

# PANEL LAMPS & INDICATOR LIGHTS LED

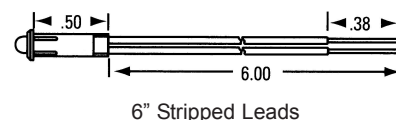
Standard (T1-3/4) and miniature size (T1) LED's mounted in durable nylon cases and ready to speed mount and eliminate additional mounts and parts. Time saving with faster installation; drill a hole and snap-in. Select from several popular voltages that reduce assembly time and the need for extraneous parts. LED's are generally very long life devices and may never need replacing in many applications.

## 2 Volt Snap-In T1 LED LAMPS for .173" (11/64") diameter mounting holes



Sub-miniature snap-in panel lamps press-fit into a 0.173" diameter hole. Uses the industry standard T1 size LED. Lead wires are 6" long, (26 Ga.), stripped .380" on ends (red and black insulation indicates polarity). The 2 volt values are regular LED's, use a resistor for voltages that are higher than 2 volts; package includes "how to" calculate resistor values.

Part No.	Voltage	Description	Terminals
11-2400	2-volt	RED	6" stripped leads
11-2402	2-volt	AMBER	6" stripped leads
11-2406	2-volt	GREEN	6" stripped leads

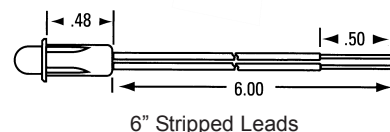


## 2 Volt Snap-In LED LAMPS for .250" (1/4") diameter mounting holes



2 Volt LED Panel Lamp for 1/4" hole size. Considered the "universal" type as it can be used with virtually any DC voltage with a resistor (package shows how to determine resistor value). And it can be used with AC voltages with a diode and resistor. The lamp has 6" long wire lead set (black / red), which is stripped and tinned, ready to solder. Body color black (nylon).

Part No.	Voltage	Description	Terminals
11-2410	2-volt	RED	6" stripped leads
11-2412	2-volt	AMBER	6" stripped leads
11-2414	2-volt	GREEN	6" stripped leads

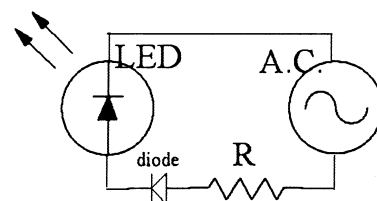


### How to use a 2 Volt LED Lamp Assembly

A 2 volt LED may be used with practically any higher voltage, simply calculate the value of resistor to use in series with the LED.

**For DC Circuits:** Subtract two volts (needed for the LED) from your circuit voltage and multiply by 50. EXAMPLE: For a 12VDC circuit, subtract the "two" and multiply the answer ten times fifty. So a 500ohm resistor is needed (use a close standard value, such as 470 or 520 etc.)

**For AC Circuits:** Place a diode in series with the LED. Then, take your circuit voltage and subtract 2.7 from that voltage and then multiply the answer by 25. Example: In a 28 volt circuit, subtract 2.7 which gives you 25.3. Then multiply the 25.3 times 25 and the answer is 632 ohms. Use a close resistor value such as 680 ohms.



### Typical voltages used in electronics and resistor values (rounded to nearest standard resistor).

DC Volts	5V	6V	12V	24V	AC Volts	6V	12V	24V	48V	117V
Resistor (ohms)	150	180	470	1200	Resistor (ohms)	82	220	560	1200	3K