

Basic EZO™

Inline Voltage Isolator v6.0

Data input **UART, I²C and SMBus**

Max data rate **1 MHz**

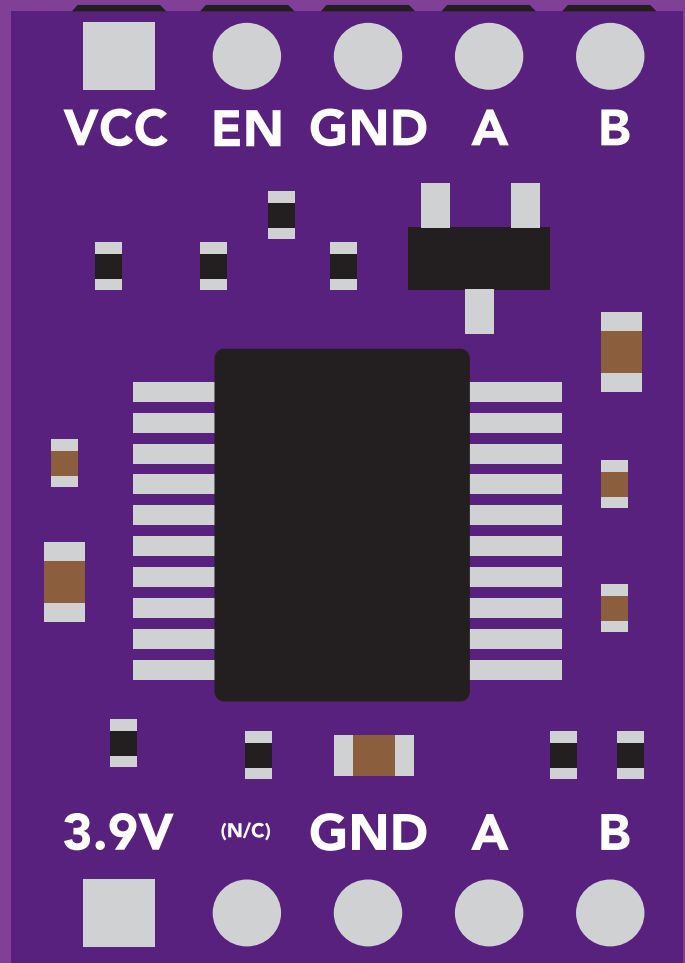
Output voltage **3.9V ± .07**

Voltage input **3.0V – 5.0V**

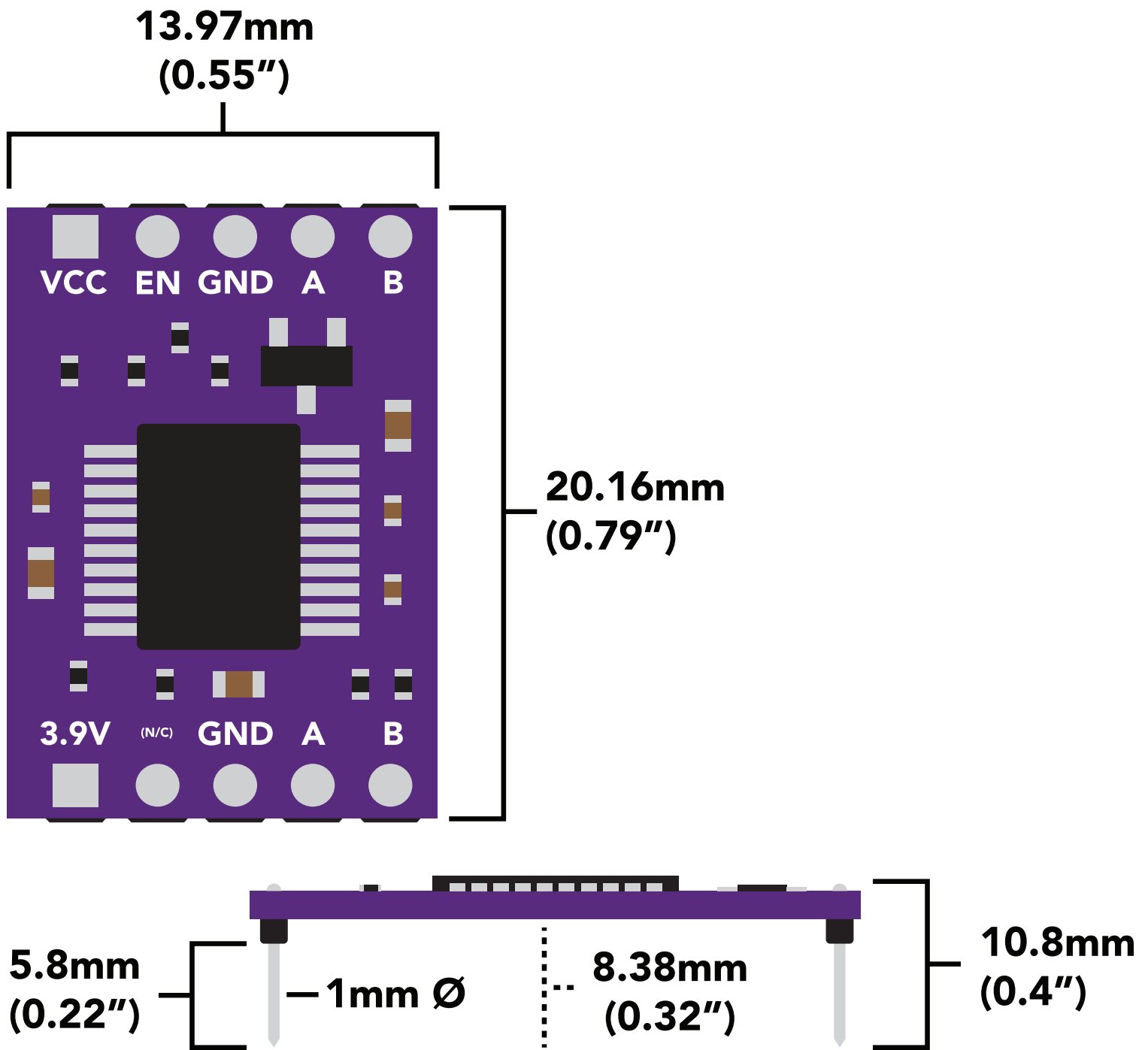
Power saving **EN pin**

Current consumption

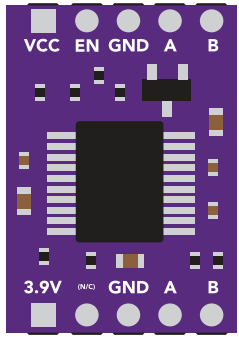
5V	15 mA
3.3V	20 mA



EZO™ circuit dimensions

