True Single-Layer Multi-Touch Projected **Capacitive Touch Screen Solution**

FEATURES

• Full touch screen controller IC with up to 35 sensor channels

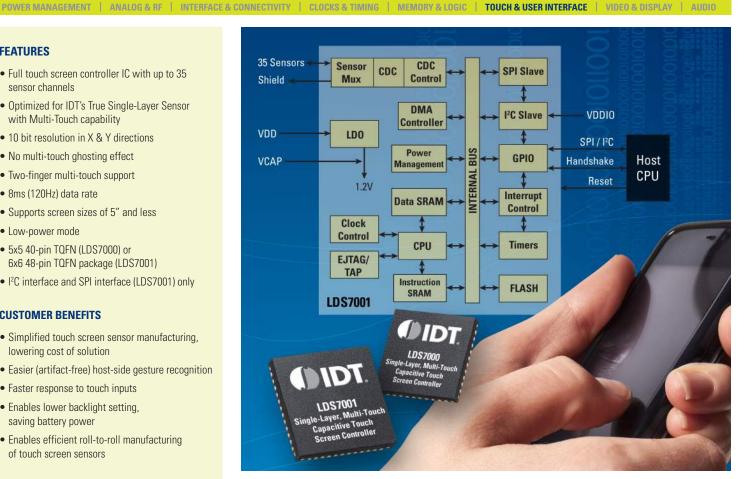
Integrated Device Technology

- Optimized for IDT's True Single-Layer Sensor with Multi-Touch capability
- 10 bit resolution in X & Y directions
- No multi-touch ghosting effect

- Two-finger multi-touch support
- 8ms (120Hz) data rate
- · Supports screen sizes of 5" and less
- Low-power mode
- 5x5 40-pin TQFN (LDS7000) or 6x6 48-pin TQFN package (LDS7001)
- I²C interface and SPI interface (LDS7001) only

CUSTOMER BENEFITS

- · Simplified touch screen sensor manufacturing, lowering cost of solution
- · Easier (artifact-free) host-side gesture recognition
- Faster response to touch inputs
- · Enables lower backlight setting, saving battery power
- Enables efficient roll-to-roll manufacturing of touch screen sensors



Description

The LDS700x family of devices (LDS7000 and LDS7001) are the world's first true single layer, fulltouch capacitance screen devices, with multi-touch capabilities. These devices help to enhance the human-machine interface experience by supporting advanced features such as swipe, gestures, expand and squeeze. Employing a capacitance-to-digital convertor coupled with a unique and proprietary Indium-Tin-Oxide (ITO) pattern, the LDS7000 products offer best-in-class linearity and signal to noise ratio performance for all types of applications. The LDS7000 has unique built-in firmware which provides true x/y data and eliminates multi-touch ghosting effects.

Automatic on-chip calibration takes into account the effects of environmental changes such as temperature, humidity and dust and ensures to establish an accurate baseline capacitance for each sensor to ensure maximum responsiveness to true touch events.

The 40-pin LDS7000 supports 30 sensors and uses an I²C interface for communicating with the host. The 48-pin LDS7001 supports 35 sensors and is configurable to use either I²C or SPI interfaces for communicating with the host.

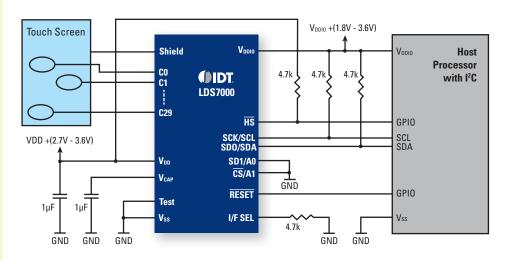
The LDS700x family supports supply voltages from 2.7 to 3.6V. The 48-pin LDS7001 offers General Purpose I/O (GPIO). The I²C clock and data lines support a 1.8V to 3.6V voltage interface using the V_{DDIO} pin. The SPI interface supports 2.7 to 3.6V operation and V_{DDIO} voltage must be the same as V_{DD} .

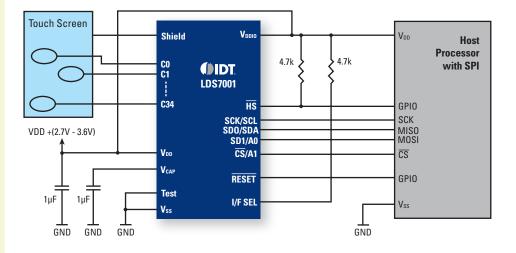
WER MANAGEMENT | ANALOG & RF | INTERFACE & CONNECTIVITY | CLOCKS & TIMING | MEMORY & LOGIC | TOUCH & USER INTERFACE | VIDEO & DISPLAY | AUDIO

APPLICATIONS

- Mobile handsets, personal media players
- Portable navigation devices
- Remote controls
- Office equipment, multi-function printers
- Set top boxes
- Home appliances
- Brown goods
- Industrial controls
- Digital cameras
- Consumer products

FUNCTIONAL BLOCK DIAGRAMS





PRODUCT SPECIFICATIONS

Part Number	Touch Sensors	SPI Interface	I ² C Interface	GPIO's	Package
LDS7000	30	-	Yes	0	5 x 5 x 0.75mm 40-pin TQFN
LDS7001	35	Yes	Yes	1	6 x 6 x 0.75mm 48-pin TQFN

DISCLAIMER Integrated Device Technology, Inc. (IDT) and its subsidiaries reserve the right to modify the products and/or specifications described herein at any time and at IDT's sole discretion. All inform of the described products are determined in the independent state and are not guaranteed to perform the same way when installed in costmer products. The information contained herein is growided w warrand of mechanisatility, or non-infigurement of the intellectual property right to thems. This document is greated and use a guide and does not convey any license under trainelectual property right expected to significantly affect the health or safety of users. Anyone using an IDT product in such a manner does so at their own risk, absent an express, written agreement by IDT. ation. All information in this document, including descriptions of product features and performance, is subject to change without notice. Performance specifications and the operating parameters is provided without expresentation or warrany of any kind, whether express ari implied, including, but not limited to, the subability of IDTs products to any particular purpose, an implied property rights of IDT or any third partice. IDTs products are not infinited including, but not limited to, the subability of IDTs products to any particular purpose, an implied property rights of IDTs and the infance infinited for use in life support systems of the similar diverse the failure or malifunction of an IDT product can be necessarily to the researchardy. Integrated Device Technology, IDT and the IDT logo are registered trademarks of IDT. Other trademarks and service marks used herein, including protected names, logos and designs, are the property of IDT or their respective third party owners. © Copyright 2011. All rights re OV_LDS7000FAMILY_REVA0111

www.IDT.com/go/Touch

Discover what IDT know-how

can do for you: