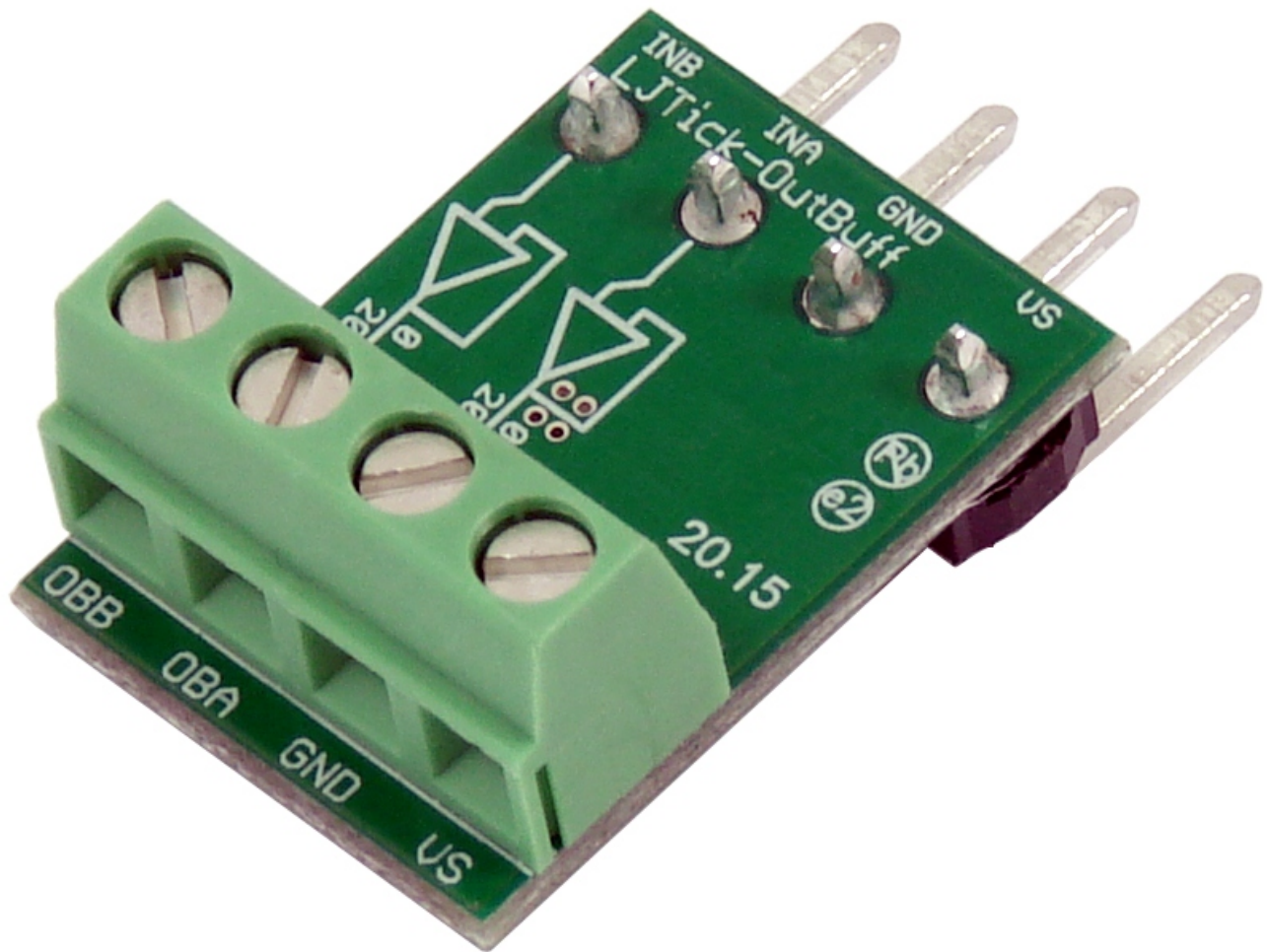


## LJTick-OutBuff Datasheet

LJTick-OutBuff

Stock: In Stock

Price: \$25.00

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The LJTick-OutBuff (LJTOB) is an output buffer tick that increases the output current of the DAC outputs on LabJack devices. The LJTick-OutBuff can also be used to increase the output abilities of the devices digital I/O lines by switching 3.3V logic. LabJack devices cannot output more than about 15mA on their DAC0 and DAC1 analog outputs so this accessory is helpful for users who want to increase that capability. One common application is to control the speed of a low voltage DC motor.

- Drives up to 200mA
- 0-5V output range\*

\* Max voltage depends on the supplied VS line which is 5V nominally.

