

## Description

CambridgeIC's Central Tracking Unit (CTU) chip is a single-chip processor for position measurement. It implements the electronic processing for resonant inductive position sensing technology.

The CTU measures the position of contactless, inductively coupled targets relative to sensors that are built from printed circuit boards to CambridgeIC's design. A selection of sensor geometries is possible, including rotary and linear.

The CTU Development Board is a PCB including the CAM204 CTU chip and circuitry required for up to 4 Type 1 sensors.

## Features

- CAM204 CTU chip
- External circuitry for up to 4 Type 1 sensors
- Test points for key CTU connections
- 14-way header for host interface connection
- 6-way headers for sensor connection

## Applications

- CTU Development Kit
- Prototyping CTU chip based applications
- Processor board for position sensor solutions

Product identification	
Part no.	Description
013-5006	CTU Development Board for Type 1 sensors including CAM204A chip



Figure 1 CTU Development Board

Host Interface Connector P10		
Pin	Signal	Description
1	3V3	Supply voltage input 2.7V ... 3.6V
2	GND	Supply voltage return (0V)
3	IO1	User IO outputs
4	IO2	
5	IO3	
6	IO4	
7	GND	Supply voltage return (0V)
8	MOSI	Master Out Slave In input
9	nSS	Slave Select input
10	SCK	Serial Clock input
11	MISO	Master In Serial Out output
12	IO5	Not connected
13	IO6	
14	nRST	CTU chip reset input

Sensor Connectors P2, P4, P6, P8		
Pin	Signal	Description
1	EXA	Sensor excitation coil connections
2	0V	
3	EXB	Do not connect
4	COS	Sensor output coil connection
5	VREF	Common return for COS and SIN
6	SIN	Sensor output coil connection

Please refer to the CAM204A datasheet for full details of the CTU chip and its interfaces.

# 1 Component Layout and Schematic

Figure 2 shows the layout of the CTU Development Board's components and Figure 3 shows its schematic.

U1, near the centre of the image below, is the CAM204 chip. P2, P4, P6 and P8 to the left hand side are the 6-way headers used for connection to sensors 1 through 4 respectively. P10 is the host connector, and carries SPI communication signals and user IOs.

