCL lines remain high.

**Start Data Transfer**: A high-to-low transition of SDA with SCL high is a START condition which must precede any other command.

**Stop Data Transfer**: A low-to-high transition of SDA with SCL high is a STOP condition. The termination of each data transfer can be done with a RESTART or STOP.

**Data Transfer**: The amount of data bytes transferred between START and STOP is controlled by the master and is unlimited. The receiver acknowledges the transfer of data.

**Acknowledge**: All addresses and data words are serially transmitted to and from the device in 8-bit words. The device sends a zero to acknowledge that it has received each word when the address is matched. This happens during the ninth clock cycle. The data transfer can be terminated by the host generating a not-acknowledge during the host receiving data.

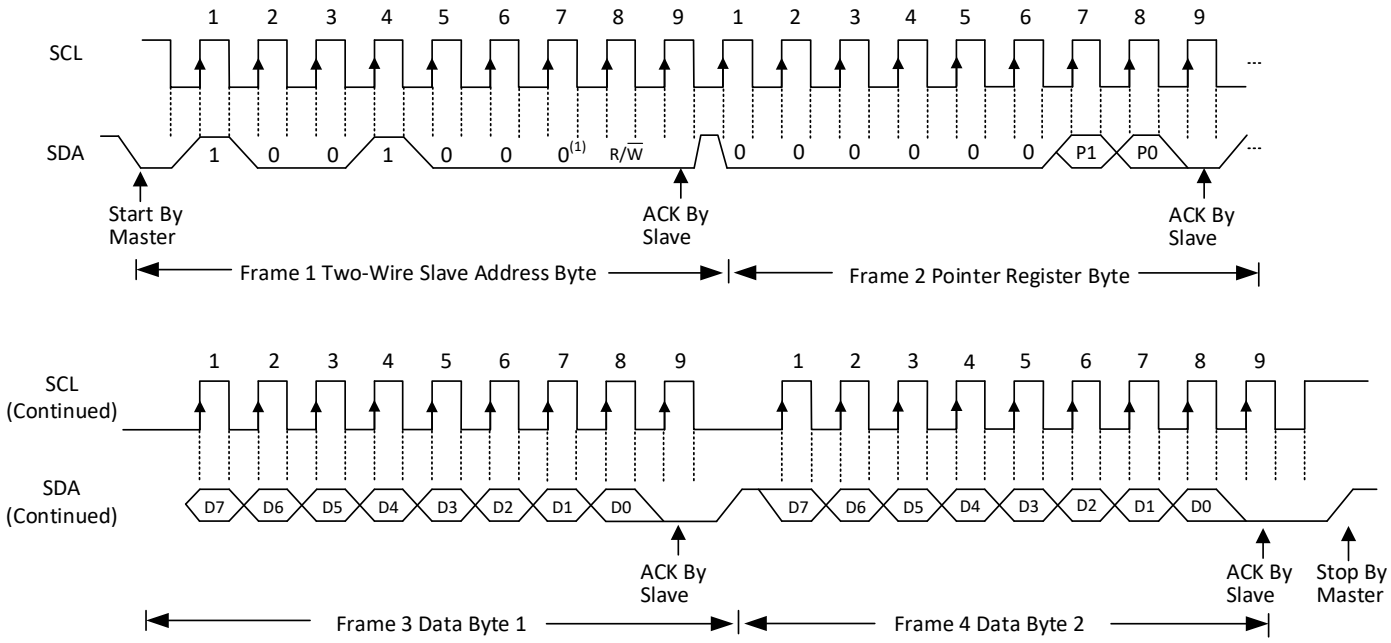



Figure 3.3 I²C Timing Diagram for the NST5851 Write Word Format

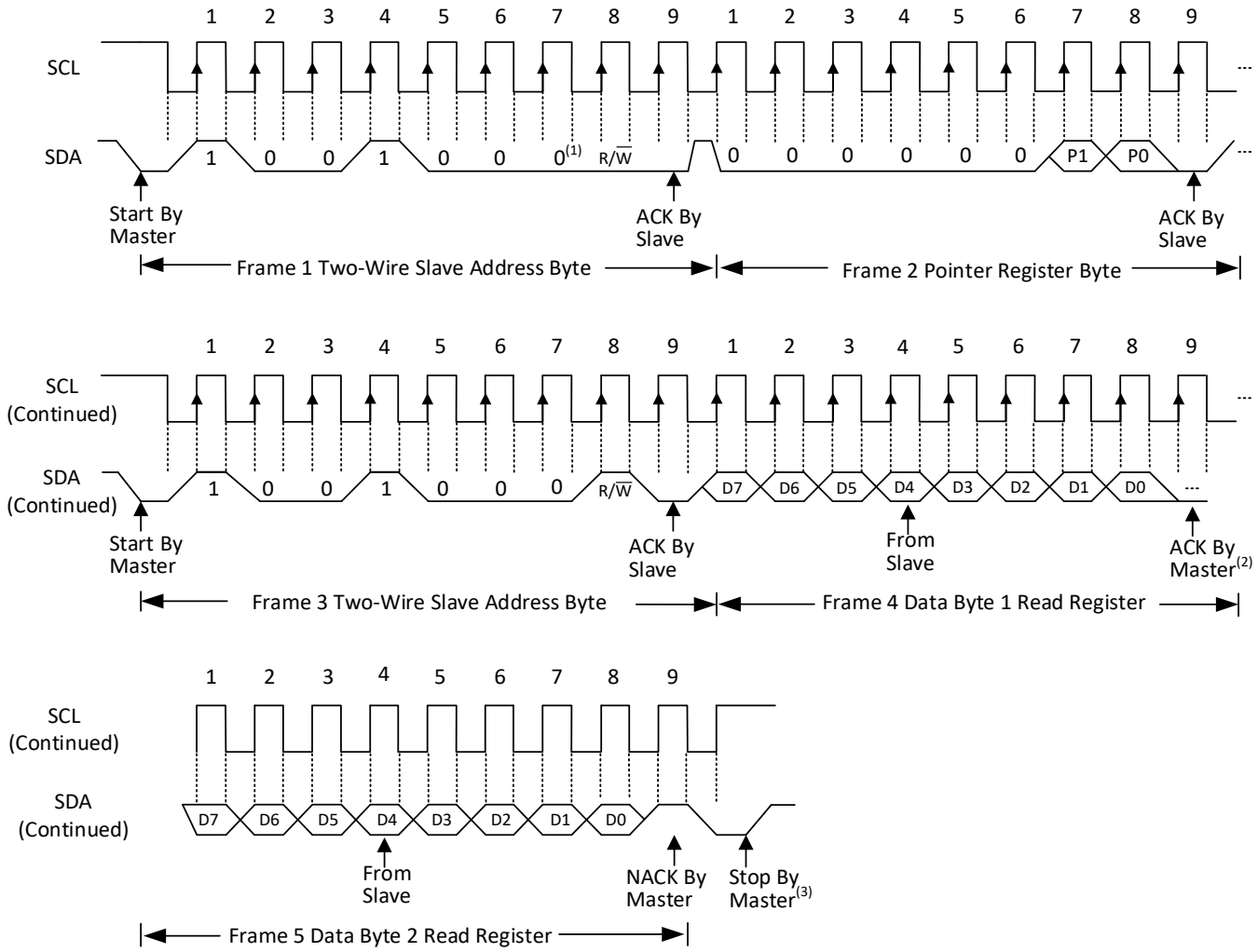



Figure 3.4 I²C Timing Diagram for Read Word Format

(1) Slave address 1001000 is shown.

(2) Master should leave SDA high to terminate a single-byte read operation.

(3) Master should leave SDA high to terminate a two-byte read operation.

