

## Lead-Free and Long-Life Oxygen (O<sub>2</sub>) Sensor

### Description

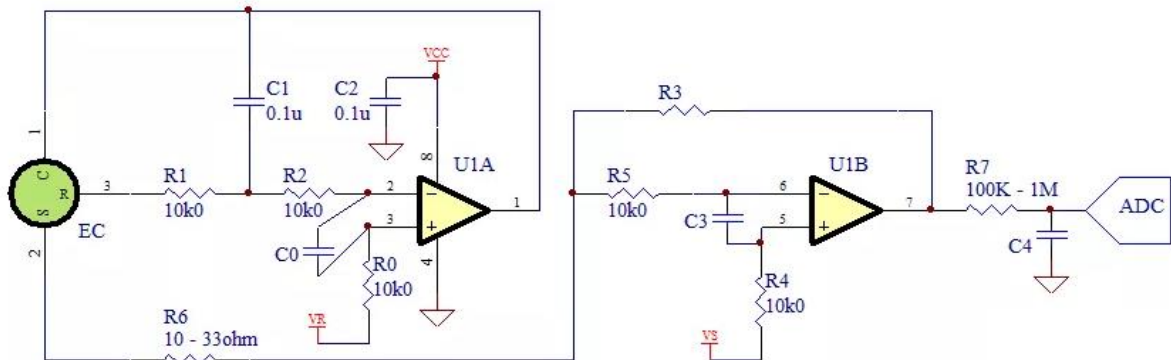
This Lead-Free and Long-Life Oxygen (O<sub>2</sub>) sensor is designed based on 4-series platform with many advantages over the traditional Lead O<sub>2</sub> sensor in the following areas.



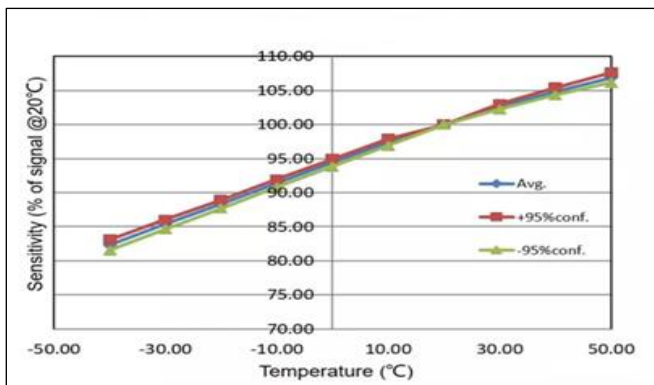
- It has no lead and is in compliance with RoHS directive;
- The design lifespan is 5 years versus the traditional Lead O<sub>2</sub> sensor that typically functions for 1 year;
- The output accuracy is not interfered by the presence of Carbon-Dioxide (CO<sub>2</sub>) in the environment;
- It functions normally at extreme low temperature (-40°C) versus traditional Lead O<sub>2</sub> sensor that does work properly when the ambient temperature reaches -30°C;
- The impact of sudden temperature, humidity or pressure changes to the sensor output is mitigated;
- It has excellent long-term output linearity, stability and repeatability.

The model of this sensor is 4O<sub>2</sub>-LF (Part Number 053-0000-000). The prefix 4 standards for 4-series electrochemical (EC) platform, and LF means Lead-Free.

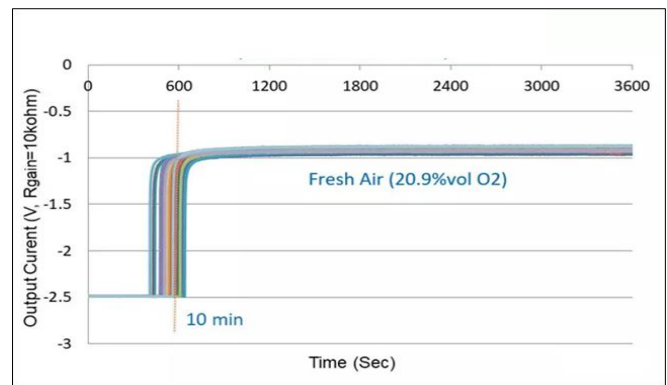
### Recommended Schematics



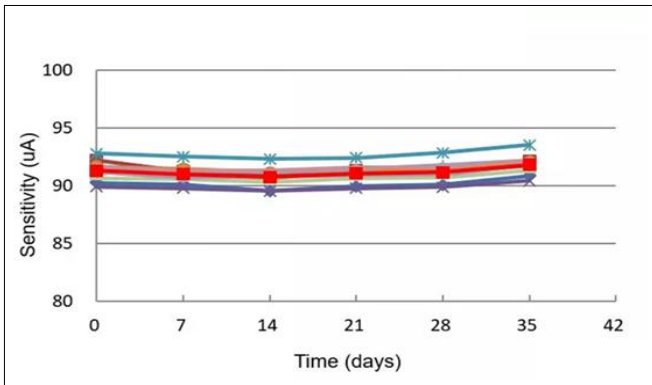
### Performance Data (based on 30 sensors tested simultaneously)



