



LAMP TYPES & SELECTION GUIDE

LITTELITES®
A Lighting Components and Design Product Line

LAMP TYPES

Incandescent Lamps

Incandescent lamps have been used successfully in flashing and pulsing circuits, provided the electrical characteristics under the flashing or pulsing condition do not exceed the rated values.

Over and under rated voltages on incandescent lamps greatly affect the expected life. Five percent over voltage will decrease life expectancy by approximately 50%, while 5% under voltage will approximately double the life expectancy. Since under voltage decreases the lamp efficiency, the amount of light emitted will also be less. DC operation may reduce the rated average life as much as 50%.

Neon Lamps

Because of its rugged construction and long life, the T-2 Neon is used in both standard and high brightness lamps. To sustain operation, a ballast is required to prevent instantaneous burnout and is accomplished by putting a resistance in series with the lamp. Littelfuse Neon Cartridge lamps are available with built-in resistors.

If the current is doubled in the Standard Brightness lamp, the light output is also doubled, but the life is reduced to 1/8 of its original value. Double the current in the High Brightness lamp results in twice the light output, but the life is reduced to 1/64 of its original value.

Solid State Lamps

Solid state lamps are shock and vibration resistant and have life expectancy measured in years. They can be furnished with built-in resistance for operation at 3.6 volts to 28 volts DC with nominal current ratings of 10 and 20 milliamps. Solid state cartridge lamps are also available to 1.8 volts without a resistor. The low voltage and current requirements make them ideally suited for use with low current integrated circuits.

900/901 SERIES NEON LAMP VOLTAGES				
Character-istic	Standard Brightness	High Brightness	Blue Neon	Green Neon
Lamp#	A1B or A9A	A1C or C2A	N/A	N/A
Voltage				
AC	105-125V	110-125V (AC Only)	105-125V	115-125V
DC	105-125V		105-150V	115-125V

LAMPHOLDER/RESISTOR SELECTION T-2 NEON FOR 921 SERIES LAMP HOLDERS		
Lamp	Characteristics	Recommended Resistor
C7A (NE-2D)	Standard Brightness Bright Light for 105-125V AC-DC	62K OHM
C7A (NE-2D)	Standard Brightness Long Life for 105-125V AC-DC	100K OHM
C9A (CE-2J)	High Brightness Bright Light for 110-125V AC	27K OHM
C9A (NE-2J)	High Brightness Long Life for 110-125V AC	33K OHM

LAMP AND RESISTOR TABLE T-3 1/4 NEON FOR 930 SERIES LAMP HOLDERS		
Lamp	Characteristics	Recommended Resistor
NE51 (B1A)	Standard Brightness Bright Light for 105-125V AC-DC	56K OHM
NE51 (B1A)	Standard Brightness Long Life for 105-125V AC-DC	100K OHM
NE51H (B2A)	High Brightness Bright Light for 110-125V AC	27K OHM
NE51H (B2A)	High Brightness Long Life for 110-125V AC	33K OHM
NE51H (B2A)	High Brightness Bright Light for 110-125V AC	68K OHM
NE51H (B2A)	High Brightness Long Life for 110-125V AC	100K OHM