# 4 On-Chip Register

## 4.1 Pointer Register

Table 4.1 shows the internal register structure of the NST5851. The 8-bit Pointer register of the devices is used to address a given data registers. The Pointer register uses the three LSBs to identify which of the data registers must respond to a read or write command. Table 4.1 identifies the bits of the Pointer Register Byte. Table 4.2 describes the Pointer Address of the Registers available in the NST5851. Power-up reset value of P2/P1/P0 is 000.

Table 4.1 Pointer Register Byte

| *P7* | *P6* | *P5* | *P4* | *P3* | *P2* | *P1* | *P0* |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | Register bit | | |

Table 4.2 Pointer Register Description

| *BIT NO.* | *Name* | *Description* |
|---|---|---|
| **Bits 7:3** | **NA** | P3 to P7 must always be 0 during the write command. |
| **Bits 2:0** | **Pointer[2:0]** | **000:** Temperature register (default)<br>**001:** Configuration register<br>**010:** $T_{LOW}$ register (This register is reserved)<br>**011:** $T_{HIGH}$ register (This register is reserved)<br>**111:** PartID register |

## 4.2 Temperature Register

The temperature register is a read-only register used to store the results of each completed temperature conversion, which consists of 2 Bytes in the format shown in Table 4.3 , with MSB output first and followed by the LSB, and 12-bit MSBs used to indicate the temperature value.The data format for temperature is listed in Table 4.4, the resolution is 0.0625°C. Negative numbers are represented in binary complement format. After power-up or reset and before the first temperature conversion is completed, the value of the temperature register is 0.

By addressing the Configuration register and setting the resolution bits accordingly. The user can obtain 9, 10, 11, or 12 bits of resolution. For 9, 10, 11, or 12-bit resolution, the unused least significant bits (LSBs) set to 0.

Table 4.3 Temperature Register(12-bit)

| *Bit* | *D15* | *D14* | *D13* | *D12* | *D11* | *D10* | *D9* | *D8* |
|---|---|---|---|---|---|---|---|---|
| Name | T11 | T10 | T9 | T8 | T7 | T6 | T5 | T4 |
| - | R | R | R | R | R | R | R | R |
| ***Bit*** | ***D7*** | ***D6*** | ***D5*** | ***D4*** | ***D3*** | ***D2*** | ***D1*** | ***D0*** |
| Name | T3 | T2 | T1 | T0 | - | - | - | - |
| - | R | R | R | R | R | R | R | R |

Table 4.4 Temperature Data Format(12-bit)

| Temperature(°C) | Digital Output | |
|---|---|---|
| | Binary | Hex |
| 127.9375 | 0111 1111 1111 | 7FF |
| 100 | 0110 0100 0000 | 640 |
| 80 | 0101 0000 0000 | 500 |
| 50 | 0011 0010 0000 | 320 |
| 25 | 0001 1001 0000 | 190 |
| 0.25 | 0000 0000 0100 | 004 |
| 0 | 0000 0000 0000 | 000 |
| -0.25 | 1111 1111 1100 | FFC |
| -25 | 1110 0111 0000 | E70 |
| -40 | 1100 1001 0000 | C90 |

## 4.3 Configuration Register

The Configuration register is an 8-bit read/write register used to store bits that control the operational modes of the temperature sensor. Read and write operations are performed MSB first. The format of the Configuration register for the NST5851 is shown in Table 4.5, followed by a breakdown of the register bits, as shown in Table 4.6. The power-up or reset value of the Configuration register are all bits equal to 0.

