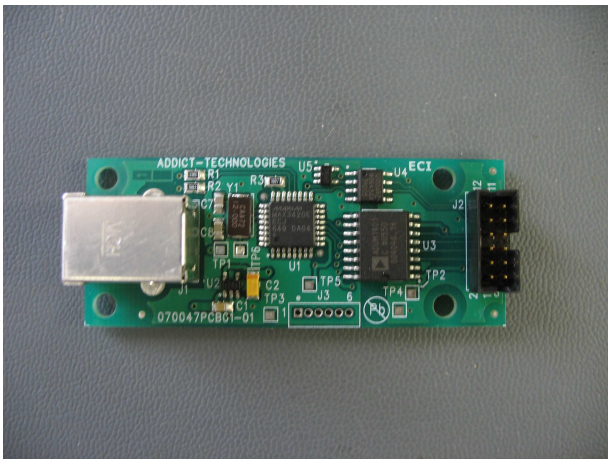
Isolated USB SPI Converter



- With full galvanic isolation.
- High speed USB to SPI converter.
- Low cost.
- Build around MAX3420E chip.
- Supports USB 2.0.

Applications

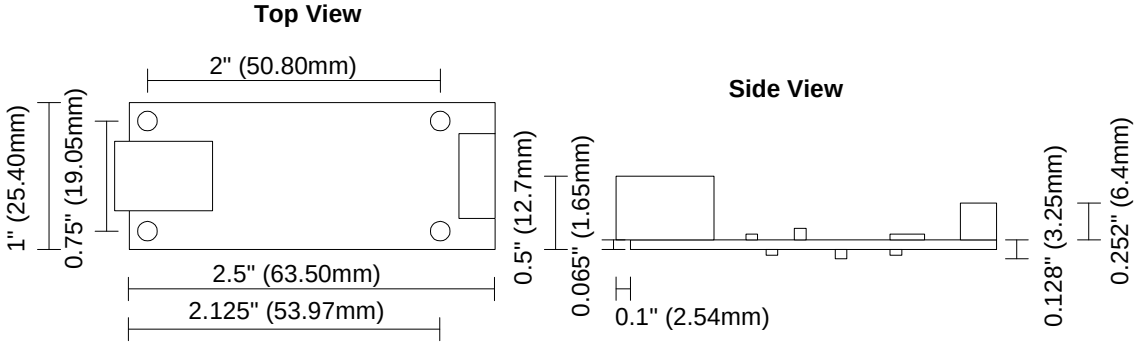
- Data acquisition
- Instrumentation
- Communication

The USC-205 offers an easy way to implement a USB device with any CPU or DSP that features an SPI port. Based on the MAX3420E, it electrically isolates the SPI side from the USB side without major loss of speed. The USC-205 can be used with many types of application that needs to connect to a USB host such as data acquisition device, instrumentation device or communication device.

The USC-205 offers an extended SPI port to connect to the CPU or DSP, it has an interrupt output, a multi-purpose output (GPX) and a standard SPI port. The USC-205 supports the USB 2.0 standard and connects to the host through a type B USB connector. Circular buffers simplify the software interfaces of the USC-205 SPI port.

The USC-205 is configurable through the SPI port. For more information on the programming of the USC-205 see the MAX3420E programming guide on the Maxim website (http://www.maxim-ic.com/appnotes.cfm/an_pk/3598).

Mechanical



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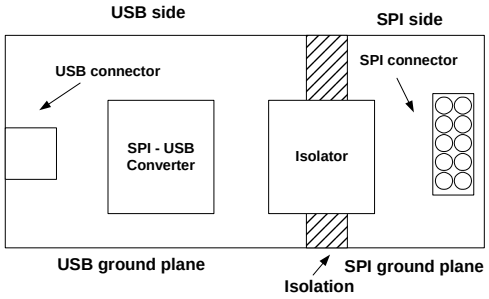
Specifications	USC-205
Performance	
USB Compliance	2.0
Maximum Data Rate (Mbps)	5
Environment	
Operating Temp Range (°C)	-40 to 85°C
Electrical	
Supply Voltage SPI Side (Volts)	3.3
Supply Current SPI Side (mA)	1
Supply Current USB Side (mA)	20
Electrical isolation between USB side and SPI side (kV)	2.5
Physical	
Size (In)	2.5 x 1 x 0.58
(mm)	63.5 x 25.4 x 14.7

Connectors		
Pin	J1[1]	J2[2]
1	VC	+3.3V
2	D+	MOSI
3	D-	GND
4	GND	SCLK
5		GND
6		SS
7		GND
8		MISO
9		GND
10		INT
11		GND
12		GPX

1- USB Type B connector
2- Molex 87831-1220

Principle of operation



The MAX3420E converts and buffers the data for the communication between the USB side and the SPI side. The two sides are electrically isolated from one another. The USB side is powered by USB host through the USB type B connector. The SPI side is powered by the CPU or DSP supply through the SPI connector.

Ordering Information

Part	Temperature Range
USC-205LF+	-40°C – 85°C

+ Lead-free compliant

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