LJTick-VRef Datasheet

LJTick-VRef
Stock: In Stock
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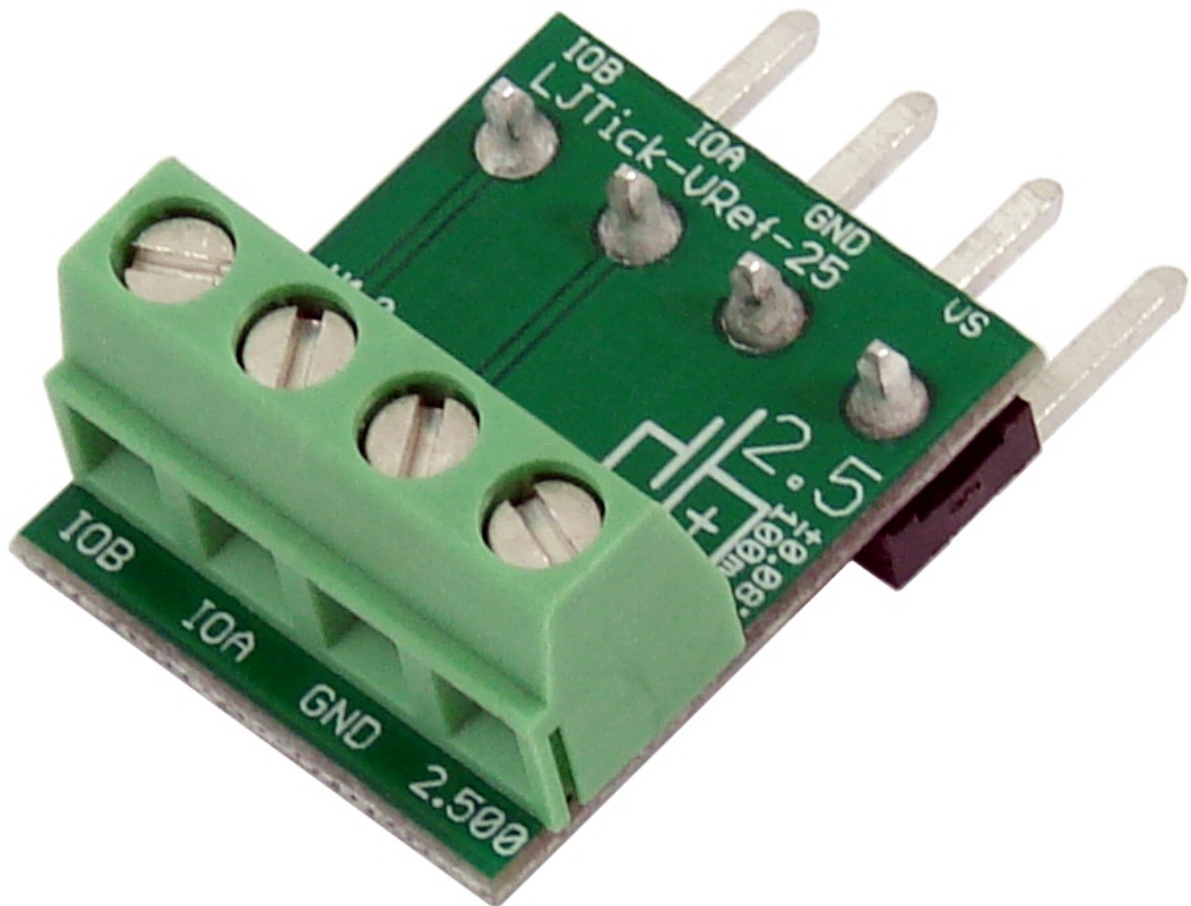
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The LJTick-VRef-25 (LJTVR-25) and LJTick-VRef-41 (LJTVR-41) are accessories that provide screw terminal access to stable 2.5V and 4.096V reference voltages. Reference voltages are useful when trying to

communicate with several different sensors ranging from temperature, pressure, flow, motion, vibration, force, and more. The VS line on most of our devices is not suitable for direct control of sensors that require noise free voltage sources. Without a stable reference voltages many applications need to use a digital I/O line, one of the analog output channels, or use a secondary power supply. The LJTVR-25 and LJTVR-41 both have a LJT1461A voltage regulator on board to supply 50mA of current to sensors requiring excitation signals. The LJTick-VRef-25 outputs 2.5V and the LJTick-VRef-41 outputs 4.096V.