Table 4.5 Configuration Register Format

| Bit | D7 | D6 | D5 | D4 | D3 | D2 | D1 | D0 |
|---|---|---|---|---|---|---|---|---|
| Name | OS | R1 | R0 | Reserved | Reserved | Reserved | Reserved | SD |
| Default | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - | R/W | R/W | R/W | R/W | R/W | R/W | R/W | R/W |

Table 4.6 Configuration Register Description

| BIT NO. | Name | Description |
|---|---|---|
| **Bit 7** | **OS** | **0:** Continuous-Conversion Mode (default)<br>**1:** One-shot Mode |
| **Bits 6:5** | **Converter Resolution [1:0]** | **00:** 9bit (0.5°C) (default)<br>**01:** 10bit (0.25°C)<br>**10:** 11bit (0.125°C)<br>**11:** 12bit (0.0625°C) |
| **Bits 4:1** | **Reserved** | These bits are reserved, default set to 0 |
| **Bit 0** | **Shutdown** | **0:** Continuous-Conversion Mode (default)<br>**1:** Shutdown Mode |

## 4.4 PRODID: Product ID Register

Table 4.7 Product ID Register

| *Bit* | *D7* | *D6* | *D5* | *D4* | *D3* | *D2* | *D1* | *D0* |
|---|---|---|---|---|---|---|---|---|
| Default | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| - | R | R | R | R | R | R | R | R |

D4--D7: Product Identification Nibble. Always returns **Ah** to uniquely identify this part as the NST5851.

D0--D3: Die Revision Nibble. Returns **1h** to uniquely identify the revision level as one.

# 5 Application

## 5.1 Typical Application

No external components are required to operate the NST5851 other than pull-up resistors on SCL, SDA, a bypass capacitor of 0.01μF is recommended. the sensing device for the NST5851 device is the device itself. The thermal path is through the package leads as well as the plastic package. The low thermal resistance of the metal results in the leads providing the primary thermal path. The typical application of NST5851 is shown in Figure 5.1.

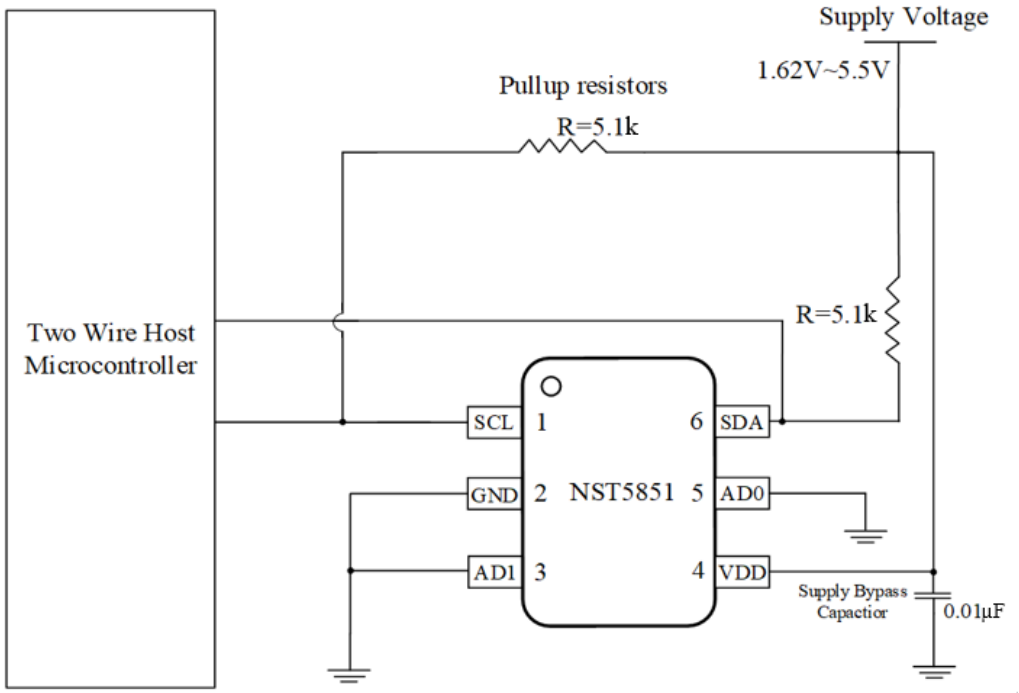
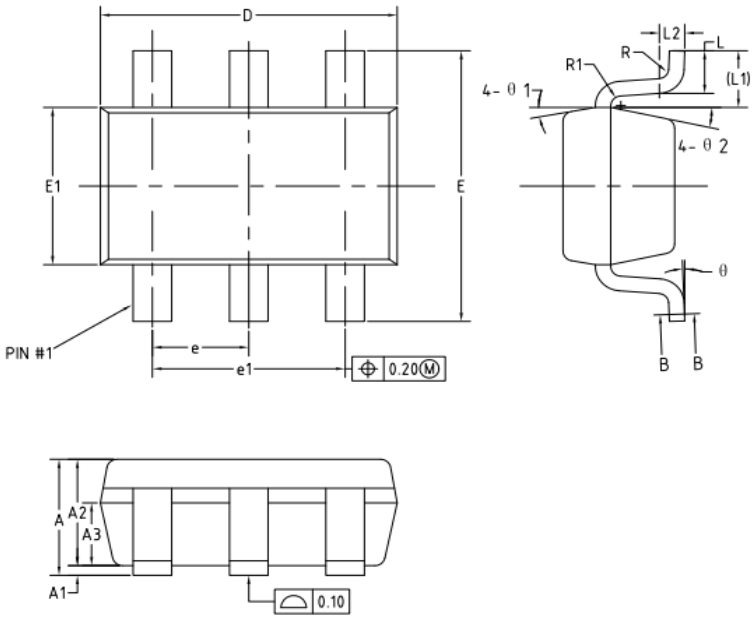