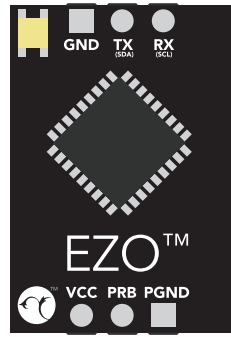


Current consumption



$i = 15\text{mA}$

+

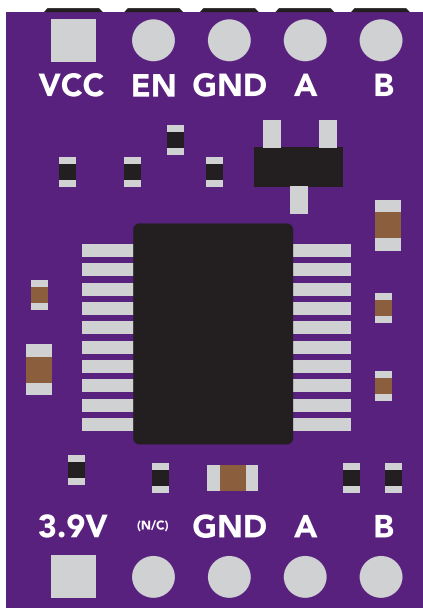


$i = X\text{mA}$

$\neq 15 + X\text{mA}$

The current consumption for the Basic EZO™ Inline Voltage Isolator is non-linear. The table below shows how much current will be consumed when the Basic EZO™ Inline Voltage Isolator is connected to an EZO™ circuit.