## Common Applications

- Controlling LEDs
- Generating variable stable excitation voltages

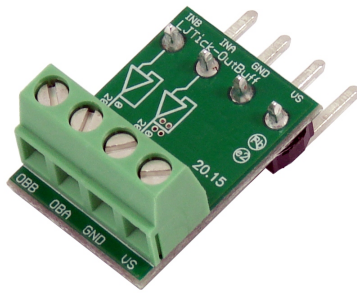


Figure 1: LJTick-OutBuff



Figure 2: LJTick-OutBuff with U3-LV

## Screw Terminal Descriptions

**VS:** This is the same 5 volt output as the VS terminals on the LabJack itself. This is an output terminal, not an input. It can be used to provide 5 volt (nominal) power as needed.

**GND:** Same as LabJack ground (GND).

**OBA/OBB:** These output lines are generated by the Op Amp and track the input voltage.

## LJTick-OutBuff Hardware Block Diagram

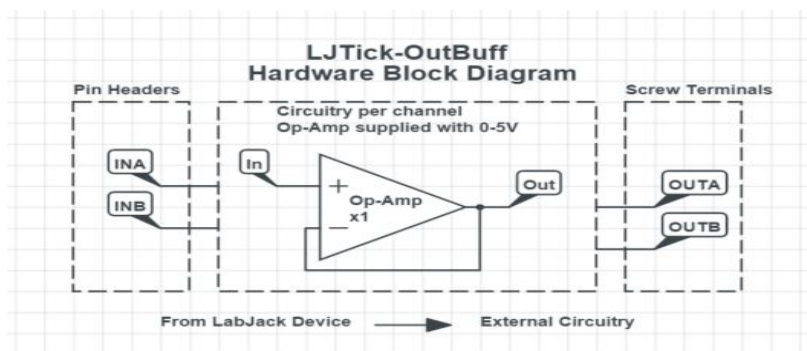


Figure 3: LJTick-OutBuff Hardware Block Diagram

## LJTick-OutBuff Hardware Block Diagram with Filter

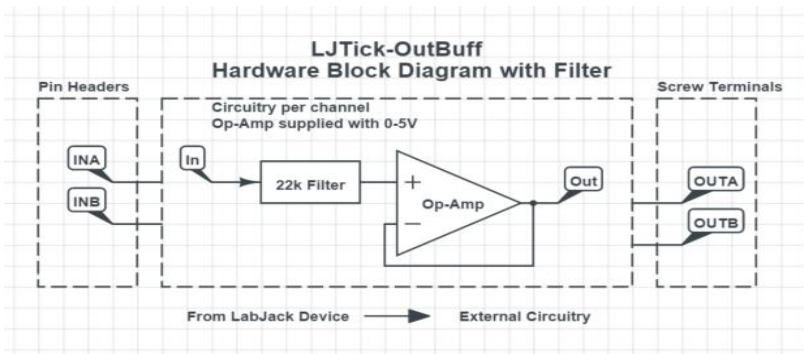


Figure 3: LJTick-OutBuff Hardware Block Diagram with Filter

## LJTick-OutBuff Schematic

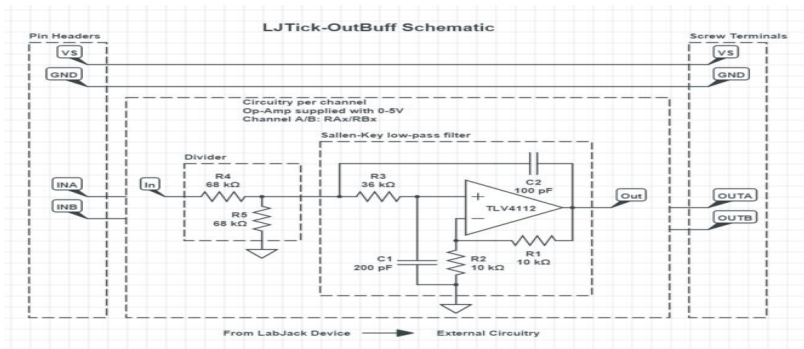


Figure 3: LJTick-OutBuff Schematic

## Specifications

Parameter	Conditions	Min	Typ	Max	Units
Supply Voltage (VS)		2.5		6	V
Supply Current	No Load		1.0		mA
Operating Temp		-40		85	Deg C
Max Output Current			±320		mA
Short-Circuit Current			800		mA
Max Output Voltage	10 mA	VS - 0.3	VS - 0.04		V
	200 mA	VS - 0.55	VS - 0.4		V
Min Output Voltage	10 mA		0.03	0.1	V
	200 mA		0.38	0.6	V
Offset Error			175	3500	μV
Gain Error					%
Output Noise					
Slew Rate or RC					
Cutoff Frequency (1)			39		kHz
Capacitive Drive (2)				1	nF

(1) Calculated by passing a 0-5V sine wave and measuring the input/output to get a -3dB difference.

(2) Capacitive loads beyond 1 nF might cause the output to oscillate. Add a 20  $\Omega$  series resistor to prevent this.

For more specifications about the Op Amp used in the LJTICK-OutBuff refer to the Texas Instruments [TLV4112 datasheet](#).

**File Attachment:**

 [Texas Instruments TLV4112 Datasheet](#)

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