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Freescale Extends Industry's Only Highly Integrated E-field Technology; Leading-Edge E-field IC Supports Designs for Appliance/Industrial Control Panels, Liquid Level Sensing and Consumer Product Safety

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NUREMBERG, Germany--(BUSINESS WIRE)--Feb. 14, 2006--Freescale Semiconductor (NYSE:FSL) (NYSE:FSL.B) is expanding its line of electric field (E-field) sensing integrated circuits (ICs) from automotive applications to the appliance and industrial markets with the introduction of the MC34940.

Freescale continues to offer the industry's only single-chip IC that generates a low-level electric field and detects changes in that electric field. The MC34940 E-field IC offers designers greater functionality for creating embedded systems that require non-contact sensing.

"Freescale was the first to offer a low-level E-field imaging IC and is now broadening the technology's reach to new markets with this cost-effective model geared toward the consumer, appliance and industrial markets," said Tony Massimini, chief of technology for Semico Research. "This should allow designers to incorporate increased functionality, reliability and ease of use for devices in these areas."

The MC34940 E-field IC can be used to implement proximity detection and three-dimensional E-field sensing. At the same time, it is able to trigger functions such as turning switches on or off, disabling features or setting off alarms to indicate dangerous situations for devices such as coffee pots, hair dryers and lawnmowers.

Manufactured with SMARTMOS(TM) technology, the MC34940 integrates support for up to seven simple electrodes, which can be used independently to provide information to perform multiple functions simultaneously. For example, one E-field device in a refrigerator application is able to:

- support touch screen selection for in-door water and ice,
- perform proximity detection to control the dispensing of water and ice,
- turn door panel lights on,
- control defrosting and ice making and
- detect a door that is ajar.

The MC34940 is the only sensing IC on the market with an on-board shield driver for more demanding applications. The shield signal protects the electrode signal from any external disturbances. For example, with coaxial cables, electrodes can be remote while obtaining measurements as accurately as if the touch pads were in close proximity to the IC.

More sophisticated applications include touch panel inputs where the E-field sensing IC is embedded in glass or behind the touch panel. This method eliminates membrane switches or expensive multi-layer resistive touch pads. Problems of wear, dirt and corrosion are virtually eliminated because the input is sensed without requiring a contact mechanism. This is especially beneficial in harsh environments with extreme temperatures and corrosive liquids.

For more information on the MC34940 or application examples, visit www.freescale.com/files/pr/efield.html.

MC34940 technical features

- Supports up to seven electrodes
- Supports up to 28 touch pad sensors
- Linear and rotational touch pad sliders
- Proximity detection
- Liquid level sensing
- One device simultaneously supports multifunctional applications
- Shield driver for driving remote electrodes through coaxial cable
- High-purity sine wave generator tunable with external resistor
- Response time tunable with external capacitor
- Re-programmable user interface
- 24-pin small outline integrated circuit wide (SOICW) package
- Pb-free and Restriction of Hazardous Substances (RoHS) compliant

Application versatility

- Three-dimensional position determination
- A wide range of objects and materials can be detected
- People, metallic and non metallic materials can be detected

Price and availability

The MC34940 E-field imaging IC is currently available in production quantities at a suggested resale price of \$1.85 (USD) in 10,000-piece quantities.

Freescale offers an MC34940 evaluation kit, DEMO1985MC34940E, to help reduce customers' system development cycle times. The evaluation kit is available now for a suggested resale price of \$56.35 (USD) and includes the MC34940 evaluation board, driver CD-ROM, connectors and program software.

About the original E-field IC

The original electric field imaging IC, MC33794, was developed through a collaborative effort between Freescale, the Massachusetts Institute of Technology's (MIT) Media Lab and Elesys North America. Elesys is currently using the MC33794 in its SeatSentry(TM) occupant sensing system for the vehicle.

About Freescale Semiconductor

Freescale Semiconductor, Inc. (NYSE:FSL) (NYSE:FSL.B) is a global leader in the design and manufacture of embedded semiconductors for the automotive, consumer, industrial, networking and wireless markets. Freescale became a publicly traded company in July 2004 after more than 50 years as part of Motorola, Inc. The company is based in Austin, Texas, and has design, research and development, manufacturing or sales operations in more than 30 countries. Freescale, a member of the S&P 500(R), is one of the world's largest semiconductor companies with 2005 sales of \$5.8 billion (USD).

www.freescale.com

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