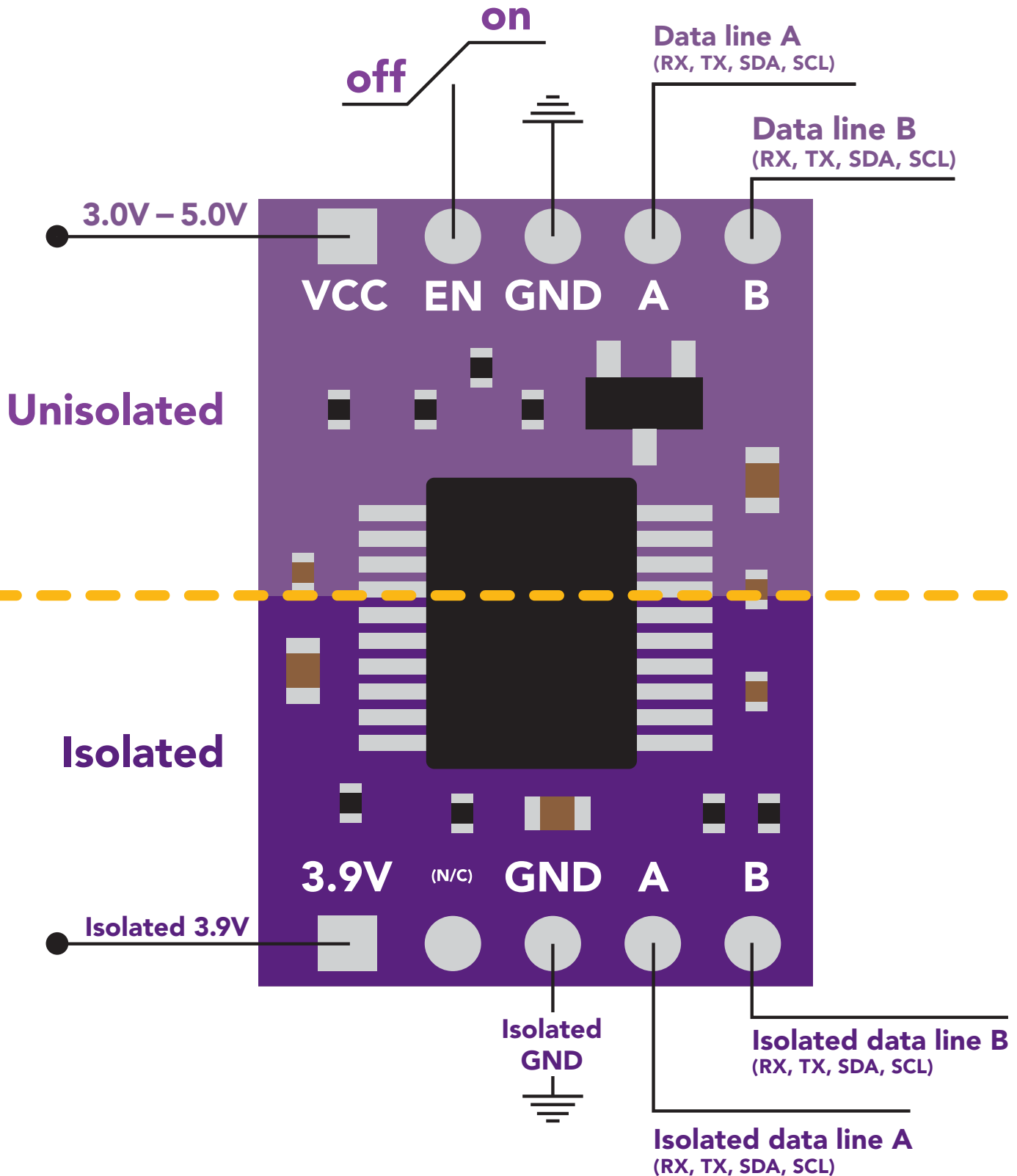
	5V	3.3V	
Basic EZO™ Inline Voltage Isolator	+ EZO™ pH	57mA	87mA
	+ EZO™ ORP	58mA	84mA
	+ EZO™ Dissolved oxygen	53mA	84mA
	+ EZO™ Conductivity	82mA	97mA
	+ EZO™ RTD Temperature	59mA	87mA



