

## Simple Thermometer

The data except this specification conform to those of IMX273 / IMX287.

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### Description

The function of simple thermometer which can know the rough value of the temperature is described in this document.

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### Features

- ◆ Register output
- ◆ Compatible temperature  
 $T_j = -30\text{ }^{\circ}\text{C}$  to  $75\text{ }^{\circ}\text{C}$   
(The precision is not guaranteed.)

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Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony Semiconductor Solutions Corporation cannot assume responsibility for any problems arising out of the use of these circuits.

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## Register Map

The register map for Simple Thermometer is shown below.  
Please refer to the product specification for register setup other than those list.

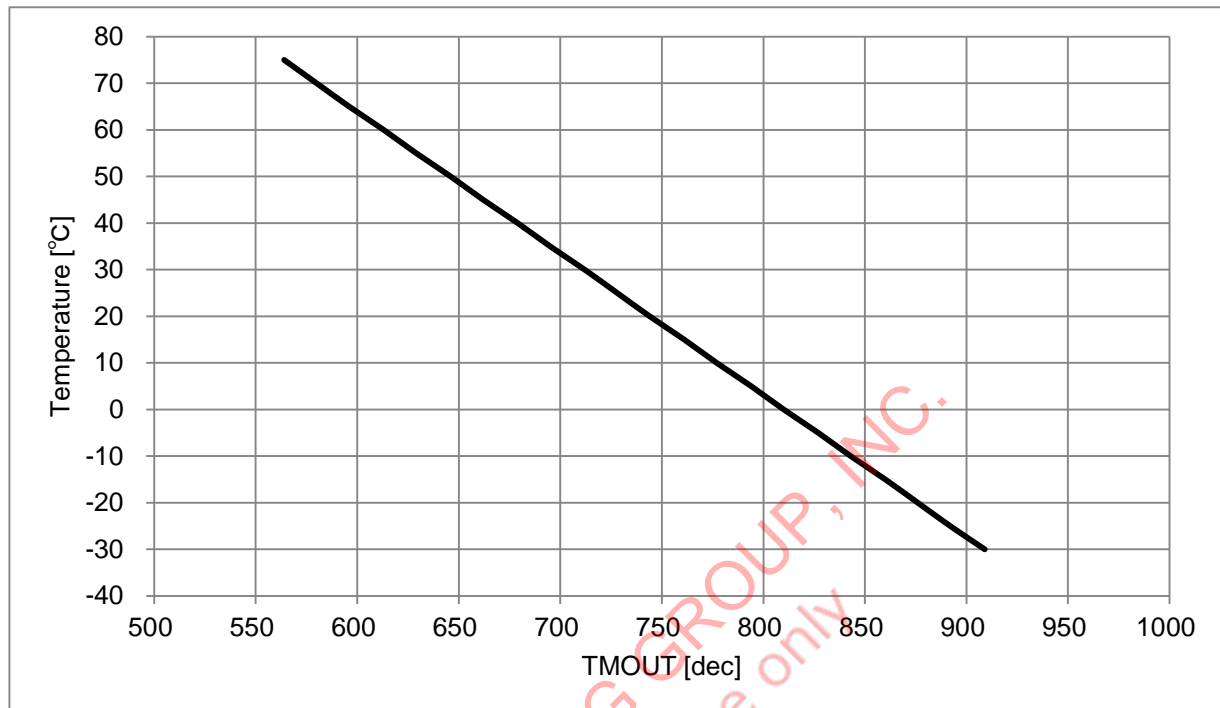
Registers corresponding to Chip ID = 02h in Write mode. (I2C:30\*\*h)

Address	Bit	Register name	Description	Default Value after reset	Reflection timing
1Dh	0	TMDLATCH	0: Holding the value of TMOUT 1: Updating the value of TMOUT This register doesn't clear after reading TMOUT. This register must set to "0" before next reading TMOUT.	0	I
	1		Fixed to "0"	0	-
	2		Fixed to "0"	0	-
	3		Fixed to "0"	0	-
	4		Fixed to "0"	0	-
	5		Fixed to "0"	0	-
	6		Fixed to "0"	0	-
	7		Fixed to "0"	0	-
1Eh	0	TMOUT	LSB	undefined	I
	1				
	2				
	3				
	4				
	5				
	6				
	7				
1Fh	0		MSB	0	-
	1		Fixed to "0"		
	2		Fixed to "0"		
	3		Fixed to "0"		
	4		Fixed to "0"		
	5		Fixed to "0"		
	6		Fixed to "0"		
	7		Fixed to "0"		

## How to calculate

The way to calculate the temperature is as below.

$$\text{Temperature } [^{\circ}\text{C}] = 246.312 - 0.304 * \text{TMOUT}$$



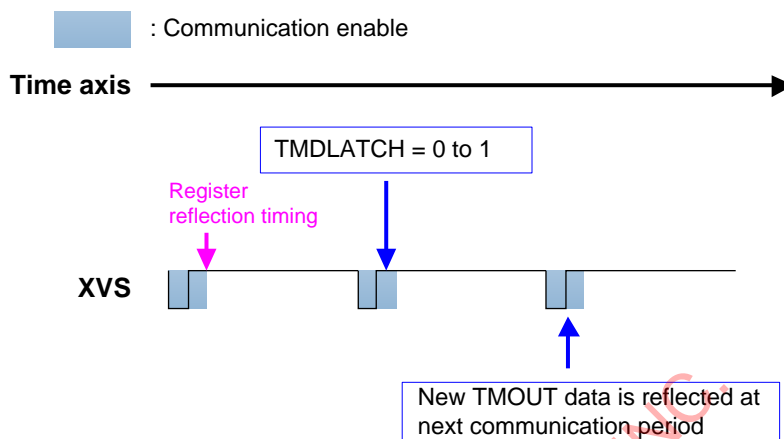
The temperature of TMOUT

## Reflection timing

The timing of the reading the temperature updated is as below.

The value is updated at the next communication period of setting the TMDLATCH.

After that, the value of TMOUT is held until the next timing of setting "1" into TMDLATCH



The reflection timing of Normal mode (4-wire)

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**Revision History**

Version	Date	Page	Remarks
Rev.0.1	20 – Jan. – 17	–	First Edition
Rev.1.0	6 – Oct. – 17	–	First Edition (Official Version)

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