Common Applications

- Whenever a regulated 2.5V or 4.1V signal is needed.
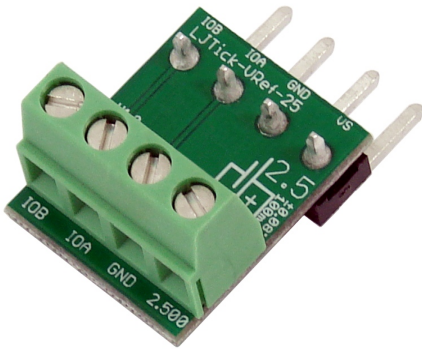
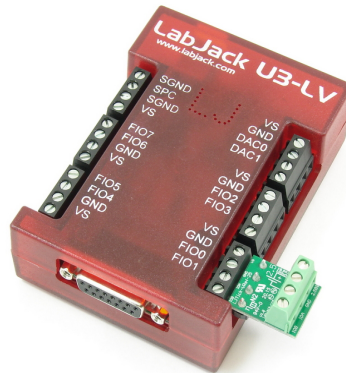## LJTick-VRef-25 Images

Figure 1: LJTick-VRef-25

Figure 2: LJTick-VRef-25 with U3-LV

LJTick-VRef-25 Screw Terminal Descriptions

2.500: This screw terminal outputs the 2.5V reference voltage.

GND: Same as LabJack ground.

IOA/IOB: These lines are directly passed through from the screw terminals they are connected to. In Figure 2 they are FIO0 and FIO1.

LJTick-VRef-41 Images

Figure 3: LJTick-VRef-41

Figure 4: LJTick-VRef-41 with U3-LV

LJTick-VRef-41 Screw Terminal Descriptions

4.096: This screw terminal outputs the 4.096V reference voltage.

GND: Same as LabJack ground.

IOA/IOB: These lines are directly passed through from the screw terminals they are connected to. In Figure 4 they are FIO0 and FIO1.
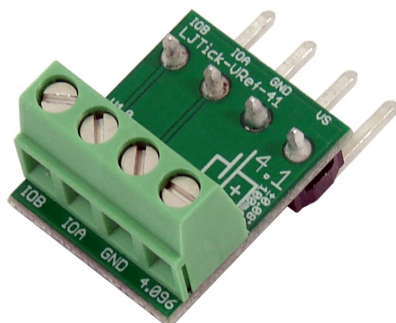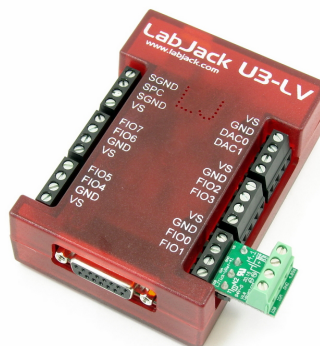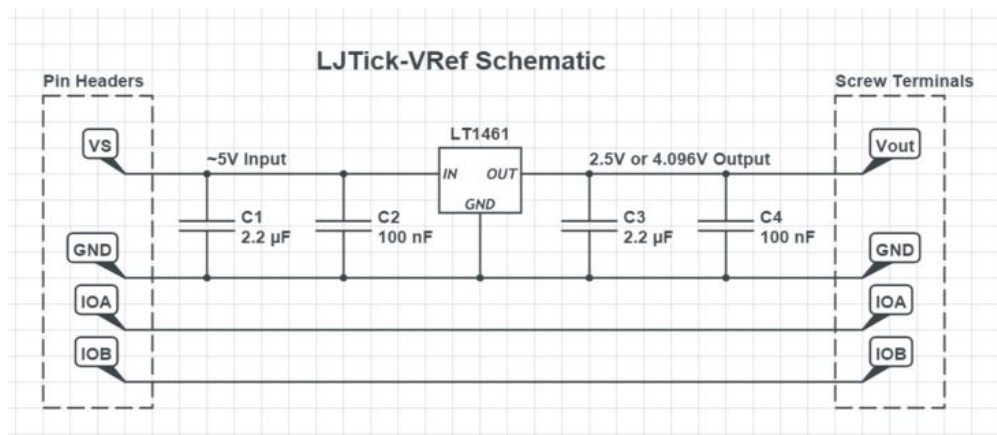
LJTick-VRef Schematic

Figure 5: LJTick-VRef Schematic

Specifications:

Parameter	Conditions	Min	Typical	Max	Units
Supply Voltage		Vout+0.4		20	V
Supply Current	No Load		0.4		mA
Output Voltage, VRef-25		2.498	2.5	2.502	V
Output Voltage, VRef-41		4.093	4.096	4.099	V
Output Voltage Accuracy		-0.08		0.08	% full scale
Output Voltage Temperature Coefficient			5	12	ppm/°C
Output Voltage Noise	0.1Hz ≤ f ≤ 10Hz		8		ppmP-P
	10Hz ≤ f ≤ 1kHz		9.6		ppmRMS
Maximum Load (1)	VS ≥ 4.75V	50			mA
Maximum Load, Vref-25 (1)	VS ≥ 2.9V	10			mA
Maximum Load, Vref-41 (1)	VS ≥ 4.5V	10			mA
Short Circuit Current			100		mA

(1) With a normal supply voltage of ≥ 4.75 volts, the device can meet specifications up to 50 mA. At lower voltages the output current while meeting specs is limited by the Dropout Voltage spec from the LJ1461 datasheet.

For more specifications refer to the Linear Technology LT1416 datasheet. Both the LJTick-VRef-25 and LJTick-VRef-41 use the "C" variant. The VRef-25 uses the 2.5V variant and the VRef-41 uses the 4.096V variant.

File Attachment:
Linear-Technology-LT1416-Datasheet.pdf