

Features and Benefits

- Small size, low cost
- Easy to integrate
- Factory calibrated in wide temperature range:
-40...+125 °C for sensor temperature and
-70...+380 °C for object temperature.
- High accuracy of 0.5°C over wide temperature range (0..+50°C for both Ta and To)
- High (medical) accuracy calibration
- Measurement resolution of 0.02°C
- Single and dual zone versions
- SMBus compatible digital interface
- Customizable PWM output for continuous reading
- Available in 3V and 5V versions
- Simple adaptation for 8...16V applications
- Power saving mode
- Different package options for applications and measurements versatility
- Automotive grade

Applications Examples

- High precision non-contact temperature measurements;
- Thermal Comfort sensor for Mobile Air Conditioning control system;
- Temperature sensing element for residential, commercial and industrial building air conditioning;
- Windshield defogging;
- Automotive blind angle detection;
- Industrial temperature control of moving parts;
- Temperature control in printers and copiers;
- Home appliances with temperature control;
- Healthcare;
- Livestock monitoring;
- Movement detection;
- Multiple zone temperature control – up to 100 sensors can be read via common 2 wires
- Thermal relay / alert
- Body temperature measurement

Ordering Information

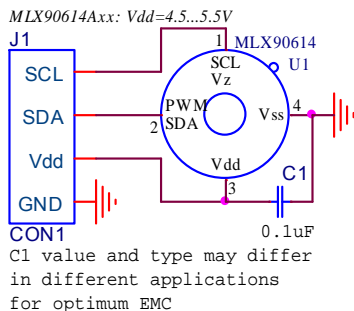


Part No.	Temperature Code	Package Code	- Option Code
MLX90614	E (-40°C to 85°C) K (-40°C to 125°C)	SF (TO-39)	- X X X (1) (2) (3)
(1) Supply Voltage/ Accuracy A - 5V B - 3V C - Reserved D - 3V medical accuracy	(2) Number of thermopiles: A – single zone B – dual zone C – gradient compensated*	(3) Package options: A – Standard package B – Reserved C – 35° FOV F – 10° FOV	

Example:
MLX90614ESF-BAA

* : See page 2

1 Functional diagram



MLX90614 connection to SMBus

Figure 1 Typical application schematics

2 General Description

The MLX90614 is an Infra Red thermometer for non contact temperature measurements. Both the IR sensitive thermopile detector chip and the signal conditioning ASSP are integrated in the same TO-39 can.

Thanks to its low noise amplifier, 17-bit ADC and powerful DSP unit, a high accuracy and resolution of the thermometer is achieved.

The thermometer comes factory calibrated with a digital PWM and SMBus (System Management Bus) output.

As a standard, the 10-bit PWM is configured to continuously transmit the measured temperature in range of -20...120 °C, with an output resolution of 0.14 °C and the POR default is SMBus.