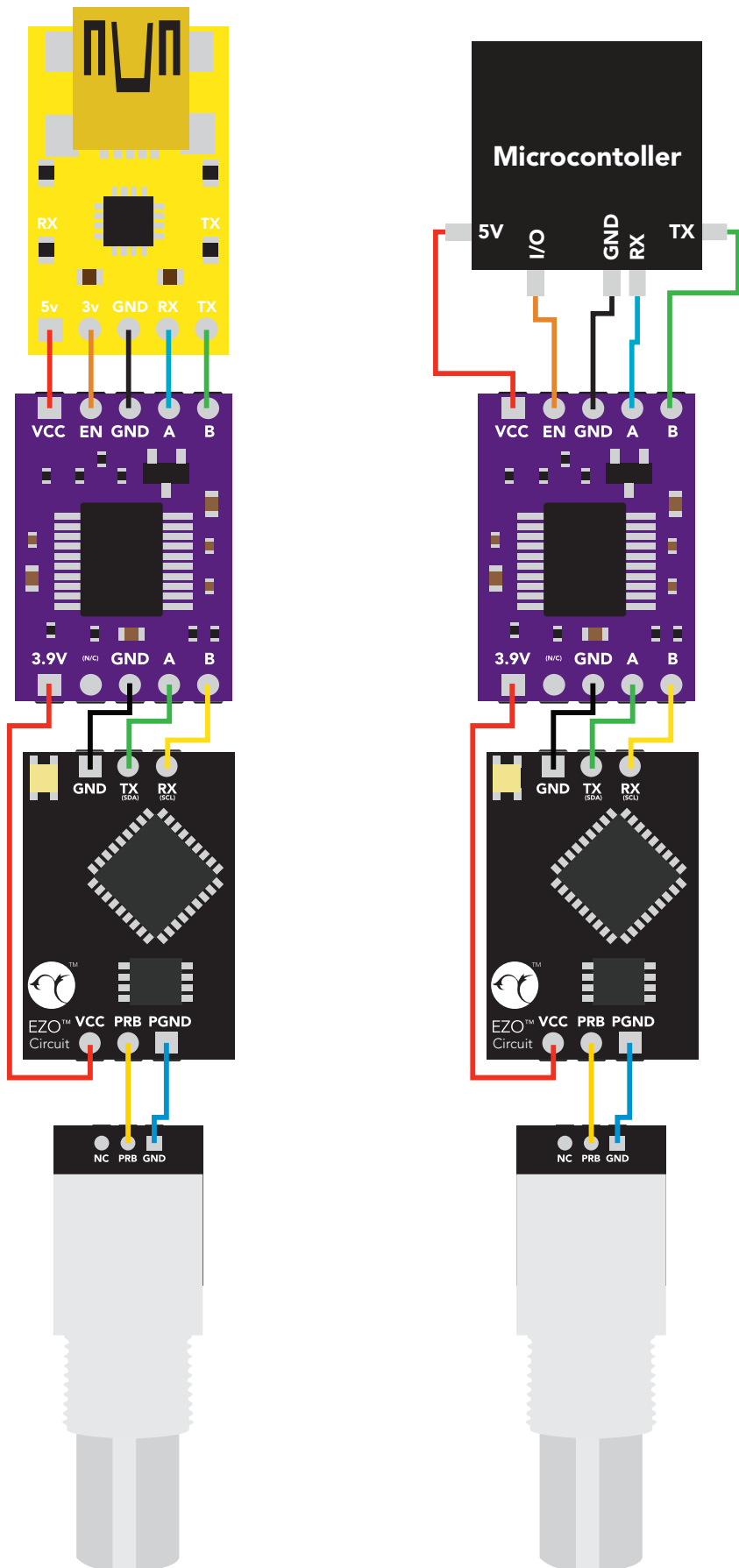
Setting the EN pin to low will shut off the Basic EZO™ Inline Voltage Isolator, along with the connected circuit. The current consumption will be reduced to **3.8 mA**.

Pin out

Setting the EN pin to low will shut off the Basic EZO™ Inline Voltage Isolator, and any devices it is connected to. The current consumption will be reduced to 3.8 mA. *If the EN pin is not used, leave it unconnected or pull to VCC.*