Figure 5.1 Typical Connections of NST5851

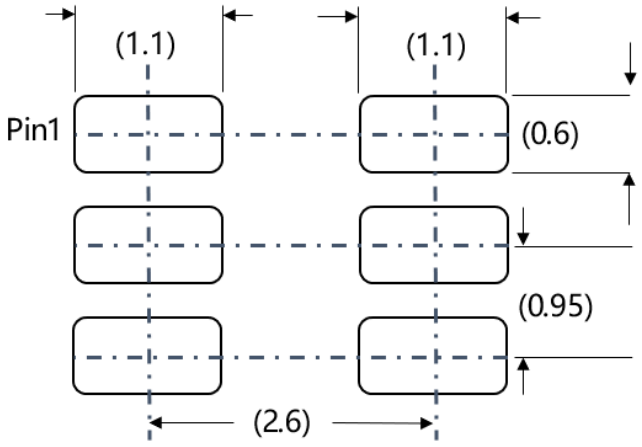
# 6 Package Information

## 6.1 Package

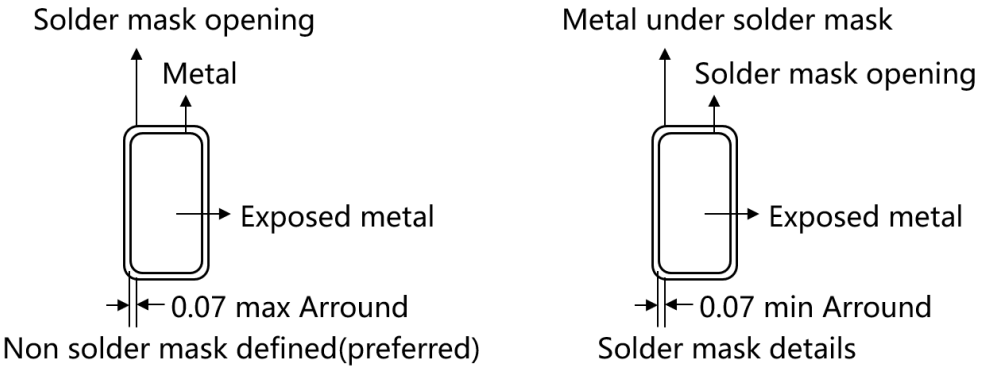



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

| SYMBOL | MIN | NOM | MAX |
|---|---|---|---|
| A | – | – | 1.25 |
| A1 | 0 | – | 0.15 |
| A2 | 1.00 | 1.10 | 1.20 |
| A3 | 0.60 | 0.65 | 0.70 |
| b | 0.34 | – | 0.45 |
| b1 | 0.34 | 0.38 | 0.41 |
| c | 0.12 | – | 0.20 |
| c1 | 0.12 | 0.15 | 0.16 |
| D | 2.826 | 2.926 | 3.026 |
| E | 2.60 | 2.80 | 3.00 |
| E1 | 1.526 | 1.626 | 1.700 |
| e | 0.90 | 0.95 | 1.00 |
| e1 | 1.80 | 1.90 | 2.00 |
| L | 0.30 | 0.40 | 0.60 |
| L1 | | 0.59REF | |
| L2 | | 0.25BSC | |
| R | 0.05 | – | 0.20 |
| R1 | 0.05 | – | 0.20 |
| θ | 0° | – | 8° |
| θ 1 | 8° | 10° | 12° |
| θ 2 | 10° | 12° | 14° |

