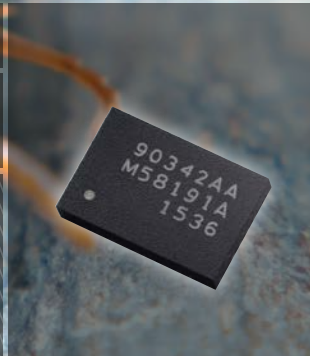


MLX90342

AUTOMOTIVE

QUAD 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.

### MLX90342

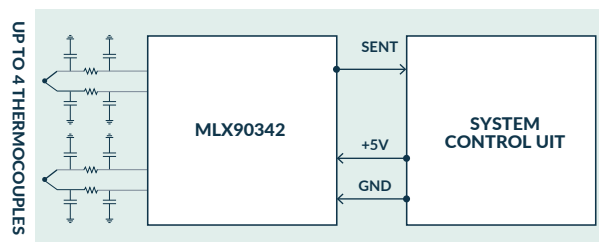
The need for improved fuel economy and reduced emissions is pushing the bar for smaller engine designs. At the same time this results in higher temperature densities. More constricted thermal control is therefore required. Drawing on nearly three decades of experience within the automotive business, our MLX90342 offers a robust solution to measure these temperatures. Being a smart sensor interface, the MLX90327 supports SENT protocol.

Quad Channel interface up to four thermocouples (TC)  
MLX90342LLW-AAA-000: Standard accuracy  
MLX90342LLW-AAA-100: 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 up to 4 thermocouples (TC)
- N thermocouples linearization support and cold-junction compensation for hot junction temperatures up to 1300°C.
- Other thermocouples possible on request



### Output

- SENT standard according to SAE-J2716 Jan 2010 plus Fast Channel Multiplexing
- Push-pull Output for SENT
- Can attain the high accuracy of  $\pm 2.5^\circ\text{C}$  for  $T_a > 0^\circ\text{C}$
- High update rate up to 100Hz



### Ambient Temperature

- Operating temperature from  $-40^\circ\text{C}$  to  $155^\circ\text{C}$
- thermocouple calibration and customization



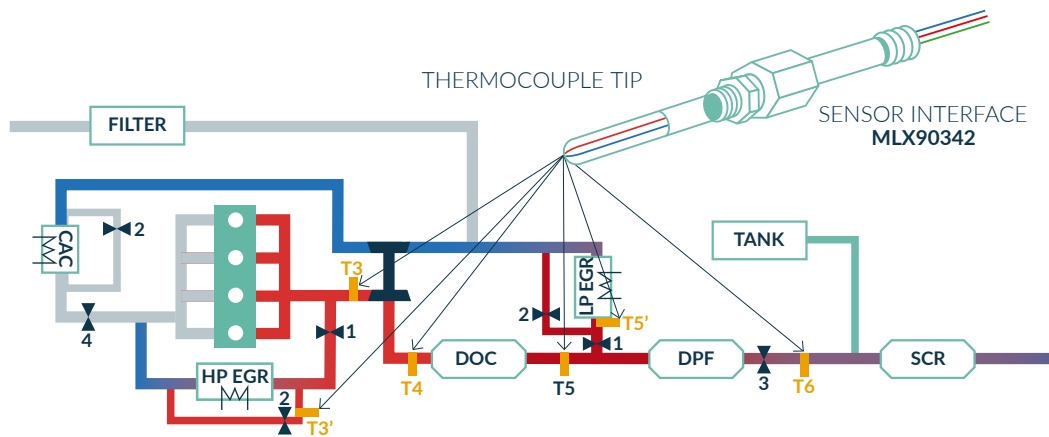
### Package

- 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