Example wiring diagram



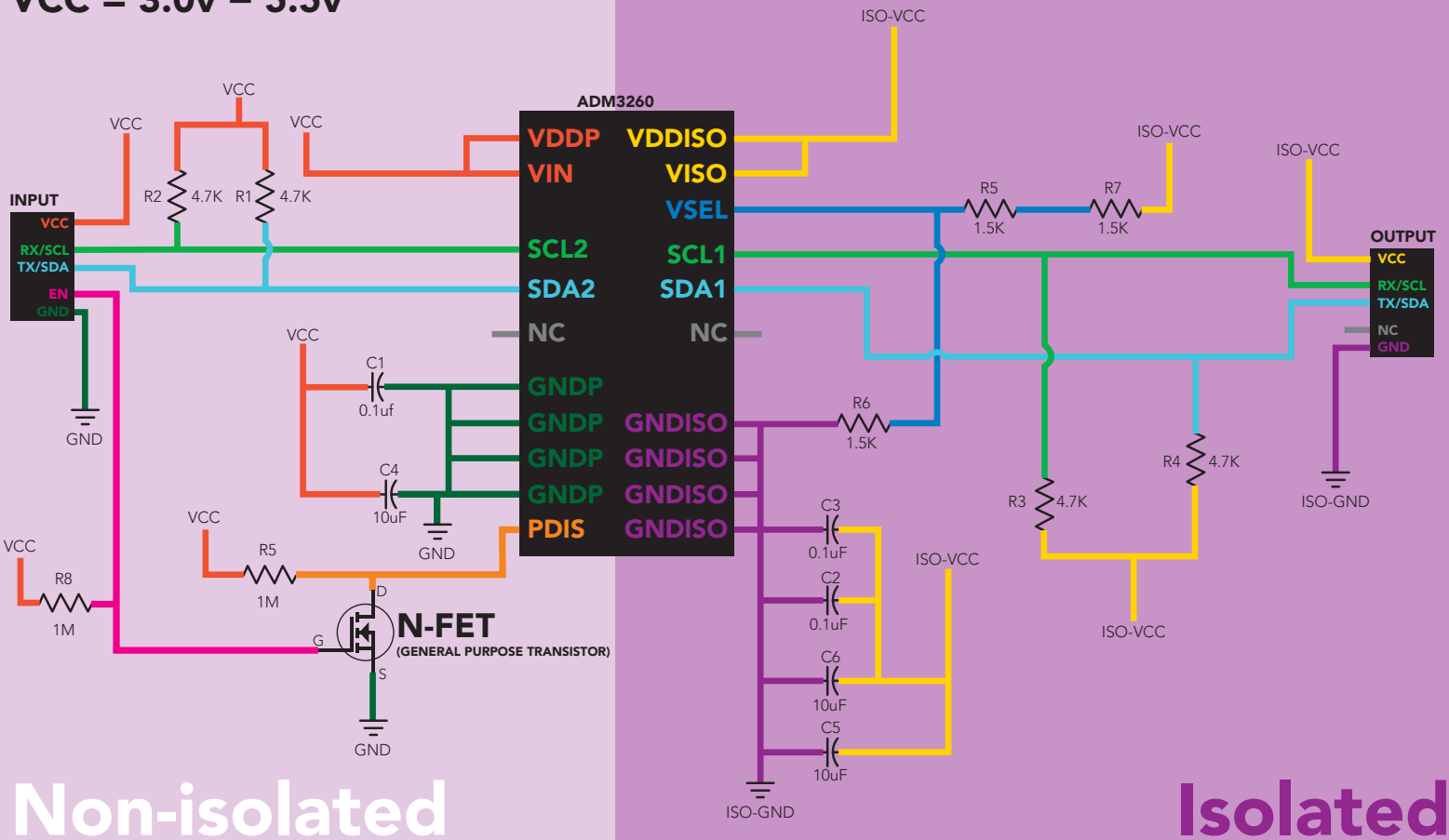
Data isolation

This schematic shows exactly how we isolate data and power using the [ADM3260](#) and a few passive components. The ADM3260 can output isolated power up to 150 mW and incorporates two bidirectional data channels.

This technology works by using tiny transformers to induce the voltage across an air gap. PCB layout requires special attention for EMI/EMC and RF Control, having proper ground planes and keeping the capacitors as close to the chip as possible are crucial for proper performance. The two data channels have 4.7kΩ pull up resistor on both the isolated and non-isolated lines (R1, R2, R3, and R4) The output voltage is set using a voltage divider (R5, R6, and R7) this produces a voltage of 3.9V regardless of your input voltage.

Isolated ground is different from non-isolated ground, these two lines should not be connected together.

