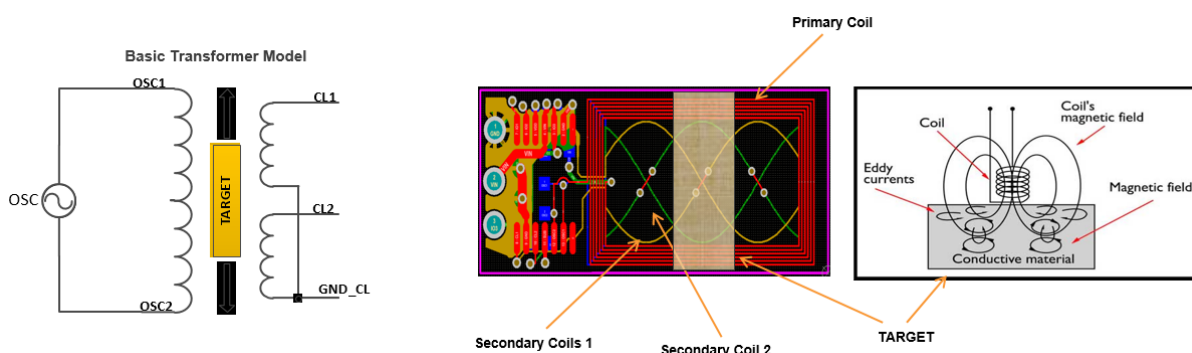


Inductive Position Sensors ICs

The LX3301A and LX3302A improve angular measurement accuracy, lower noise sensitivity, and reduce system costs. These inductive sensors use a primary coil to generate an AC magnetic field; the magnetic field then couples onto two secondary coils to generate voltages. The metal target disturbs the magnetic field generated by the primary coil, hence, the voltages received by the secondary coils would vary based on different metal target positions, we then use the unique ratio of the secondary coil voltages to determine the position of the metal target. By using the inductive position sensor approach, it allows us to make the biggest improvement in high-temperature and safety-critical applications such as automobile throttle body, transmission gear sensing, electronic power steering, and accelerator pedals, with no magnet needed. Both models are by principle **absolute measuring sensors**.

Features

- ◆ Linear variable differential transformer (LVDT) principle
- ◆ Very low temperature drift
- ◆ Dynamic signal compensation
- ◆ Active rejection of stray magnetic fields
- ◆ No magnet needed
- ◆ Interfaces directly with ECU/Host
- ◆ Rated for ASIL C applications
- ◆ Certified to AEC-Q100 grade 0/1



Specification	LX3301A	LX3302A
Sensor Types	Inductive	Inductive
Calibration Segments	6	8
ADC	Dual 13-bit; 2 ksps	Dual 13-bit; 2 ksps
Sin/Cos Output Capability	No	Yes
Output Interfaces	Analog, PWM	Analog, PWM, SENT, PSI5
MCU	32-bit; 8MHz	32-bit; 8MHz
EEPROM	16 x 16-bit	32 x 16-bit
ROM	3k x 32-bit	3k x 32-bit
Temperature	-40°C to 125°C	-40°C to 150°C
AEC-Q100	Grade 1	Grade 0
ISO26262	Compliant	Compliant

Applications

The LX3301A/LX3302A are ideal solutions for measuring mechanical movement (linear, angular/rotation and proximity) in a wide variety of applications in automotive, industrial, aero-space and commercial applications including:

- ◆ Rotor position sensing
- ◆ Fluid level sensing
- ◆ Proximity detection
- ◆ Gear position/travel (automotive)
- ◆ Robotic arm positioning