

Temperature Sensor

1. Features

Supply Voltage : 1.8 V
 Operating Temperature Range : -40°C to 150°C
 Voltage slope : 7.9 mV/°C
 Temperature Coefficient : 12.1 m
 PSRR @1 Hz : 54 dB
 Current Consumption : 1.9 mA
 StartUp Time : 4.1 us
 WakeUp Time : 360 ns
 Process : 22FDX
 Metal Option : 19

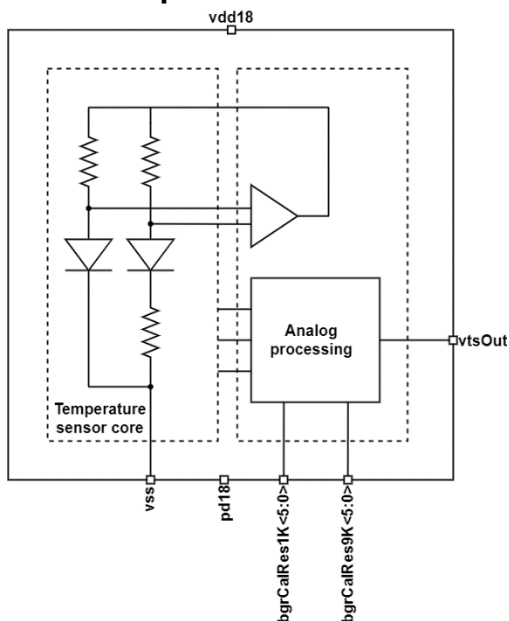
3. Description

The WEATS18PI12RO12M22G is a temperature sensor that operates from -40 °C to 150 °C and produces an output voltage from 0 to 1.2 V. The sensor has an absolute accuracy of +/- 6.73 °C @ 125 °C (3-sigma) and after external offset calibration (one-point) the maximum residual error is below +/-1.5 °C @125 °C (3-sigma). The sensor operates from a supply of 1.8 V.

2. Applications

FEM, Transceivers, ASICs

Simplified Schematic



4. Pin Out Description

Pinout	Purpose	Description
vdd1v8	PS	1.8 V Input Supply Voltage
vss	GND	Ground
pd18	DI	Power Down pin. Drive pd18 to vss to turn on the temperature sensor. Drive pd18 to vdd18 to put the temperature sensor into shutdown mode.
bgrCalRes1K<5:0>	DI	Calibration bits for 1K resistor
BgrCalRes9K<5:0>	DI	Calibration bits for 9K resistor
vtsOut	O	Temperature Sensor Output

(1) I=Input, O=Output, IO=Input,Output ,PS=Power Supply, DI= Digital Input, AIO=Analog Input Output

5. Availability

GF 22FDX, Metal Option 19





6. Deliverables

GDSII, Database

About weasic

weasic Microelectronics S.A. designs, develops, and markets high quality complex analog and RF IP for wireless communications and wireless sensors applications, helping semiconductor and system companies to shrink the product design cycle. WEASIC, silicon verified IP is designed in the state-of-the-art CMOS, CMOS-SOI and SiGe processes and can be easily ported and customized to serve the development of 5G and Backhaul communications transceivers, mmWave front-end modules, and RADAR sensors.

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