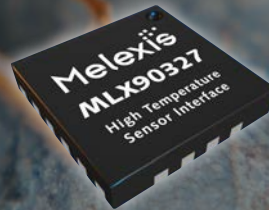


**MLX90327**

**AUTOMOTIVE**

**DUAL THERMOCOUPLE  
INTERFACE IC**



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

## 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)

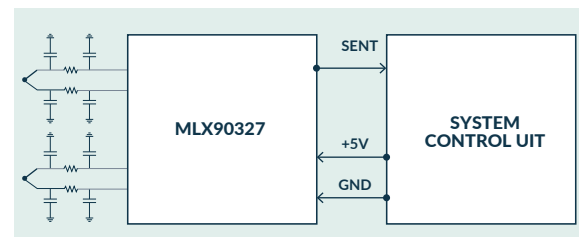
MLX90327LLW-AAA-001: Standard accuracy

MLX90327LLW-AAA-101: High accuracy

### APPLICATIONS

- ✓ Turbo temperature measurement
- ✓ Exhaust gas temperature measurement
- ✓ Truck brake temperature sensing
- ✓ Catalytic converter temperature sensing
- ✓ Diesel Particle Filter (DPF) Temperature Measurement

### APPLICATION DIAGRAM



## 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 attain the high accuracy of  $\pm 2.5^{\circ}\text{C}$  for  $T_a > 0^{\circ}\text{C}$
- High update rate up to 75Hz



### Ambient Temperature

- Operating temperature from  $-40^{\circ}\text{C}$  to  $155^{\circ}\text{C}$



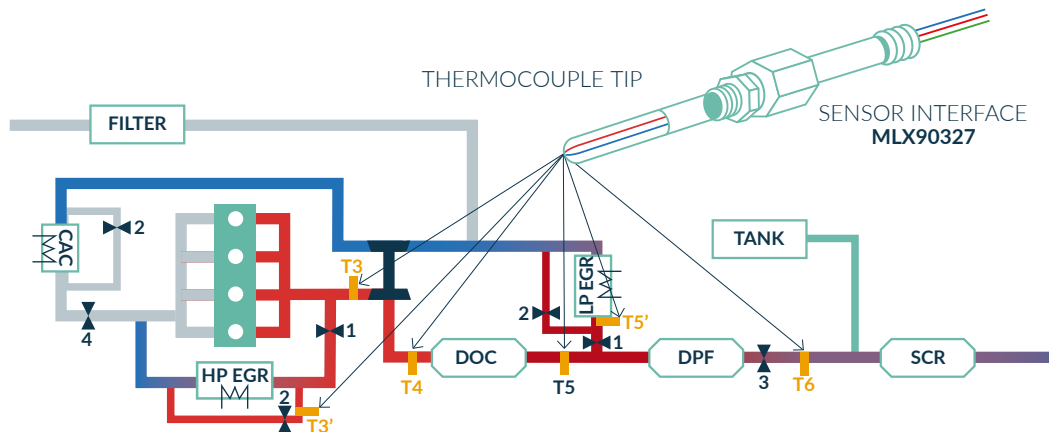
### Package

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



### Automotive

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



## BLOCK DIAGRAM

