

# Brilliance by design

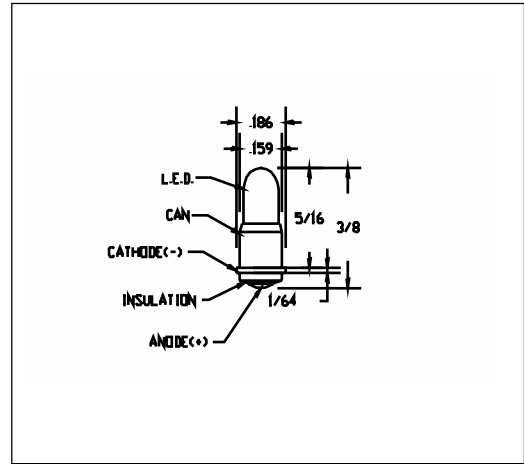
## LED Direct Replacement for Flange Base Incandescent Lamp Models 311 & 510

### MODEL 311

This T-1 based LED is designed to offer diode reliability as a replacement unit in T-1 hardware.

#### FEATURES

- Low power consumption
- Low heat generated
- Available in all colors and voltages
- Long life
- Direct replacement for: 32, 22, 679, 682, 685, 714, 718, 6180, 6839, 7229, 7230, 7231, 7233, 7236, 7238, 7250, 8022, 8605, 8112



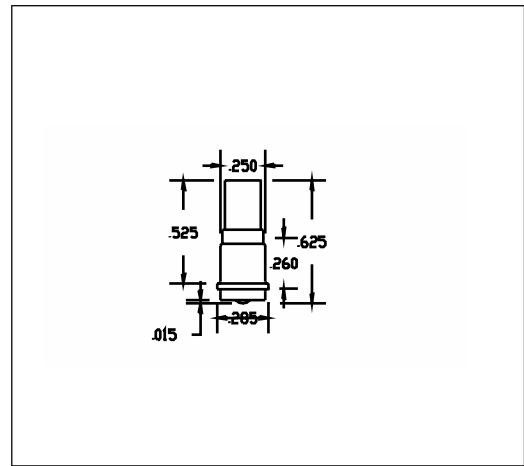
### HOW TO ORDER

Where the 'X' appears insert: 1-Red, 2-Green, 3-Yellow, 4-Amber, 5-Ultra Green, 6-Ultra Blue, 7-Pure White	<u>Voltage</u>	<u>Model No.</u>	
	2vdc	311-2X	Red, Green, Yellow and Amber Only
	3vdc	311-3X	Ultra Green, Ultra Blue and White Only
	5vdc	311-5X	Red, Green, Yellow and Amber Only
	12vdc	311-12X	Red, Green, Yellow and Amber Only

NOTE:  
\*for voltage/current specs, see page 7-9

### MODEL 510

The 510 Model is an LED replacement for incandescent lamps in a variety of colors and voltages. Direct replacement for T-1 3/4 flange base incandescent lamps. Uses 6 chip LEDs. Nickel plated base. Can be supplied with or without built in current limiting resistor.



**311 510**

- #### FEATURES
- For use in switches and indicators using T-1 3/4 flange base lamps
  - Direct replacement for: 327, 328, 330, 332, 345, 349, 350, 356, 377, 380, 381, 382, 387, 394, 8918

### HOW TO ORDER

Where the 'X' appears insert: 1-Red, 2-Green, 3-Yellow, 4-Amber, 5-Ultra Green, 6-Ultra Blue, 7-Pure White	<u>Voltage</u>	<u>Model No.</u>	
	5vdc	510-5X	
	6vdc	510-6X	
	6.3vdc	510-6.03X	
	12vdc	510-12X	
	14vdc	510-14X	
	24vdc	510-24X	
	28vdc	510-28X	

NOTE:  
\*For voltage/current specs, see page 7-9

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### LED Replacements for Incandescent Lamps

#### LED Specifications and Technical Data

LED data for models 160, 162, 164, 460, 510, 516, 522, 532, 513, 541

Color Choice	LED Size	Raw Chip Material	Emitted Color	Wave Length	Viewing Angle (Deg.)	Iv (mcd) Typical	If (mA) Typical	Vf (V) Typical
1	T 1-3/4	GaAlAs	Red	660	22	3000-4000	20	2.1
2	T 1-3/4	Gap	Green	565	20	750	20	1.8
3	T 1-3/4	AllnGap	Yellow	595	22	2000-3000	25	2.1
4	T 1-3/4	AllnGap	Amber	611	22	2000-3000	25	2.1
5	T 1-3/4	InGaN	Ultra Green	575	30	2200	25	3.5
6	T 1-3/4	InGaN	Blue	470	30	500	25	3.5
7	T 1-3/4	InGaN/ YAG	Pure White		45	1200	25	3.5

LED data for models 159, 197, 311

Color Choice	LED Size	Raw Chip Material	Emitted Color	Wave Length	Viewing Angle (Deg.)	Iv (mcd) Typical	If (mA) Typical	Vf (V) Typical
1	T-1	GaAlAs	Red	660	30	1250	20	1.8
2	T-1	Gap	Green	568	20	500	20	1.8
3	T-1	AllnGap	Yellow	595	30	500	25	2.1
4	T-1	AllnGap	Amber	611	30	500	25	2.1
5	T-1	InGaN	Ultra Green	575	30	1700	25	3.5
6	T-1	InGaN	Blue	470	30	650	25	3.5
7	T-1	InGaN/ YAG	Pure White		45	630	25	3.5

Note: The specifications listed above are subject to change. For special LED requirements and color please contact SloanLED.