

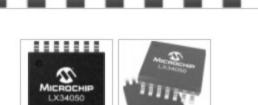
LX34050 ☆

High Speed Inductive Position Sensor IC with SIN/COS Outputs

Inductive Position Sensor IC

Status: In Production.

Download Data Sheet 🖺 Documentation Symbols



The LX34050 is a integrated programmable data conversion IC designed for interfacing to and managing printed circuit board (PCB) based inductive position sensors. Inductive position sensors are ideal replacements for magnet based position and speed sensors (i.e Hall Effect Sensors), optical encoders, and Magnetic resolvers. They excel with improved accuracy, magnetic noise immunity and don't require a magnet as a target.

The sensor itself is just a PCB, with primary and secondary windings placed to detect the movement of a metal target. The device includes an integrated oscillator circuit for driving the primary coil of an inductive sensor, along with two independent analog conversion paths for conditioning, converting, and processing of two analog signals from the secondary coils of the sensor. Each

path includes an EMI filter, de-modulator, and programmable amplifier. Great for embedded applications, the LX34050 output interface include two single ended Sin(x) and Cos(x) signals that change as the metal target is moved over the sensor. The position of the target is then calculated by using the ratio

The propagation delay and bandwidth of the analog paths have been optimized for high speed automotive, industrial and medical sensor applications. The LX34050 is specified over a temperature range of -40°C to +150°C (Automotive Grade 0) and contains a 32-BIT Cortus APS1 MCU for fault detection and system monitoring.

Get a head start on your design by visiting our Inductive Position Sensor Design Page

The below list of technical documents, software and reference designs are available upon request, for more information, please contact your local Microchip sales representative.

- LX34050 Datasheet

of these signals.

- LX34050 Auto Calibration User Guide

- Magnetic Resolver Replacement Guide: A complete reference design to implement accurate position sensing.

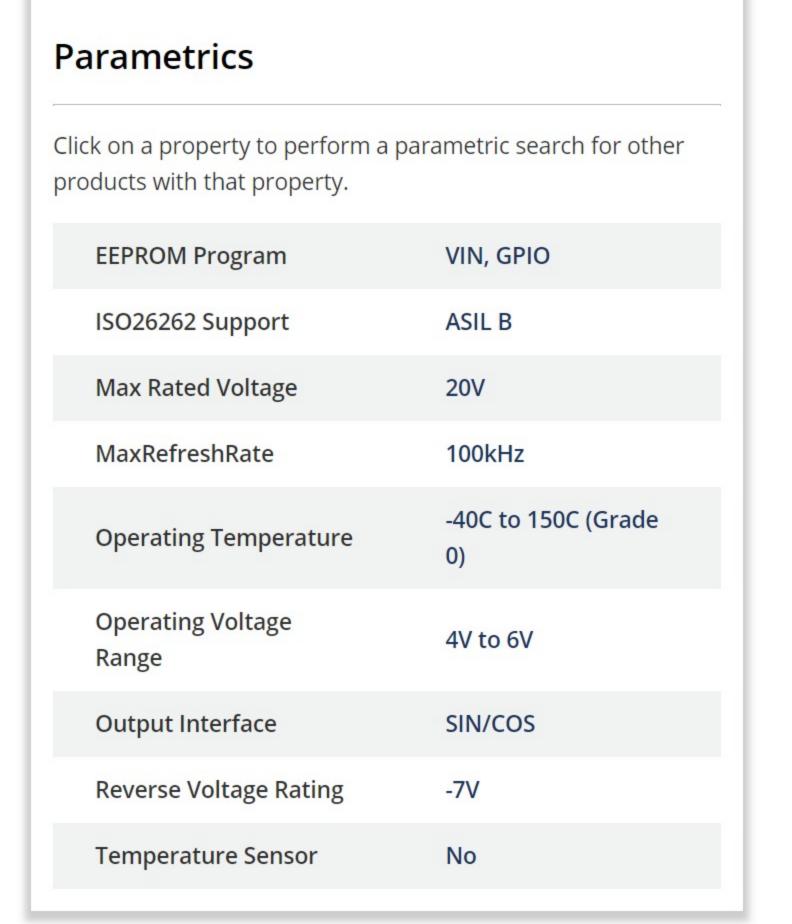
- IPCE Sensor Evaluation and Calibration Software Version (2.x)

Microchip can help with your own sensor design with its own unique mechanical constraints. You can start with one of our Kits, but Microchip is ready to help you from day one. Talk with our sales team and describe your sensor requirement. We will work with you on getting a design up and running to take advantage of this advanced technology.

#### Collapse

#### **Product Features**

- -40°C to 150°C Operation
- AEC-Q100 Grade 0 Certification
- ISO26262 ASIL B Support Built-in Oscillator for Driving Primary Coil
- Two Independent Analog Channels With Demodulation
- Low Temperature Drift
- Excellent Long Term Stability



