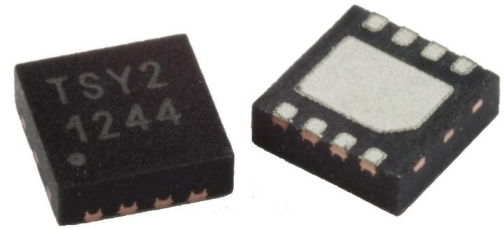


TSYS02 Series Digital Temperature Sensor

Digital Temperature Sensor
±0.2°C Accuracy
16 bit Resolution
I²C/PWM/SDM Versions available
TDFN8 Package



The TSYS02 Series comprises three digital temperature sensor solutions. The sensors are located in ultra small TDFN8 packages. TSYS02 provides precisely temperature information via different output options.

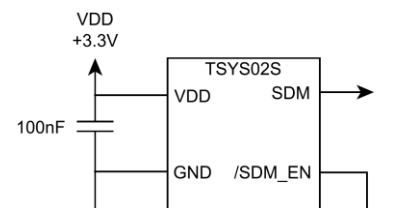
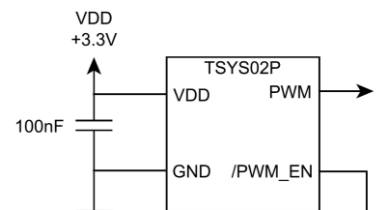
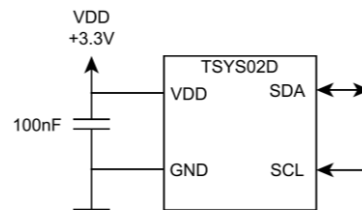
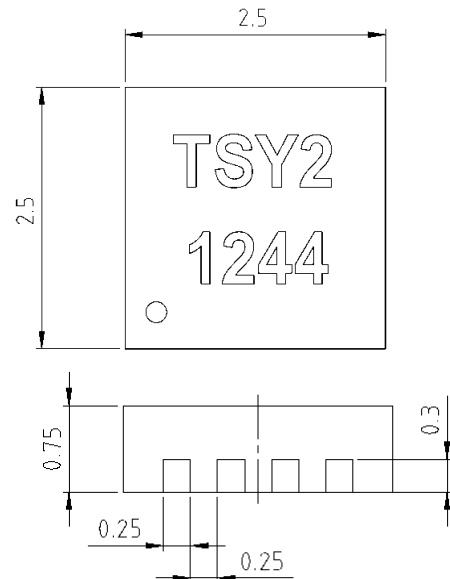
FEATURES

- Temperature Range: -40°C ... +125°C
- Accuracy: ±0.2°C @ -5°C ... +50°C
- Output: I²C / PWM / SDM
 - I²C: TSYS02D
Digital Interface
 - PWM: TSYS02P
Pulse Width Modulation
 - SDM: TSYS02S
Pulse sequence representing analogue voltage
- Small Dimensions TDFN8 2.5 x 2.5
- Low Power Consumption

APPLICATIONS

- Replacement of Precision RTDs, Thermistors & NTCs
- Industrial Control
- Heating / Cooling Systems
- HVAC

Dimensions (mm)

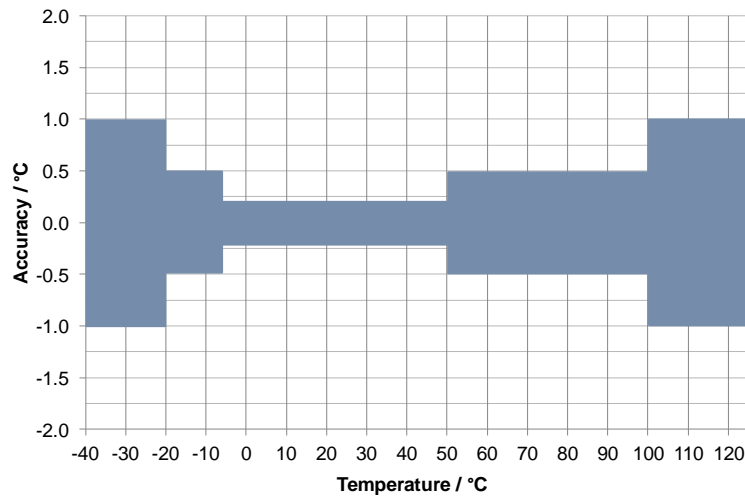


TSYS02 Series Digital Temperature Sensor

performance specifications

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Operating Supply Voltage	V _{DD}	stabilized	1.5	3.3	3.6	V
Supply Current	I _{DD}	1 sample per second		18		μA
Standby current	I _s	No conversion, V _{DD} = 3V T = 25°C T = 85°C		0.02 0.70	0.14 1.40	μA μA
Conversion time	T _{CONV}			43		ms
Temp. Measurement Range	T _{RANG}		-40		125	°C
Accuracy 1	T _{ACC1}	-5°C < T < +50°C	-0.2		+0.2	°C
Accuracy 2	T _{ACC2}	-20°C < T < +100°C	-0.5		+0.5	°C
Accuracy 3	T _{ACC3}	-40°C < T < +125°C	-1.0		+1.0	°C
Temperature Resolution	T _{RES}				0.01	°C

accuracy

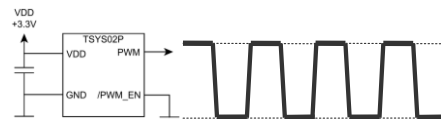


application examples

TSYS02D (I²C)



TSYS02P (PWM)



TSYS02S (SDM)



ordering information

Part Number	Part Description	Interface	Detailed Datasheet
G-NIMO-003	TSYS02D	I ² C	TSYS02D_datasheet
G-NIMO-004	TSYS02P	PWM	TSYS02P_datasheet
G-NIMO-005	TSYS02S	SDM	TSYS02S_datasheet

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