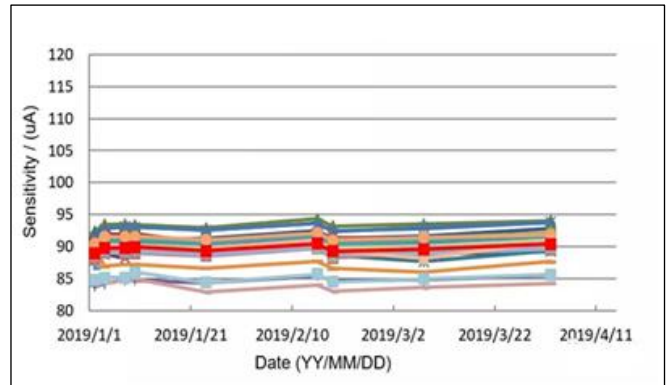
Sensitivity Drift @ 45°C, 15%RH



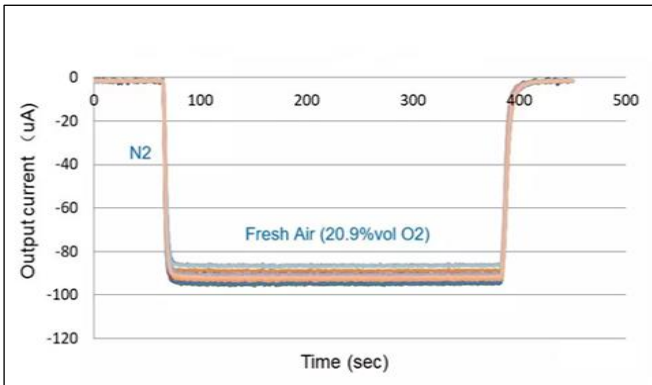
Warm up in fresh air (switch off time > 24 hrs)



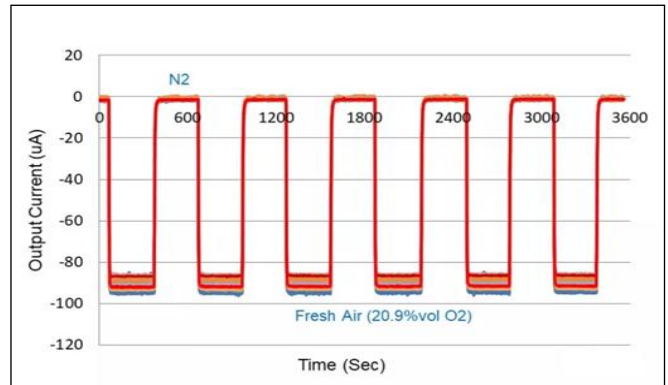
Sensitivity vs. Temperature



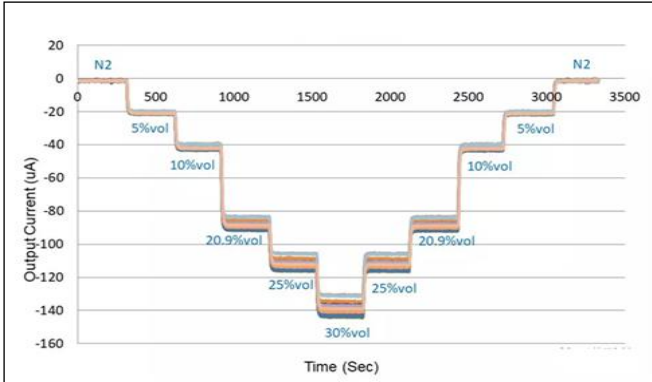
Long Term Stability (3 months)



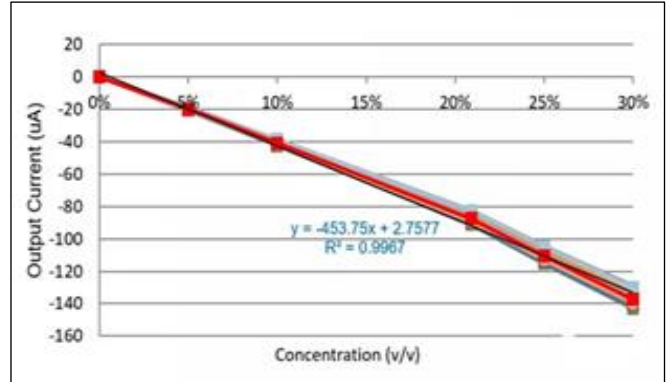
Output in N2 and Fresh Air



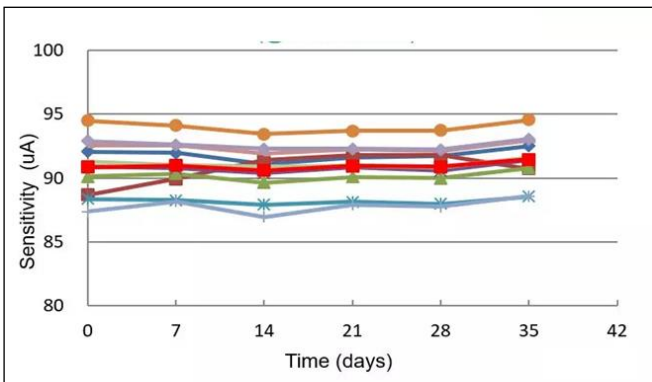
Repeatability in N2 and Fresh Air



Linearity Test



Linearity Test



Sensitivity Stability