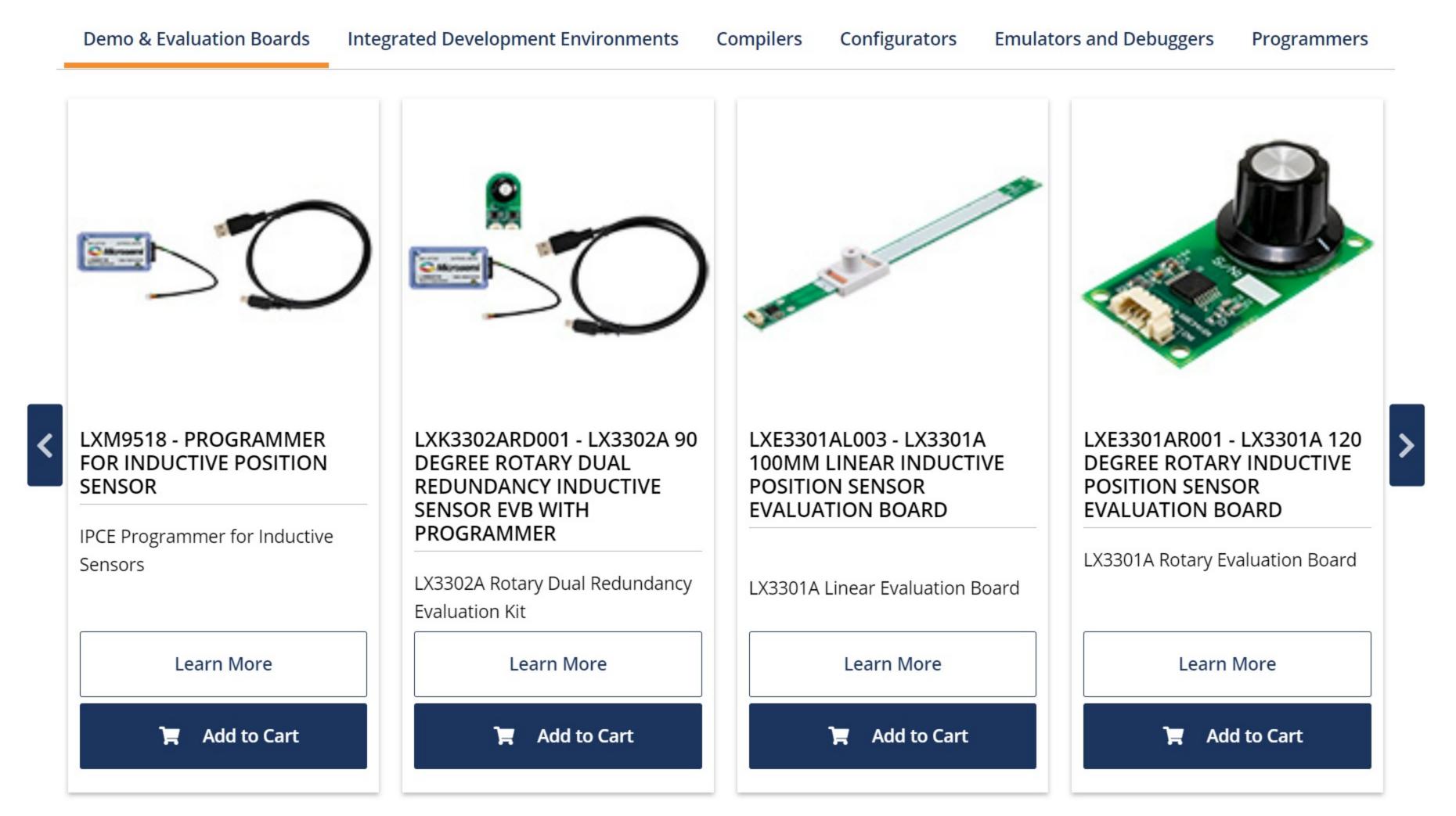
Purchase Options

#### **All Application Notes**

#### **Embedded Software**

Title	Download	Link
Resolver Replacement Reference Design 🔒	Download	
Sensor Evaluation and Calibration Software (2.5.1)	Download	

# **Development Environment**



# **RoHS Information**

Product	JEDEC Indicator	ROHS	China EFUP	Material Declaration	Device Weight (g)	Shipping Weight (kg)	Lead Count	Package Type	Package Width or Size	Soldering Composition
LX34050QPW	e3	RoHS	•	0.06	0.125	14	TSSOP	4.4mm	Matte Tin	
LX34050QPW-TR	e3	RoHS	•		0.06	0.2468	14	TSSOP	4.4mm	Matte Tin

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To see a complete listing of RoHS data for this device, please Click here

Shipping Weight = Device Weight + Packing Material weight. Please contact sales office if device weight is not available.

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	Product Details	Pins   Packaging	Temp Range	Packing Media	Pricing QUANTITY USD	Availability	Add to Cart
MICROCKETS JANASON	LX34050QPW	14   TSSOP	-40C to +150C	Tube (96)	Buy Now Price, Any Volume  1-24 \$1.68  25-99 \$1.40  100+ \$1.28  Estimated High- Volume Pricing  1000-4999 *\$1.23  5000+ *\$1.22  Special Pricing Available for Larger Quantities	In Stock: 3752 Order now, up to 8 can ship on 03-Nov- 2021  Lead Time  Additional quantities can ship by 08-Sep- 2022	Add to Cart
MCROCKED MACADA	LX34050QPW-TR	14   TSSOP	-40C to +150C	Tape and reel (2500)	Buy Now Price, Any Volume  1-24 \$1.68  25-99 \$1.40  100+ \$1.28  Estimated High- Volume Pricing  1000-4999 *\$1.23  5000+ *\$1.22  Special Pricing Available for Larger Quantities	In Stock: 2500 Order now, up to 2,500 can ship on 04- Nov-2021  Lead Time  Additional quantities can ship by 08-Sep- 2022	Add to Cart Multiples of 2500