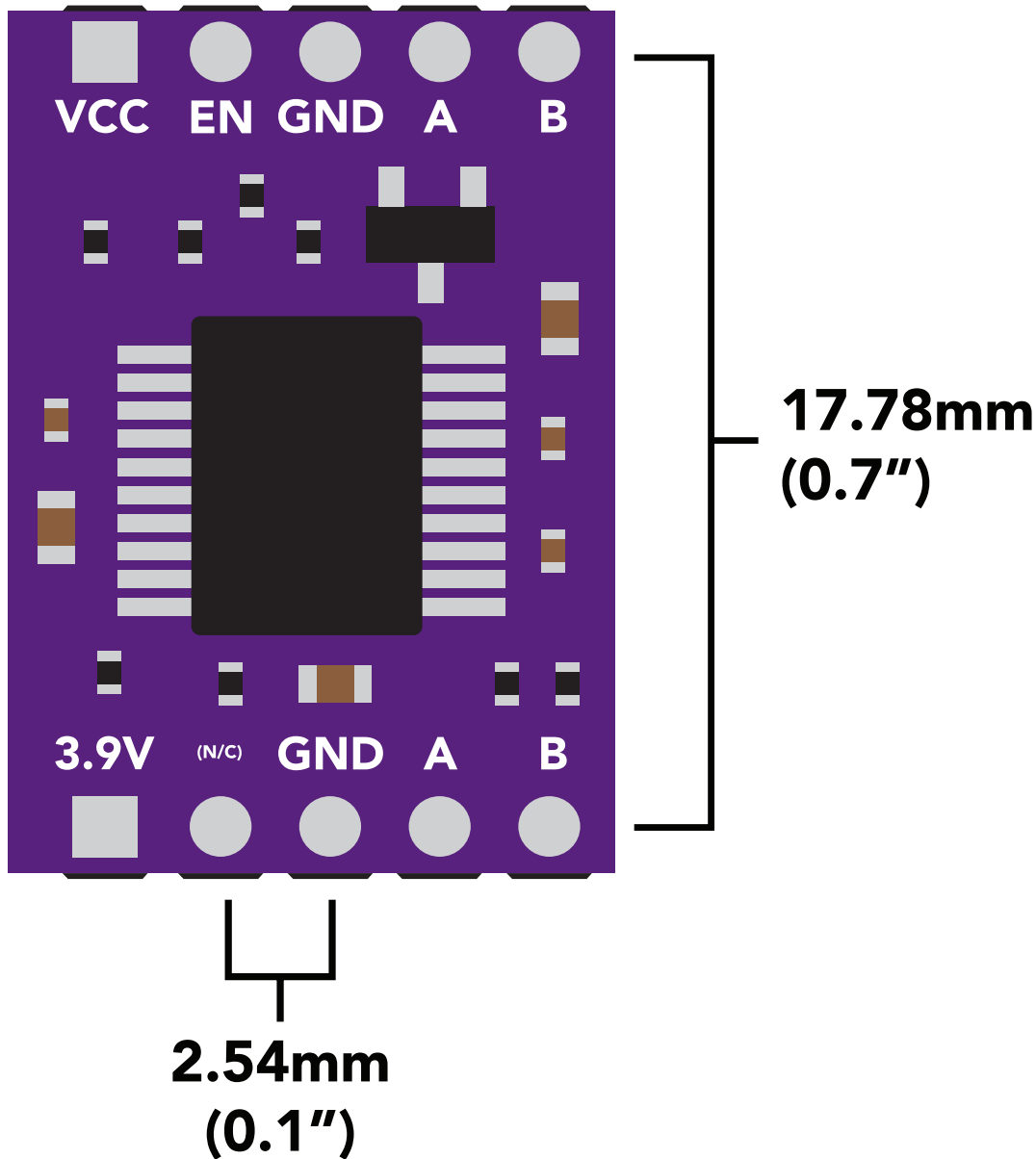
VCC = 3.0v – 5.5v



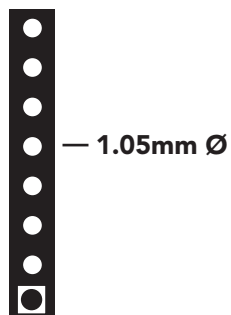
Non-isolated

Isolated

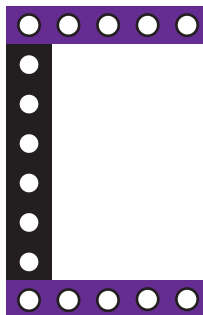
EZO™ circuit footprint



1 In your CAD software place a 8 position header.



2 Place a 5 position header at both top and bottom of the 8 position.



3 Delete the 8 position header. The two 5 position headers are now 17.78mm (0.7") apart from each other.