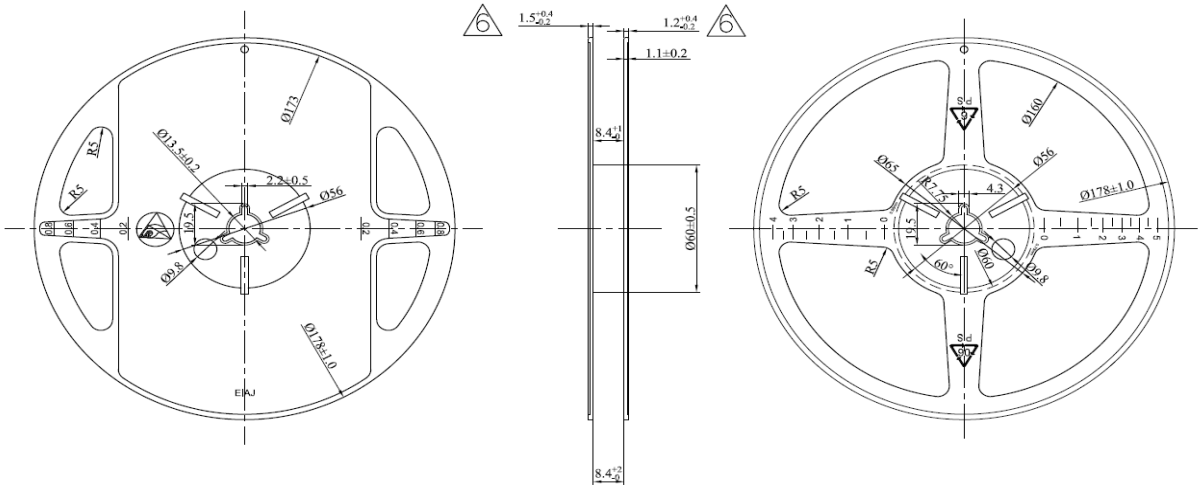


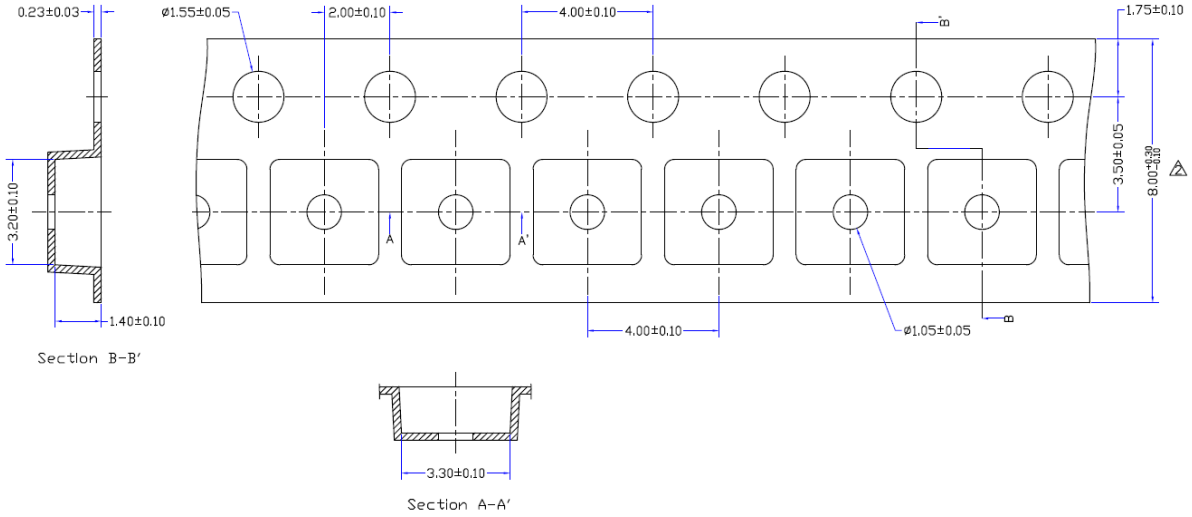

Units of measure=millimeter
Land pattern example
Exposed metal shown

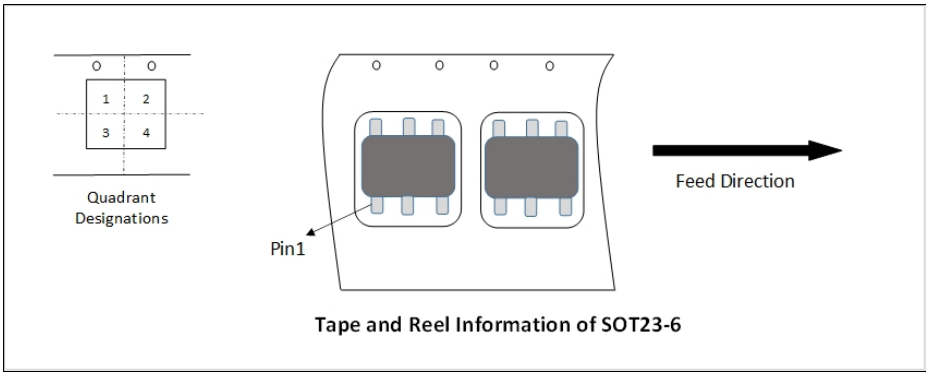



Units of measure=millimeter
Solder mask details

## 6.2 Tape and Reel Information



# 7 Order Information

| Type | Unit | MSL | Marking | Description |
|---|---|---|---|---|
| NST5851-DSTCR | 3000ea/Reel | 1 | 5851<br>YYZZ | SOT-23-6 package, Reel |
| NOTE: All packages are RoHS-compliant with peak reflow temperatures of 260°C according to the JEDEC industry standard classifications and peak solder temperatures (Reflow profile: J-STD-020E). | | | | |

# 8 Marking

| Device | Package | Marking Information | | Description |
|---|---|---|---|---|
| NST5851-DSTCR | SOT-23-6 | Line1:5851<br>Line 2: YYZZ |  | 5851: Device fixed code<br>YY: year<br>ZZ: week |

# 9 Revision History

| *Revision* | *Description* | *Date* |
|---|---|---|
| 0.1 | Initial Version | 2023/5/15 |
| 0.2 | Modify Description | 2023/7/7 |
| 0.3 | Revise ordering information, Tape and reel information | 2023/12/20 |
| 1.0 | Update some electrical characteristics parameters | 2024/3/15 |
| 1.01 | Add Typical Characteristics information | 2024/7/19 |
| 1.1 | Revise ordering information | 2025/3/4 |

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