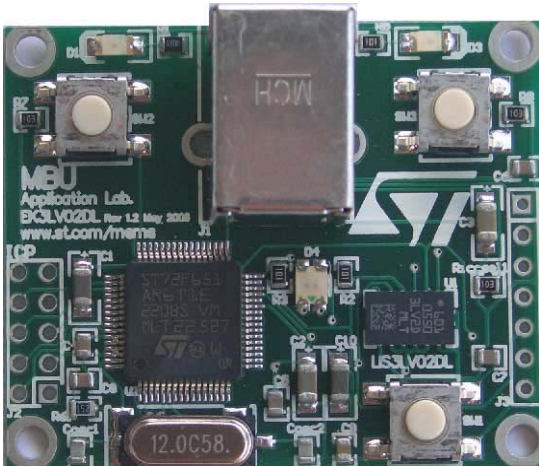*LIS3LV02DL 3-Axis Digital Output Low Voltage MEMS Accelerometer*

About EK3LV02DL Evaluation Kit

The **EK3LV02DL** will help you in evaluating the LIS3LV02DL 3-Axis - ±2g/±6g Digital Output Low Voltage Linear Accelerometer MEMS accelerometers. The kit implements a typical application which enables the user to acquire the acceleration data sensed by the LIS3LV02DL product. In details, the signal measured by the sensor are read by the microcontroller of the ST7 family mounted on the board and they are sent to a PC for further processing via USB link

LIS3LV02DL:
3-Axis - ±2g DIGITAL OUTPUT LINEAR ACCELEROMETER

The LIS3LV02DL is a three axes digital output linear accelerometer that includes a sensing element and an IC interface able to take the information from the sensing element and to provide the measured acceleration signals to the external world through an I2C/SPI serial interface.

The sensing element, capable of detecting the acceleration, is manufactured using a dedicated process developed by ST to produce inertial sensors and actuators in silicon.

The IC interface instead is manufactured using a CMOS process that allows high level of integration to design a dedicated circuit which is factory trimmed to better match the sensing element characteristics.

The LIS3LV02DL has a user selectable full scale of ±2g, ±6g and it is capable of measuring acceleration over a bandwidth of 640 Hz for all axes. The device bandwidth may be selected accordingly to the application requirements. A self-test capability allows the user to check the functioning of the system

The device may be configured to generate an inertial wake-up/free-fall interrupt signal when a programmable acceleration threshold is crossed at least in one of the three axes.

The LIS3LV02DL is available in plastic SMD package and it is specified over a

temperature range extending from -40°C to +85°C.

The LIS3LV02DL belongs to a family of products suitable for a variety of applications:
- Free-Fall detection
- Motion activated functions in portable terminals
- Antitheft systems and Inertial navigation
- Gaming and Virtual Reality input devices
- Vibration Monitoring and Compensation

Files on this CD:

- **About**: this file

- **Evaluation Kit Bundle Installation**:
  installation file for the complete Evaluation Kit Bundle. The code will allow both standard and custom installation of the executable and documentation files.
  The SW provided with the bundle allows to read/write the registers of the device, to gather, to plot and to save the acceleration data produced by the device itself and it implements basic applications (map browsing, tilt control, ...) based on the measured acceleration data.
  All the selected items will be installed inside the directory defined during the installation process.

- **Evaluation Kit User Manual**:
  user manual for the Graphical User Interface.

- **LIS3LV02DL Datasheet**:
  3-Axis digital output MEMS accelerometer datasheet

- **AN2381 - LIS3LV02DL Application Note**:
  component application note. It provides the guidance to the usage of the components and to the implementation of basic applications such as free-fall detection and intertial wake-up interrupt generation.

- **Evaluation Kit Schematic Diagram**:
  electrical schematics for the EK3LV02DL evaluation kit.

- **Evaluation Kit Layout and Gerber Files**:
  gerber files and pdf representation of each layer composing the EK board.

- **EK Lite: Basic SW Interface to the sensor -executable file-**
  executable file of the EK lite version.

- **EK Lite: Basic SW Interface to the sensor - source code-**
  source code of the EK Lite interface. The program is intended to show the basics for interfacing the Evaluation Kit demo board from PC.

- **Evaluation Kit ST7 FW**:
  s19 code for programming the ST7 micro mounted on the board.

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