

Slim Breadboard Indicator (8 position) - Green

Features

- Onboard $220\ \Omega$ Resistor
- Absolutely tiny
- Can be powered anywhere from 3.3 V to 5 V
- Common Cathode (Ground) on separate wire
- Will not reach over power/middle rail on standard breadboard

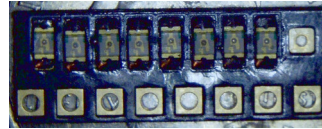


Figure 1: Board Photo

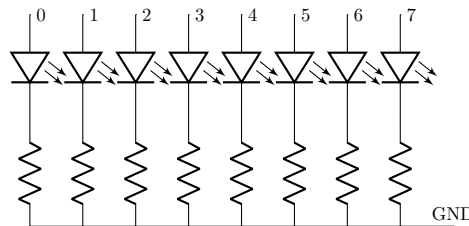


Figure 2: Pinout and internal circuit

Applications

- Breadboard circuit diagnostics

General Description

This absolutely tiny 8-position breadboard indicator has an onboard $220\ \Omega$ resistor. It has 8 green 2.1 V forward voltage LEDs that are rated at 20 mA. With the resistor, that gives it 5.5 mA at 3.3 V or 12.2 mA at 5 V.

It makes no assumption as to where the common/ground connection is, so the common connection is on a separate wire that can be connected whenever needed.

Fully assembled, it clocks in at 0.82" x 0.28" — a smaller diameter than a quarter — and hangs over the pin header by 0.2".

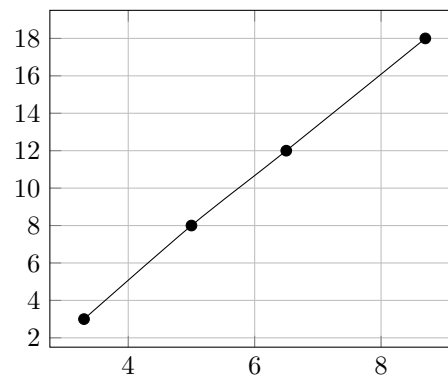


Figure 3: Voltage to Intensity approx (mcd)

Figure 3: Voltage to Intensity approx (mcd)

Electrical Specifications

Table 1: Data Sheet Specifications¹

Parameter	Min.	Typ.	Max.	Unit	Conditions
Ambient Temperature (T_a)	—	—	55	$^{\circ}C$	²
Input Voltage	3.3	—	5	V	Untested below 3.3 V
Onboard Resistor	209	220	231	Ω	Based on $\pm 5\%$ tolerance.
Current	5.19	5.45	5.74	mA	3.3 V
Resistor Wattage	6.23	6.55	6.89	mW	
LED Wattage	10.91	11.45	12.06	mW	
Current	12.55	13.18	13.88	mA	5 V
Resistor Wattage	36.41	38.23	40.24	mW	
LED Wattage	26.36	27.68	29.14	mW	

¹ Based on characterization data, not tested in production.

² Based on component specifications, components work down to $-55^{\circ}C$, assembly not tested

Absolute Maximum Ratings

Table 2: Absolute Maximum Ratings

Parameter	Rating
Input Voltage	5.7 V ¹
Max Power Across Resistor Element	62.5 mW
Max Power Across LED	100 mW ²

¹ Limited by resistor max wattage

² At $T_a = 25^{\circ}C$, unachievable due to resistor limits

Note: Stresses above those listed under Absolute Maximum Ratings can cause permanent damage to the device. This is a stress rating only. Functional operation of the device is not implied in any conditions above those indicated in the Electrical Specifications section.