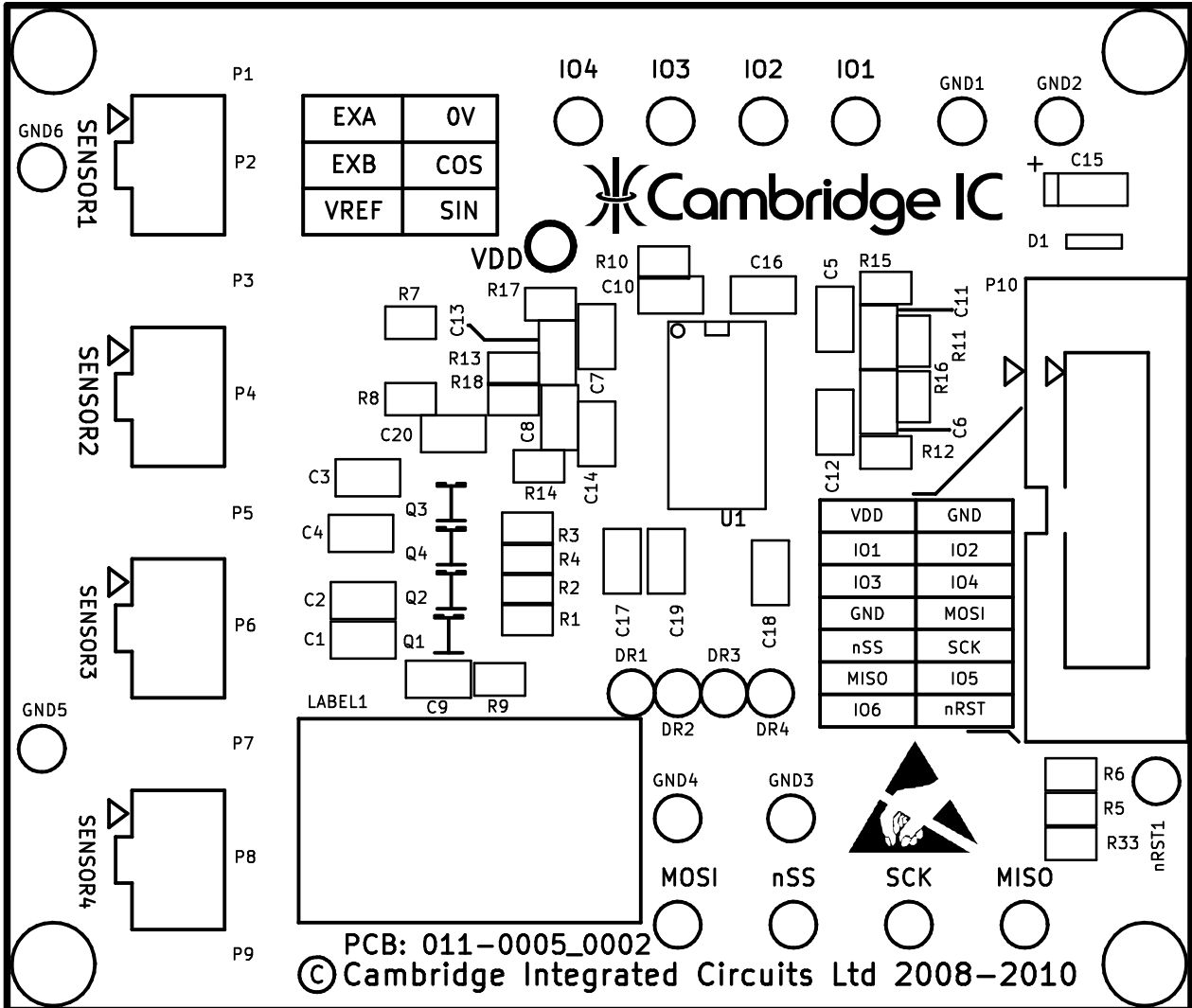
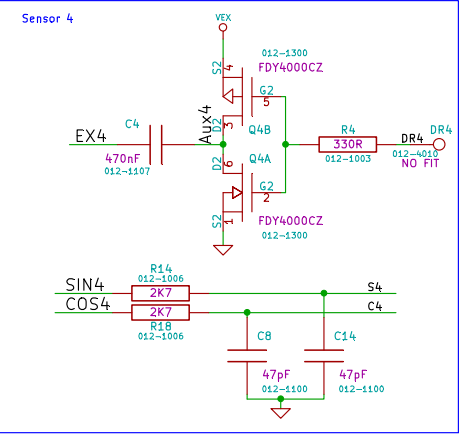
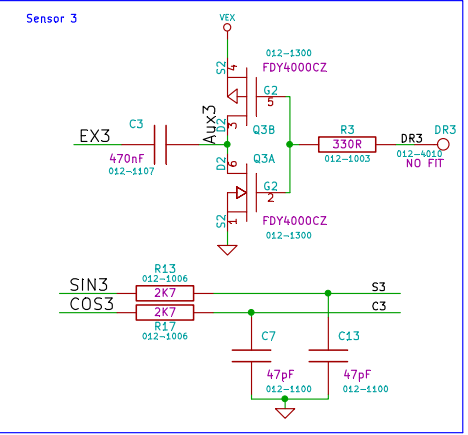
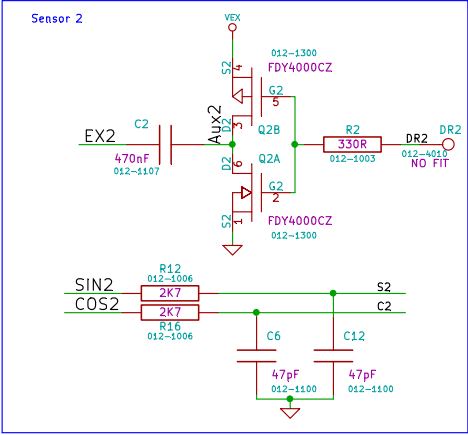
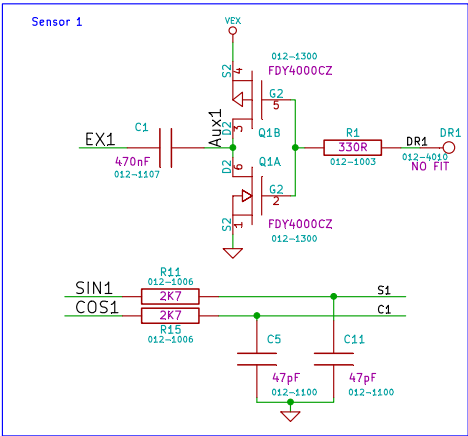
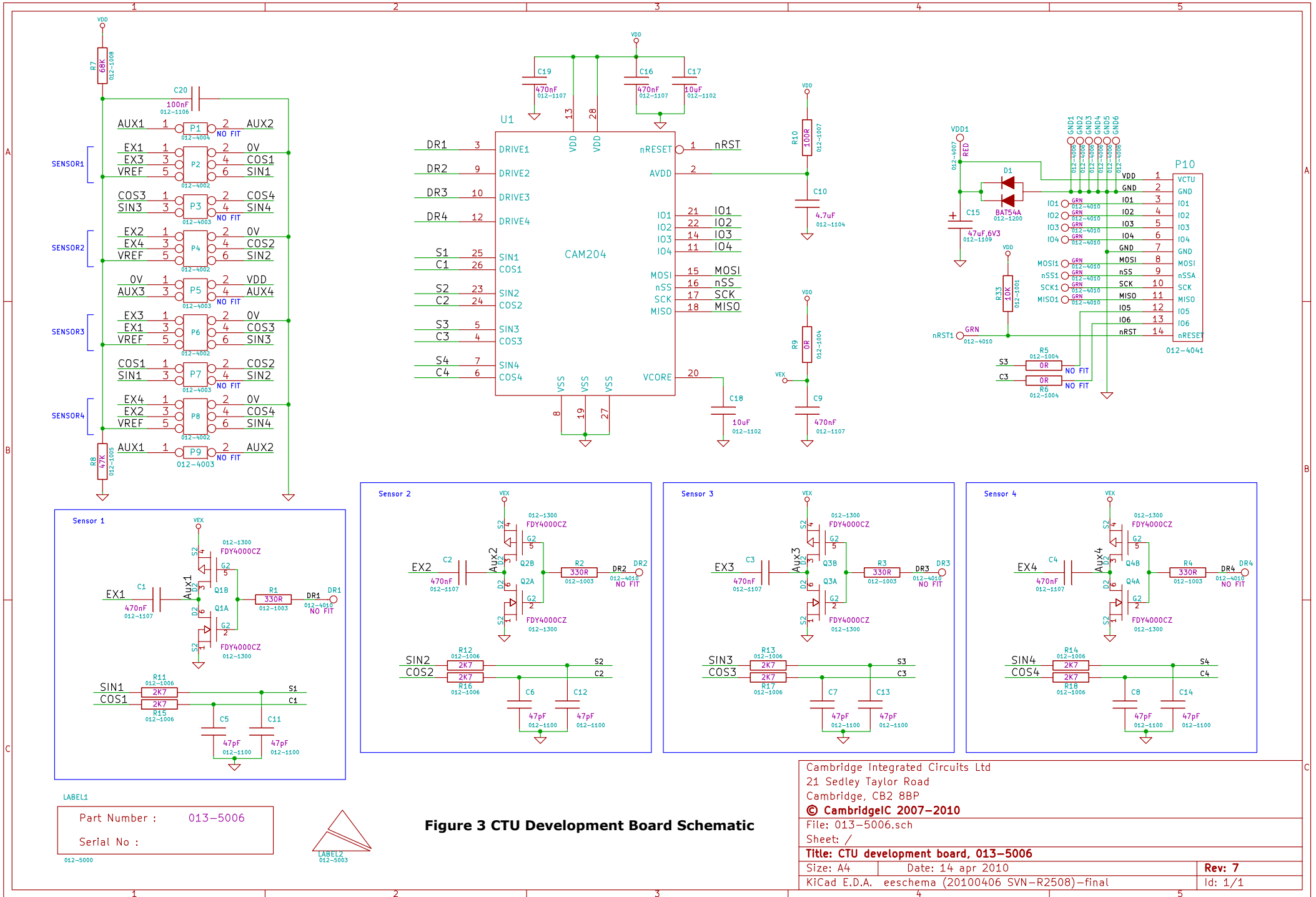


Figure 2 Component layout and dimensions



LABEL1  
 Part Number : 013-5006  
 Serial No :  
 012-5000



**Figure 3 CTU Development Board Schematic**

Cambridge Integrated Circuits Ltd  
 21 Sedley Taylor Road  
 Cambridge, CB2 8BP  
 © CambridgeIC 2007-2010  
 File: 013-5006.sch  
 Sheet: /  
**Title: CTU development board, 013-5006**  
 Size: A4 Date: 14 apr 2010  
 KiCad E.D.A. eeschema (20100406 SVN-R2508)-final  
 Rev: 7  
 Id: 1/1

## 2 Document History

Revision	Date	Reason
0001	25 August 2009	First draft
0002	20 January 2010	Updated logo and style
003	28 April 2010	Updated CAM204 part number and schematic

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