

# MLX90327

# AUTOMOTIVE

# DUAL THERMOCOUPLE INTERFACE IC

# **SENSE THE HEAT**

Precise, reliable temperature measurements enable better engine and exhaust control for emission reduction.

## MLX90327

The need for improved fuel economy and reduced emissions is pushing the bar for smaller engine designs, resulting in higher temperature densities. More constricted thermal control is therefore required. Drawing on nearly three decades of experience within the automotive business, our MLX90327 offers a robust solution to measure these temperatures.

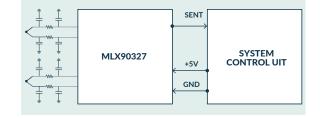
Being a smart sensor interface, the MLX90327 supports SENT protocol or two channels of 12-bit PWM, configurable by a single setting.

Dual Channel interface for two thermocouple (TC), or 1 thermocouple + 1 Resistance Temperature Detectors (RTD) MLX90327LLW-AAA-001: Standard accuracy MLX90327LLW-AAA-101: High accuracy

## **APPLICATIONS**

- ✓ Turbo temperature measurement
- Sexhaust gas temperature measurement
- ✓ Truck brake temperature sensing
- ⊘ Catalytic converter temperature sensing
- Oiesel Particle Filter (DPF) Temperature Measurement

## APPLICATION DIAGRAM



The Sahara desert ant is one tough land dwelle insect forages even when its body temperature 122°F (50°C) for short periods, making it one c most heat-tolerant species to walk on the plan



## **KEY FEATURES**

### Sensor

- Sensor interface for 2 thermocouples (TC) or 1 thermocouple and 1 Resistance Temperature Detectors (RTD)
- K and N thermocouples linearization support and cold-junction compensation for hot junction temperatures up to 1300°C
- RTD sensors support up to 950°C

### 🚫 Output

- SENT standard according to SAE-J2716 Jan 2010 or two channels of 12-bit PWM
- Push-pull or Open Drain Output for SENT and PWM
- Can attains the high accuracy of ±2.5°C for Ta>0degC
- High update rate up to 75Hz

### Ø Ambient Temperature

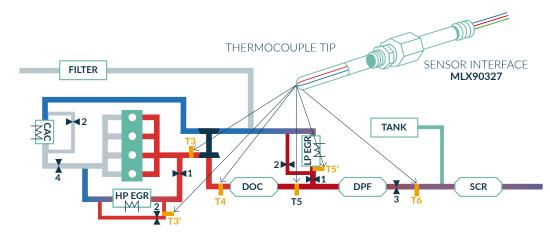
• Operating temperature from -40°C to 155°C

#### 🔗 Package

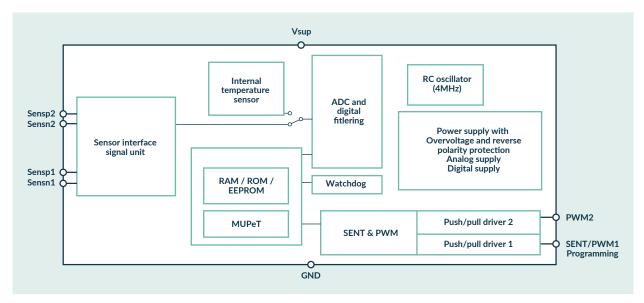
• RoHS compliant QFN 4x6 26 pins package for even smaller PCB area

#### Ø Automotive

- Support Safety Integrity Level ASIL A
- AEC-Q100 Grade 0 Qualified



## **BLOCK DIAGRAM**



The above information's "as is" and believed to be correct and accurate. Melevis disclaims any and alliability, incorrection with or arising out of the furnishing, application or use of the information or products, any and alliability, including without limitation, appeala, consequential or incidented damages: and any and all warranties, express, statutory, implied, or by description, including warrants of thress for particular purpose, non-infringement and meetafulity. Melevis reserves the fight to change it at any time and without notice. Deers should obtain the blast version of the information or express. Test toor, including warrants of thress of thress for particular purpose, non-infringement and meetaful to a particular purpose. Export corritor legalities may apply, and export might required and bettermine whether it is find or a particular purpose. Export corritor legalities may apply and export might required and the test authorities. Melevis products are intended for use in normal commercial applications. Unless otherwise agreed upon in writing, the products are valid end authorities. These should obtains requiring extended temperature argue and/or unusual environmental equirements. High reliability applications, such as medical lite-support or lite-submitter and contentions. The lite system and continues and conti