GENERAL INFORMATION

The MOD_CH101 sensor module is designed for rapid integration of Chirp's CH-101 ultrasonic Time-of-Flight (ToF) range sensor into customer enclosures. It is especially useful for prototyping and small-scale production in applications that are not extremely space constrained. The module's electronic interface is via a standard 8-pin flat flex cable (FFC) connector. The module includes an acoustic housing that determines the CH-101 sensor's field-of-view. The MOD_CH101-03-01 sensor module includes an omnidirectional acoustic housing with a 0.7 mm diameter acoustic port and a 5.3 mm outer diameter.

DEVICE INFORMATION

PART NUMBER	PACKAGE	LID OPENING
MOD_CH101-03-01	8x8x3.57 PCBA	1-Hole

RoHS and Green-Compliant Package

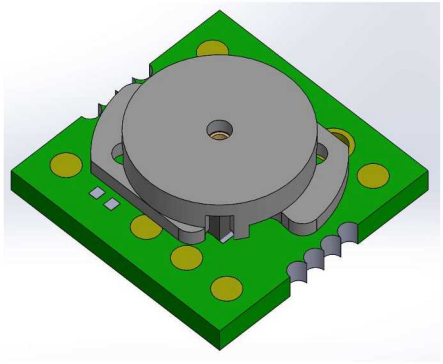

Figure 1. Front view of CH-101 sensor module with omnidirectional housing (P/N MOD_CH101-03-01)

APPLICATIONS

- Augmented and Virtual Reality
- Drones and Robotics
- Mobile and Computing Devices
- Obstacle avoidance
- Printers and Scanners
- Proximity sensing
- Presence detection: always-on sensing to lock/unlock and power on/off notebooks, tablets, white goods, etc.
- Smart Home

FEATURES

- Fast, accurate range-finding
  - Operating range from 4cm to 1.2m
  - Sample rate up to 100 samples/sec
  - 1.0 mm RMS range noise at 30 cm range
  - Programmable modes optimized for medium and short-range sensing applications
  - Customizable Field-of-View (FoV) up to 180°
  - Multi-object detection
  - Works in sunlight and any other lighting
  - Insensitive to object color, detects optically transparent surfaces like glass windows
- Easy to integrate
  - Single sensor for receive and transmit
  - Single 1.8V supply
  - I^2C Fast-Mode compatible interface, data rates up to 400 kbps
  - Dedicated programmable range interrupt pin
  - Platform-independent software driver enables turnkey range-finding
- Miniature integrated module
  - Low-power micro-controller running advanced ultrasound firmware
  - Operating temperature range: -40 to 85°C
- Ultra-low supply current
  - 1 sample/s:
    - 13 µA (10 cm max range)
    - 15 µA (1.0 m max range)
  - 30 samples/s:
    - 33 µA (10 cm max range)
    - 130 µA (1.0 m max range)
  - Host Interface: I^2C at up to 400 kbps
  - Single Supply voltage: 1.8V ±5%
  - RoHS and Green compliant

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